Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT

Preliminary Findings Regarding a
Signficant Modification to a
Part 70 Operating Permit

for POET Biorefining - Portland, LLC in Jay County

Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032

The Indiana Department of Environmental Management (IDEM) has received an application from POET Biorefining - Portland, LLC, located at 1542 South 200 West, Portland, IN 47371, for a significant modification of its Part 70 Operating Permit issued on November 14, 2012. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow POET Biorefining - Portland, LLC to make certain changes at its existing source. POET Biorefining - Portland, LLC has applied to make the following changes:

- Construct a new (6th) fermenter, increasing the throughput of the fermentation process from 55,400 gph to 60,000 gph.
- Increase beer flow through distillation from 54,000 gallons per hour to 60,000 gallons per hour.
- Increase cooling tower water flow rate from 26,000 gallons per minute to 30,000 gallons per minute.
- Replace a plate and frame heat exchanger used as a vaporizer in distillation with a kettle style vaporizer.
- Revise the permit to reflect that the corn oil centrifuges are not controlled, but instead vent to atmosphere.
- Increase in throughput of T009 from 1,200 gallons per year to 15,600 gallons per year.
- Increase in the number of turnovers per year for T003 and T004.
- Change the company name from POET Biorefining - Portland to POET Biorefining- Portland, LLC.

The applicant intends to construct and operate new equipment that will emit air pollutants; therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g. changes that add or modify synthetic minor emission limits). IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

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

Jay County Public Library
315 N Ship Street
Portland, IN 47371

A copy of the preliminary findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

How can you participate in this process?

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

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SSM 075-37200-00032 and SPM 075-37214-00032 in all correspondence.

Comments should be sent to:

Kristen Willoughby
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 3-3031
Or dial directly: (317) 233-3031
Fax: (317) 232-6749 attn: Kristen Willoughby
E-mail: kwilloug@idem.IN.gov

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

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.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Kristen Willoughby of my staff at the above address.

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

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DRAFT

Mr. Matt Clamme
POET Biorefining - Portland, LLC
1542 South 200 West
Portland, IN 47371

Re: 075-37214-00032
Significant Permit Modification to
Part 70 No.: T075-30802-00032

Dear Mr. Clamme:

POET Biorefining - Portland, LLC was issued Part 70 Operating Permit No. T075-30802-00032 on November 14, 2012 for a stationary ethanol production plant located at 1542 South 200 West, Portland, Indiana 47371. An application requesting changes to this permit was received on May 18, 2106. 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 attachment(s). 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:	NSPS Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006
Attachment B:	NSPS Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
Attachment C:	NSPS Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984
Attachment D:	NSPS Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
Attachment E:	NESHAP Subpart ZZZZ - National Emission Standards for Reciprocating Internal Combustion Engines (RICE)
Attachment F:	NESHAP Subpart BBBBBB - National Emission Standards for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (Area Sources)
Attachment G:	NESHAP Subpart CCCCCC - National Emission Standards for Gasoline Dispensing Facilities (Area Sources)
Attachment H:	Fugitive Dust Control Plan
Attachment I:	NSPS Subpart DD - Standards of Performance for Grain Elevators

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.

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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 Kristen Willoughby, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-233-3031 or 1-800-451-6027, and ask for extension 3-3031.

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

Attachments: Modified Permit and Technical Support Document
cc: File - Jay County
Jay County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch

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DRAFT

Part 70 Operating Permit

OFFICE OF AIR QUALITY

POET Biorefining - Portland
1542 South 200 West
Portland, Indiana 47371

(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.: T075-30802-00032	
Issued by: Original Signed Jenny Acker, Section Chief Permits Branch, Office of Air Quality	Issuance Date: November 14, 2012 Expiration Date: November 14, 2017

Significant Permit Modification No.: 075-36683-00032, issued March 31, 2016

Significant Permit Modification No.: 075-37214-00032	
Issued by: Jenny Acker, Section Chief, Permits Branch Office of Air Quality	 Issuance Date: Expiration Date: November 14, 2017

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SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary ethanol production plant.

Source Address:	1542 South 200 West, Portland, Indiana 47371
General Source Phone Number:	(260) 729-8203
SIC Code:	2869 (Industrial Organic Chemicals, Not Elsewhere Classified) and 2048 (Prepared Feeds and Feed Ingredients for Animals and Fowls, Except for Dogs and Cats)
County Location:	Jay
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Minor Nested Source, under PSD Rules, with fossil fuel fired boilers totaling more than two hundred fifty million (250,000,000) British thermal units per hour heat input, as 1 of 28 Source Categories, within a non-listed source

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) One (1) grain receiving and handling operation, consisting of the following:

(1) Two (2) truck dump pits, identified as EU001, approved in 2006 for construction, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE001, and exhausting through stack SV001.

(2) Conveying system, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(A) Two (2) grain legs and conveying system, identified as EU002a, approved in 2006 for construction, with a maximum rated capacity of 840 tons per hour, controlled by baghouse CE001, and exhausting through stack SV001.

(B) Two (2) enclosed belt conveyors, identified as EU002b, approved in 2016 for construction, with a maximum rated capacity of 840 tons per hour, total, controlled by dust collectors CE016, CE017, and CE018, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(3) Grain bins, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(A) Four (4) grain bins, identified as EU003a, approved in 2006 for construction, with a total maximum capacity of 1,341,276 bushels, controlled by baghouse CE001, and exhausting through stack SV001.

(B) Two (2) grain bins, identified as EU003b, approved in 2016 for construction, each with a maximum capacity of 683,855 bushels, controlled by dust collectors CE016, CE017, and CE018, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(b) One (1) corn scalper, identified as EU004, approved in 2006 for construction, with a maximum throughput rate of 140 tons of corn per hour, controlled by baghouse CE002, and exhausting through stack SV002.

(c) One (1) surge bin, identified as EU005, approved in 2006 for construction, with a maximum throughput rate of 140 tons of corn per hour, controlled by baghouse CE002, and exhausting through stack SV002.

(d) Five (5) hammermills, identified as EU006, EU007, EU008, EU009, and EU010, approved in 2006 for construction, each with a maximum throughput rate of 20 tons of corn per hour, controlled by baghouses CE003, CE004, CE005, CE006, and CE007, respectively, and exhausting through stacks SV003, SV004, SV005, SV006, and SV007, respectively.

(e) One (1) fermentation process, approved in 2006 for construction and approved in 2016 for modification, with a maximum production rate of 60,000 gallons of beer per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009. During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) Five (5) fermenters, identified as EU012 through EU016, constructed in 2006.

(2) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(3) One (1) yeast propagation tank, identified as EU017, constructed in 2006.

(4) One (1) beer well, identified as EU018, constructed in 2006.

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

(f) One (1) regenerative thermal oxidizer (RTO), identified as CE009, approved in 2006 for construction, with a maximum heat input capacity of 30 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stack SV009.

(g) One (1) distillation process, approved in 2006 for construction and approved in 2016 for modification, with a maximum input rate of 60,000 gallons of beer per hour and a maximum production rate of 12,000 gallons of ethanol per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted

through stack SV009. During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009. During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008.

(1) One (1) beer stripper, identified as EU019, approved in 2006 for construction.

(2) One (1) rectifier column, identified as EU020, approved in 2006 for construction.

(3) One (1) side stripper, identified as EU021, approved in 2006 for construction.

(4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2006 for construction.

(5) One (1) set of four (4) evaporators, identified as EU023, approved in 2006 for construction.

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

(h) One (1) set of four (4) whole stillage centrifuges, identified as EU024, approved in 2006 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During RTO downtime, emissions from EU024 are exhausted through bypass stack SV017.

(i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2006 for construction, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum input rate of 73.0 tons/hr of wetcake and a maximum output rate of 27 tons of DDGS per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to regenerative thermal oxidizer (RTO) CE009, and exhausting to stack SV009.

(j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2006 for construction, each with a maximum heat input rate of 143 MMBtu/hr each, with emissions exhausting to stacks SV013 and SV014, respectively.

Under NSPS, 40 CFR 60, Subpart Db, these units are considered affected facilities.

(k) One (1) fluidized DDGS cooler, identified as EU029, approved in 2006 for construction, with a maximum throughput rate of 27 tons/hr of DDGS, controlled by baghouse CE010, and exhausting to stack SV010. Note: The Permittee has the option of routing the DDGS cooler baghouse exhaust to the DDGS Dryers, identified as EU025 and EU026.

(l) One (1) DDGS handling and storage operation, approved in 2006 for construction, with a maximum throughput rate of 220 tons/hr of DDGS, and consisting of the following:

(1) One (1) DDGS storage silo, identified as EU030, approved in 2006 for construction, with a maximum throughput rate of 27 tons/hr of DDGS, controlled by baghouse CE011, with emissions exhausted to stack SV011.

(2) One (1) DDGS silo bypass, identified as EU031, approved in 2006 for construction, with a maximum throughput rate of 27 tons/hr of DDGS, controlled by baghouse CE012, with emissions exhausted to stack SV012.

(3) One (1) DDGS storage building, identified as EU032, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

(m) One (1) DDGS loadout operation, approved in 2006 for construction, with a maximum throughput rate of 220 tons/hr of DDGS, and consisting of the following:

(1) One (1) DDGS conveyor, identified as EU033, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

(2) One (1) DDGS truck loadout spout, identified as EU034, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

(3) One (1) DDGS rail loadout spout, identified as EU035, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

(n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and two (2) racks for railcars, approved in 2006 for construction and modified in 2007, with a maximum throughput rate of 39,000 gallons per hour when loading trucks, and 144,000 gallons per hour when loading railcars. This unit is controlled by enclosed flare CE015, which is fueled by natural gas and has a pilot gas flare heat input capacity of 54,000 Btu/hr, and exhausts through stack SV016.

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

(o) One (1) diesel generator, identified as EU037, approved in 2006 for construction, with a maximum power output rate of 3017.25 HP (2,250 kW), and exhausting to stack SV015.

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) Paved roads and parking lots with public access.

(b) Two (2) centrifuges, identified as EU038 and EU039, approved in 2012 for construction, with a maximum throughput for EU038 of 150 gpm and the maximum throughput for EU039 of 30 gpm, used in series to separate corn oil from the syrup system, exhausted atmosphere.

(c) Storage Tanks:

(1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2006 for construction, with a maximum capacity of 250,000 gallons.

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(2) One (1) tank for 200-proof ethanol or denaturant, identified as T002, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of 200-proof ethanol or denaturant. Natural gasoline is the denaturant used.

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(3) One (1) denatured ethanol or 200-proof ethanol tank, identified as T003, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. Natural gasoline is the denaturant used.

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(4) One (1) denatured ethanol or 200-proof ethanol tank, identified as T004, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. Natural gasoline is the denaturant used.

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(5) One (1) denaturant tank, identified as T005, approved in 2006 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006 and modified in 2016, with a 300 gallon capacity storage tank and an estimated annual throughput of 15,600 gallons per year.

Under NESHAP, 40 CFR 63, Subpart CCCCCC, this unit is considered an affected facility.

A.4 Other 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 not specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.

(b) One (1) forced and induced draft cooling tower system not regulated under a NESHAP with a maximum flow rate of 30,000 gallons per minute.

(c) Replacement or repair of bags in baghouses and filters in other air filtration equipment.

(d) Underground conveyors, including underground grain and product transfer conveyors.

(e) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

(f) Other emission units, not regulated by a NESHAP, with PM10, NOx, and SO_2 emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:

(1) One (1) diesel storage tank, identified as T006, approved in 2006 for construction, with a maximum storage capacity less than 2,000 gallons of diesel fuel.

(2) One (1) thin stillage tank, identified as T007, approved in 2006 for construction, with a maximum storage capacity of 500,000 gallons of thin stillage.

(3) One (1) syrup tank, identified as T008, approved in 2006 for construction, with a maximum storage capacity of 61,000 gallons of syrup.

(4) Five (5) process tanks, identified as EU040 through EU044, approved in 2012 for construction, used for pH adjustment and used to accept corn oil and defatted syrup process streams from the centrifuges, exhausted to the thermal oxidizer CE009 and stack SV009.

(5) Two (2) large oil storage tanks, identified as EU045 and EU046, approved in 2012 for construction, each with a maximum storage capacity of 30,000 gallons, each with a maximum true vapor pressure less than 15.0 kPa, used for storage of corn oil prior to loading into trucks for sale.

(6) One (1) slurry tank, identified as EU011, approved in 2006 for construction.

(7) One (1) wetcake storage operation, with a maximum throughput of 639,480 tons per year.

A.5 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, T075-30802-00032, 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) If required by specific condition(s) in Section D of this permit, 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.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. 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).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.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 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

(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 T075-30802-00032 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(42). 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)(1) and (c)(1). 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(37)) 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 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment H. The provisions of 326 IAC 6-5 are not federally enforceable.

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

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

C.8 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

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

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

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

C.9 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.10 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.11 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][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.12 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. 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.13 Emergency Reduction Plans [326 IAC 1-5-2][326 IAC 1-5-3]

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

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

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

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

no later than ninety (90) days after the date of issuance of this permit.

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

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

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

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

C.14 Risk Management Plan [326 IAC 2-7-5(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.15 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]

(I) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, 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 Quality Improvement Plan (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)(c) 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 recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) *CAM recordkeeping 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)(c) 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 recordkeeping requirements

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall 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.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(b)(2), starting in 2005 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(33) ("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.18 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. 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.19 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 this paragraph. 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.20 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1EMISSIONS UNIT OPERATION CONDITIONS – Grain and DDGS Handling Processes

Emissions Unit Description:

(a) One (1) grain receiving and handling operation, consisting of the following:

(1) Two (2) truck dump pits, identified as EU001, approved in 2006 for construction, with a maximum throughput rate of 840 tons of corn per hour, controlled by baghouse CE001, and exhausting through stack SV001.

(2) Conveying system, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(A) Two (2) grain legs and conveying system, identified as EU002a, approved in 2006 for construction, with a maximum rated capacity of 840 tons per hour, controlled by baghouse CE001, and exhausting through stack SV001.

(B) Two (2) enclosed belt conveyors, identified as EU002b, approved in 2016 for construction, with a maximum rated capacity of 840 tons per hour, total, controlled by dust collectors CE016, CE017, and CE018, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(3) Grain bins, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(A) Four (4) grain bins, identified as EU003a, approved in 2006 for construction, with a total maximum capacity of 1,341,276 bushels, controlled by baghouse CE001, and exhausting through stack SV001.

(B) Two (2) grain bins, identified as EU003b, approved in 2016 for construction, each with a maximum capacity of 683,855 bushels, controlled by dust collectors CE016, CE017, and CE018, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(b) One (1) corn scalper, identified as EU004, approved in 2006 for construction, with a maximum throughput rate of 140 tons of corn per hour, controlled by baghouse CE002, and exhausting through stack SV002.

(c) One (1) surge bin, identified as EU005, approved in 2006 for construction, with a maximum throughput rate of 140 tons of corn per hour, controlled by baghouse CE002, and exhausting through stack SV002.

(d) Five (5) hammermills, identified as EU006, EU007, EU008, EU009, and EU010, approved in 2006 for construction, each with a maximum throughput rate of 20 tons of corn per hour, controlled by baghouses CE003, CE004, CE005, CE006, and CE007, respectively, and exhausting through stacks SV003, SV004, SV005, SV006, and SV007, respectively.

(l) One (1) DDGS handling and storage operation, approved in 2006 for construction, with a maximum throughput rate of 220 tons/hr of DDGS, and consisting of the following:

(1) One (1) DDGS storage silo, identified as EU030, approved in 2006 for construction, with

a maximum throughput rate of 27 tons/hr of DDGS, controlled by baghouse CE011, with emissions exhausted to stack SV011.

(2) One (1) DDGS silo bypass, identified as EU031, approved in 2006 for construction, with a maximum throughput rate of 27 tons/hr of DDGS, controlled by baghouse CE012, with emissions exhausted to stack SV012.

(3) One (1) DDGS storage building, identified as EU032, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

(m) One (1) DDGS loadout operation, approved in 2006 for construction, with a maximum throughput rate of 220 tons/hr of DDGS, and consisting of the following:

(1) One (1) DDGS conveyor, identified as EU033, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

(2) One (1) DDGS truck loadout spout, identified as EU034, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001..

(3) One (1) DDGS rail loadout spout, identified as EU035, approved in 2006 for construction, controlled by baghouse CE001, with emissions exhausted to stack SV001.

Insignificant Activity:

(d) Paved roads and parking lots with public access.~~]~~

(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 PM, PM10 and PM2.5 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, PM, PM10 and PM2.5 emissions from the following units shall not exceed the emission limits listed in the table below.

Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
EU001, EU002a, EU003a, EU032, EU033, EU034, EU035	Grain Receiving, Conveyors, and Storage Bins, and DDGS conveying, storage, and loadout	CE001	2.82 (Combined)	3.26 (Combined)	3.45 (Combined)
EU004, EU005	Corn Scalper, Surge Bin	CE002	0.32 (Combined)	0.37 (Combined)	0.39 (Combined)
EU006	Hammermill #1	CE003	1.45	1.67	1.77
EU007	Hammermill #2	CE004	1.45	1.67	1.77
EU008	Hammermill #3	CE005	1.45	1.67	1.77
EU009	Hammermill #4	CE006	1.45	1.67	1.77
EU010	Hammermill #5	CE007	1.45	1.67	1.77
EU002b, EU003b	Conveyors, Storage Bins	CE016	0.05	0.05	0.01
EU002b, EU003b	Conveyors, Storage Bins	CE017	0.05	0.05	0.01
EU002b, EU003b	Conveyors, Storage Bins	CE018	0.05	0.05	0.01
EU030	DDGS Silo Loading	CE011	0.49	0.57	0.60
EU031	DDGS Silo Bypass	CE012	0.49	0.57	0.60

Compliance with these limits, combined with the potential to emit of PM, PM10 and PM2.5 from other emission units at this source, shall limit the source-wide total potential to emit PM, PM10 and PM2.5 to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.1.2 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 the following operations shall not exceed the pound per hour limitations listed in the table below when operating at the maximum process weight rates listed below:

Unit ID	Unit Description	Max. Process Weight Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU001, EU002a, EU002b EU003a, EU003b	Grain Receiving, Conveyors, and Storage Bins	840	75.4
EU004, EU005	Corn Scalper, Surge Bin	140	54.7
EU006	Hammermill #1	20	30.5
EU007	Hammermill #2	20	30.5
EU008	Hammermill #3	20	30.5
EU009	Hammermill #4	20	30.5
EU010	Hammermill #5	20	30.5
EU030	DDGS Silo Loading	27	37.3
EU031	DDGS Silo Bypass	27	37.3
EU032	DDGS Storage Building	220	59.5
EU033	DDGS Conveyor	220	59.5
EU034	DDGS Truck Loadout Spout	220	59.5
EU035	DDGS Rail Loadout Spout	220	59.5

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

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

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

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

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

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

D.1.4 Particulate Control

(a) In order to assure compliance with Conditions D.1.1(a) and D.1.2, 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
EU001, EU002a, EU003a, EU032, EU033, EU034, EU035	Grain Receiving, Conveyors, and Storage Bins, and DDGS conveying, storage, and loadout	CE001
EU002b, EU003b	Conveyors, Storage Bins	CE016
EU002b, EU003b	Conveyors, Storage Bins	CE017
EU002b, EU003b	Conveyors, Storage Bins	CE018
EU004, EU005	Corn Scalper, Surge Bin	CE002
EU006	Hammermill #1	CE003
EU007	Hammermill #2	CE004
EU008	Hammermill #3	CE005
EU009	Hammermill #4	CE006
EU010	Hammermill #5	CE007
EU030	DDGS Silo Loading	CE011
EU031	DDGS Silo Bypass	CE012

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

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

In order to demonstrate compliance with Conditions D.1.1(a) and D.1.2, the Permittee shall perform PM, PM10 and PM2.5 testing on the following:

(a) Both Baghouses CE001 and CE002 at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner.

(b) One (1) baghouse from the group of baghouses CE003 through CE007, at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. The source will test the baghouse for which the longest period of time has passed since the last valid compliance test.

(c) One (1) baghouse from CE011 or CE012, at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. The source will test the baghouse for which the longest period of time has passed since the last valid compliance test.

(d) Not later than 180 days after startup of EU002b and EU003b, the Permittee shall perform PM, PM10, and PM2.5 testing of dust collectors CE016 through CE018, utilizing methods as approved by the Commissioner. Testing shall be repeated for one (1) dust collector from the group of dust collectors CE016 through CE018,at least once every five (5) years from the date of the most recent valid compliance demonstration. The source will test the dust collector for which the longest period of time has passed since the last valid compliance test.

(e) 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. PM10 and PM2.5 includes filterable and condensible PM.

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

D.1.6 Visible Emissions Notations

(a) Visible emission notations of the baghouse stack exhausts (stacks SV001 through SV007, SV011, SV012, SV018, SV019, and SV020) shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.7 Broken or Failed Bag Detection

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

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

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

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

D.1.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.6, the Permittee shall maintain records of once per day visible emission notations of the baghouse stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the response steps required by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS – Fermentation/Distillation and DDGS Drying

Emissions Unit Description:

(e) One (1) fermentation process, approved in 2006 for construction and approved in 2016 for modification, with a maximum production rate of 60,000 gallons of beer per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009. During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) Five (5) fermenters, identified as EU012 through EU016, constructed in 2006.

(2) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(3) One (1) yeast propagation tank, identified as EU017, constructed in 2006.

(4) One (1) beer well, identified as EU018, constructed in 2006.

(f) One (1) regenerative thermal oxidizer (RTO), identified as CE009, approved in 2006 for construction, with a maximum heat input capacity of 30 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stack SV009.

(g) One (1) distillation process, approved in 2006 for construction and approved in 2016 for modification, with a maximum input rate of 60,000 gallons of beer per hour and a maximum production rate of 12,000 gallons of ethanol per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009. During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) One (1) beer stripper, identified as EU019, approved in 2006 for construction.

(2) One (1) rectifier column, identified as EU020, approved in 2006 for construction.

(3) One (1) side stripper, identified as EU021, approved in 2006 for construction.

(4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2006 for construction.

(5) One (1) set of four (4) evaporators, identified as EU023, approved in 2006 for construction.

(h) One (1) set of four (4) whole stillage centrifuges, identified as EU024, approved in 2006 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During RTO downtime, emissions from EU024 are exhausted through bypass stack SV017.

(i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2006 for construction, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum input rate of 73.0 tons/hr of wetcake and a maximum output rate of 27 tons of DDGS per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to regenerative thermal oxidizer (RTO) CE009, and exhausting to stack SV009.

Insignificant Activities

(b) Two (2) centrifuges, identified as EU038 and EU039, approved in 2012 for construction, with a maximum throughput for EU038 of 150 gpm and the maximum throughput for EU039 of 30 gpm, used in series to separate corn oil from the syrup system, exhausted atmosphere.

(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 and HAP Minor Limits [326 IAC 2-2][326 IAC 2-4.1]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

(a) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2):

(1) The scrubber (CE008) and RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(4) PM emissions shall not exceed 24.21 lbs/hr.

(5) PM10 emissions shall not exceed 27.97 lbs/hr.

(6) PM2.5 emissions shall not exceed 29.55 lbs/hr.

(7) VOC emissions shall not exceed 27.06 lbs/hr.

(8) CO emissions shall not exceed 27.16 lbs/hr.

(9) Acetaldehyde emissions shall not exceed 1.00 lbs/hr.

(10) Methanol emissions shall not exceed 0.22 lbs/hr.

(11) Acrolein emissions shall not exceed 0.85 lbs/hr.

(b) Alternative Operating Scenario No. 1 (AOS1)

When the Scrubber (CE008) is not operating, the Permittee shall comply with the following:

(1) The RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(4) PM emissions shall not exceed 24.21 lbs/hr.

(5) PM10 emissions shall not exceed 27.97 lbs/hr.

(6) PM2.5 emissions shall not exceed 29.55 lbs/hr.

(7) VOC emissions shall not exceed 27.06 lbs/hr.

(8) CO emissions shall not exceed 27.16 lbs/hr.

(9) Acetaldehyde emissions shall not exceed 1.00 lbs/hr.

(10) Methanol emissions shall not exceed 0.22 lbs/hr.

(11) Acrolein emissions shall not exceed 0.85 lbs/hr.

(c) Alternative Operating Scenario No. 2 (AOS2)

When the RTO (CE009) is not operating, the Permittee shall comply with the following:

(1) The Scrubber (CE008) shall control emissions from the fermentation and distillation processes and the RTO bypass stack exhaust (SV008) shall be limited as follows:

(A) VOC emissions shall not exceed 79.39 lbs/hr.

(B) Acetaldehyde emissions shall not exceed 5.5 lbs/hr.

(2) The scrubber (CE008) shall not vent to the atmosphere (RTO bypass stack SV008) more than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The DDGS dryers (EU25 and EU26) shall not be in operation.

(4) The set of four centrifuges (EU024) shall vent to atmosphere through SV017. The time the set of four centrifuges vent to atmosphere shall not exceed 500 hours per year.

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

Compliance with these limits, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide potential to emit of any single HAP to less than ten (10) tons per twelve (12) consecutive month period for a single HAP, total HAPs to less than twenty five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, and this source is an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

D.2.2 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills), the Permittee shall control the VOC emissions from the fermentation and distillation processes and the DDGS dryers (EU025 and EU026) using the following controls:

(a) The VOC emissions from the fermentation and distillation processes shall be controlled by either the scrubber CE008 or the regenerative thermal oxidizer (RTO) CE009 or a combination of both the scrubber CE008 and RTO system CE009, unless otherwise specified in D.2.1.

(b) The overall efficiency for the scrubber (CE008) and RTO (CE009) (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

(c) The overall efficiency for the scrubber (CE008) (including the capture efficiency and the destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(d) The VOC emissions from the DDGS dryers (EU025 and EU026) shall be controlled by regenerative thermal oxidizer CE009.

(e) The overall efficiency for the regenerative thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

D.2.3 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 limit listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU025	DDGS Dryer	73	48.17
EU026	DDGS Dryer	73	48.17

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

A Preventive Maintenance Plan is required for these facilities and any 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 2-7-5(1)]

D.2.5 VOC and HAP Control [326 IAC 8-5-6]

(a) Unless operating under AOS1 or AOS2:
In order to assure compliance with Condition D.2.1(a):

(1) the regenerative thermal oxidizer (RTO) CE009 and the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes at all times that these processes are in operation.

(2) the regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from the DDGS dryers (EU25 and EU26) at all times that the dryers are in operation.

(3) the regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from the set of four centrifuges (EU024) at all times that the set of four (4) whole stillage centrifuges are in operation.

(b) When operating under AOS1: (Scrubber Downtime)
In order to assure compliance with D.2.1(b), the RTO CE009 shall be in operation and control emissions from the fermentation and distillation processes, DDGS dryers, and the set up four (4) centrifuges (EU024) at all times that these processes are in operation.

(c) When operating under AOS2: (RTO Downtime)
In order to assure compliance with D.2.1(c), the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes at all times that these processes are in operation.

D.2.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 8-5-6]

(a) In order to demonstrate compliance with Conditions D.2.1(a), D.2.2, and D.2.3, when both the RTO system (CE009) and scrubber (CE008) control emissions from the fermentation and distillation processes, DDGS dryers, and the set of four centrifuges , the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), CO, acetaldehyde and methanol testing for the RTO system stack (SV009), utilizing methods as approved by the Commissioner. PM10 and PM2.5 includes filterable and condensable PM.

(b) In order to demonstrate compliance with Conditions D.2.1(b), D.2.2, and D.2.3, when only the RTO system (CE009) controls emissions from the fermentation and distillation processes, the DDGS dryers, and the set of four centrifuges, the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), CO, acetaldehyde and methanol testing for the RTO system stack (SV009). The testing shall utilize methods as approved by the Commissioner and be conducted not later than 180 days after initial startup of the scrubber bypass. PM10 and PM2.5 includes filterable and condensable PM.

(c) In order to demonstrate compliance with Condition D.2.1(c), the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency) and Acetaldehyde testing for the scrubber (CE008) five (5) years from the date of the most recent valid compliance demonstration for the RTO system stack (SV009) utilizing methods approved by the Commissioner. These tests shall be performed without the RTO operating.

(d) These tests shall be repeated at least once every five (5) years from the date of the last 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.

(e) In order to demonstrate compliance with Conditions D.2.1(a), D.2.2, and D.2.3, when both the RTO system (CE009) and scrubber (CE008) control emissions from the fermentation and distillation processes, DDGS dryers, and the set of four centrifuges, the

Permittee shall perform Acrolein testing for the RTO system stack (SV009) utilizing methods as approved by the Commissioner, and in accordance with the following schedule:

(a) Not later than December 6, 2017 the source shall perform initial testing for Acrolein.

(b) Subsequent testing shall be performed 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.

(f) In order to demonstrate compliance with Conditions D.2.1(b), D.2.2, and D.2.3, when only the RTO system (CE009) controls emissions from the fermentation and distillation processes, the DDGS dryers, and the set of four centrifuges, the Permittee shall perform Acrolein testing for the RTO system stack (SV009) utilizing methods as approved by the Commissioner, and in accordance with the following schedule:

(a) Not later than December 6, 2017 the source shall perform initial testing for Acrolein.

(b) Subsequent testing shall be performed 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.

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

D.2.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust from the RTO system stack (SV009) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take 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.2.8 Thermal Oxidizer Temperature [326 IAC 8-5-6]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the RTO system (CE009) for measuring operating temperature. For the purpose of this

condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as 3-hour average.

(b) When not operating under AOS1 or AOS2:
The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

When operating under AOS1:
The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperatures as observed during the latest compliant stack test. If the 3-hour average temperature falls below the above mentioned 3-hour average temperature, the Permittee shall take a reasonable response.

(d) From the date of initial startup of the scrubber bypass until the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1,683°F when the scrubber is not operating. If the 3-hour average temperature falls below 1,683°F, the Permittee shall take a reasonable response.

(e) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.9 Parametric Monitoring [326 IAC 8-5-6]

(a) When not operating under AOS1 or AOS2:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

When operating under AOS1:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

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

(c) The instruments used for determining the duct pressure or fan amperage 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) When, for any one reading, the duct pressure or fan amperage is outside the appropriate range, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A 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.2.10 Scrubber Pressure Drop and Flow Rate [326 IAC 8-5-6]

(a) The Permittee shall monitor and record the water flow rate of the scrubber (CE008) at least once per day when the fermentation and/or the distillation process is in operation.

(1) When not operating under AOS1 or AOS2:
The Permittee shall determine the minimum water flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1(a) and D.2.1(c).

When operating under AOS2:
The Permittee shall determine the minimum water flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1(a) and D.2.1(c).

(2) On and after the date the stack test results are available, the Permittee shall maintain a water flow rate at or above the minimum rate as observed during the latest compliant stack test. If the water flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

(b) The Permittee shall monitor and record the pressure drop across the scrubber (CE008) at least once per day when the fermentation and/or the distillation process is in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 2.0 and 10.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pressure reading that is outside the above mentioned range is not a deviation from this permit.

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

(d) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.11 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

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

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

D.2.12 Record Keeping Requirements [326 IAC 8-5-6]

(a) To document the compliance status with Condition D.2.1(c)(2), the Permittee shall maintain monthly records of the number of hours the scrubber (CE008) is vented to the atmosphere.

(b) To document the compliance status with Condition D.2.7, the Permittee shall maintain daily records of visible emission notations of the RTO system stack (SV009). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(c) To document the compliance status with Condition D.2.8, the Permittee shall maintain continuous temperature records for the thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(d) To document the compliance status with Condition D.2.9, the Permittee shall maintain daily records of the duct pressure or fan amperage for the RTO system (CE009). The Permittee shall include in its daily record when the duct pressure or fan amperage is not taken and the reason for the lack of the reading (e.g., the process did not operate that day).

(e) To document the compliance status with Condition D.2.10, the Permittee shall maintain daily records of pressure drop and water flow rate for scrubber CE008. The Permittee shall include in its daily record when the pressure drop and flow rate are not taken and the reason for the lack of the readings (e.g., the process did not operate that day).

(f) Documentation of the dates, including the time, the system is operating under AOS1 or AOS2.

(g) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.2.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.2.1(c)(2) shall be submitted not later than thirty (30) days following the end of the calendar quarter. 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(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS – Boilers

Emissions Unit Description:

(j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2006 for construction, each with a maximum heat input rate of 143 MMBtu/hr, with emissions exhausting to stacks SV013 and SV014, respectively.

Under NSPS, 40 CFR 60, Subpart Db, these units are considered affected facilities

(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 input of natural gas to the boilers shall be limited to less than 2,456.2 MMCF per 12 consecutive month period.

(b) CO emissions from the boilers (EU027 and EU028) shall not exceed 80 pounds per MMCF.

(b) NOx emissions from the boilers (EU027 and EU028) shall not exceed 98.2 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits, and the unrestricted heat input capacity of the boilers, shall limit the CO and NO_X emissions from the boilers to less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the boilers.

D.3.2 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for facilities specified in 326 IAC 6-2-1(d)), the PM emissions from the boilers shall not exceed 0.250 pounds per million Btu heat input (lb/MMBtu).

D.3.3 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 2-7-5(1)]

D.3.4 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5, and in order to ensure compliance with the requirements of 40 CFR 60, Subpart Db as specified in Section E.2, continuous emission monitoring systems (CEMS) for Boilers EU027 and EU028 shall be installed, calibrated, maintained, operated, and certified for measuring NO_X and O_2 or CO_2 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.

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

D.3.5 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.3.4, the Permittee shall maintain records of all NO_X and O_2 or CO_2 continuous emissions monitoring data, pursuant to 326 IAC 3-5-6. Records shall be complete and sufficient to establish compliance with the requirements of 326 IAC 3-5-6.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.3.6 Reporting Requirements

(a) Pursuant to 326 IAC 3-5-7(5), reporting of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately, shall include the following:

(1) date of downtime;

(2) time of commencement;

(3) duration of each downtime;

(4) reasons for each downtime; and

(5) nature of system repairs and adjustments.

(b) Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition. 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(34).

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS – DDGS Cooler

Emissions Unit Description:

(k) One (1) fluidized DDGS cooler, identified as EU029, approved in 2006 for construction, with a maximum throughput rate of 27 tons/hr of DDGS, controlled by baghouse CE010, and exhausting to stack SV010. Note: The Permittee has the option of routing the DDGS cooler baghouse exhaust to the DDGS Dryers, identified as EU025 and EU026.

(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 PM, PM10 and PM2.5 Minor PSD 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:

(1) The PM emissions from the DDGS cooler, which is controlled by baghouse CE010, shall not exceed 2.89 lbs/hr.

(2) The PM10 emissions from the DDGS cooler, which is controlled by baghouse CE010, shall not exceed 3.34 lbs/hr.

(3) The PM2.5 emissions from the DDGS cooler, which is controlled by baghouse CE010, shall not exceed 3.53 lbs/hr.

Compliance with these limits, combined with the potential to emit PM, PM10 and PM2.5 from all other emission units at the source, shall limit the source-wide total potential to emit of PM, PM10 and PM2.5 to less than two hundred fifty (250) tons per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.4.2 VOC Emissions [326 IAC 8-1-6]

In order to render the requirements of 326 IAC 8-1-6 (BACT) not applicable, the Permittee shall comply with the following:

VOC emissions shall not exceed 5.7 lbs/hr.

Compliance with the above limitation shall limit the VOC emissions from this emission unit to less than twenty five (25) tons per twelve (12) consecutive month period and render the requirements of 326 IAC 8-1-6 (BACT) not applicable.

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

Pursuant to 326 IAC 6-3-2, particulate emissions from the DDGS cooler (EU029) shall not exceed 37.3 pounds per hour when operating at the maximum process throughput rate of 27 tons per hour.

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

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

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

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

A Preventive Maintenance Plan is required for this facility and any control device. 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 2-7-5(1)]

D.4.5 Particulate Control

(a) In order to comply with Conditions D.4.1 and D.4.3, Baghouse CE010 shall be in operation and control emissions from the DDGS cooler (EU029) at all times that this unit is in operation.

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

D.4.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 8-1-6]

In order to demonstrate compliance with Conditions D.4.1, D.4.2 and D.4.3, the Permittee shall perform PM, PM10, PM2.5 and VOC testing for the DDGS cooler (EU029) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 includes filterable and condensible PM. 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.

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

D.4.7 Visible Emissions Notations

(a) Visible emission notations of the baghouse stack exhaust (stack SV010) shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take 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 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the

event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

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

D.4.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.7, the Permittee shall maintain records of daily visible emission notations of the baghouse stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

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

SECTION D.5EMISSIONS UNIT OPERATION CONDITIONS – Ethanol Loading Racks

Emissions Unit Description:

(n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and two (2) racks for railcars, approved in 2006 for construction and modified in 2007, with a maximum throughput rate of 39,000 gallons per hour when loading trucks, and 144,000 gallons per hour when loading railcars. This unit is controlled by enclosed flare CE015, which is fueled by natural gas and has a pilot gas flare heat input capacity of 54,000 Btu/hr, and exhausting through stack SV016.

(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 PSD and HAP Minor Limits [326 IAC 2-2][326 IAC 2-4.1][40 CFR 63]

Pursuant to 326 IAC 2-7-5 (Part 70), the Permittee shall comply with the following emission limits for the ethanol loading racks:

(a) The combined total load-out of denatured ethanol and E-85 from loading rack EU036 shall not exceed 86,000,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The Permittee shall use flare CE015 to control the emissions from the ethanol loading rack (EU036).

(c) CO emissions from flare CE015 shall not exceed 0.084 lbs/kgal.

(d) NOx emissions from flare CE015 shall not exceed 0.0334 lbs/kgal.

(e) The VOC emissions from enclosed flare CE015 shall not exceed 7.24 lbs/hr.

(f) Hexane emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 1.0 lbs/hr.

(g) The ethanol loading rack shall utilize submerged loading method when loading trucks and railcars.

(h) The railcars and trucks shall not use vapor balance services.

(i) The flare CE015 shall be designed as a smokeless flare.

Compliance with these limits, in conjunction with the potential to emit VOC, CO, and NOx from all other emission units at this source, shall limit the source-wide total potential to emit of VOC, CO, and NOx to less than two hundred fifty (250) tons per twelve (12) consecutive month period

Compliance with these limits, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than ten (10) tons per twelve (12) consecutive month period, total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable, and this source is an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

D.5.2 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills), and the Permittee shall collect and control the VOC emissions from the ethanol loading rack (EU036) using the following:

(a) The VOC emissions from the ethanol loading rack (EU036) shall be collected and controlled by enclosed flare CE015.

(b) The overall control efficiency for the vapor collection system and enclosed flare CE015 (including the capture efficiency and destruction efficiency) shall be at least 98%.

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and any 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 2-7-5(1)]

D.5.4 VOC Control [326 IAC 8-5-6]

In order to comply with Conditions D.5.1 and D.5.2, enclosed flare CE015 shall be in operation and control emissions from the ethanol loading rack (EU036) at all times when this unit is in operation.

D.5.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 8-5-6]

In order to demonstrate compliance with Conditions D.5.1(c), D.5.1(d), and D.5.2, the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency), CO, NOx and hexane testing for enclosed flare CE015 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with 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.

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

D.5.6 Flare Pilot Flame [326 IAC 8-5-6]

In order to comply with Conditions D.5.1 and D.5.2, the Permittee shall monitor the presence of a flare pilot flame for flare CE015 using a thermocouple or any other equivalent device to detect the presence of a flame when ethanol loading rack EU036 is in operation. If a condition exists which should result in a response step, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

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

D.5.7 Record Keeping Requirements [326 IAC 8-5-6]

(a) To document the compliance status with Condition D.5.1(a), the Permittee shall maintain monthly records of the total amount of denatured ethanol and E-85 loaded out from loading rack EU036.

(b) To document the compliance status with Condition D.5.6, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when loading rack EU036 is in operation.

(c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.5.8 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.5.1(a) shall be submitted not later than thirty (30) days following the end of the calendar quarter. 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(34). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS – Storage Tanks

Emissions Unit Description:

Insignificant Activities

(c) Storage Tanks:

(1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2006 for construction, with a maximum capacity of 250,000 gallons.

(2) One (1) tank for 200-proof ethanol or denaturant, identified as T002, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 250,000 gallons of 200-proof ethanol or denaturant. Natural gasoline is the denaturant used.

(3) One (1) denatured ethanol or 200-proof ethanol tank, identified as T003, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. Natural gasoline is the denaturant used.

(4) One (1) denatured ethanol or 200-proof ethanol tank, identified as T004, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. Natural gasoline is the denaturant used.

(5) One (1) denaturant tank, identified as T005, approved in 2006 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

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

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

D.6.1 Volatile Organic Compounds (VOC) [326 IAC 8-4-3]

(a) Pursuant to 326 IAC 8-4-3(b)(1)(B), storage tanks T002 and T005 shall be maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.

(b) Pursuant to 326 IAC 8-4-3(b)(1)(C), all openings, except stub drains, are equipped with covers, lids, or seals such that:

(1) The cover, lid or seal in the closed potion at all times except when in actual use;

(2) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(3) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

D.6.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.6.3 Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-3(d) and to document the compliance status with Condition D.6.1, the Permittee shall maintain the following records for tanks T002 and T005:

(1) The types of volatile petroleum liquid stored;

(2) The maximum true vapor pressure of the liquids as stored; and

(3) The results of the inspections performed on the storage vessels.

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

SECTION E.1 NSPS

Emissions Unit Description :

(e) One (1) fermentation process, approved in 2006 for construction and approved in 2016 for modification, with a maximum production rate of 60,000 gallons of beer per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009. During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) Five (5) fermenters, identified as EU012 through EU016, constructed in 2006.

(2) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(3) One (1) yeast propagation tank, identified as EU017, constructed in 2006.

(4) One (1) beer well, identified as EU018, constructed in 2006.

(g) One (1) distillation process, approved in 2006 for construction and approved in 2016 for modification, with a maximum input rate of 60,000 gallons of beer per hour and a maximum production rate of 12,000 gallons of ethanol per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009. During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) One (1) beer stripper, identified as EU019, approved in 2006 for construction.

(2) One (1) rectifier column, identified as EU020, approved in 2006 for construction.

(3) One (1) side stripper, identified as EU021, approved in 2006 for construction.

(4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2006 for construction.

(5) One (1) set of four (4) evaporators, identified as EU023, approved in 2006 for construction.

(n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and two (2) racks for railcars, approved in 2006 for construction and modified in 2007, with a maximum throughput rate of 39,000 gallons per hour when loading trucks, and 144,000 gallons per hour when loading railcars. This unit is controlled by enclosed flare CE015, which is fueled by natural gas and has a pilot gas flare heat input capacity of 54,000 Btu/hr, and exhausts through stack SV016.

Under 40 CFR 60, Subpart VVa, these are considered process units, and the pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of these process units are considered to be affected facilities.

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

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

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

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart VVa.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

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

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

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart VVa (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(1) 40 CFR 60.480a(a), (b), (c), (d), and (f)
(2) 40 CFR 60.481a
(3) 40 CFR 60.482-1a
(4) 40 CFR 60.482-2a
(5) 40 CFR 60.482-3a
(6) 40 CFR 60.482-4a
(7) 40 CFR 60.482-5a
(8) 40 CFR 60.482-6a
(9) 40 CFR 60.482-7a
(10) 40 CFR 60.482-8a
(11) 40 CFR 60.482-9a
(12) 40 CFR 60.482-10a
(13) 40 CFR 60.482-11a
(14) 40 CFR 60.483-1a
(15) 40 CFR 60.483-2a
(16) 40 CFR 60.484a
(17) 40 CFR 60.485a
(18) 40 CFR 60.486a
(19) 40 CFR 60.487a
(20) 40 CFR 60.488a
(21) 40 CFR 60.489a

SECTION E.2 NSPS

Emissions Unit Description:

(j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2006 for construction, each with a maximum heat input rate of 143 MMBtu/hr, with emissions exhausting to stacks SV013 and SV014, respectively.

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

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

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

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart Db.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

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

E.2.2 Standard of Performance for Industrial-Commercial-Institutional Steam Generating Units Requirements NSPS [326 IAC 12][40 CFR Part 60, Subpart Db]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Db (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(1) 40 CFR 60.40b
(2) 40 CFR 60.41b
(3) 40 CFR 60.44b(a), (h) and (i)
(4) 40 CFR 60.46b(a)
(5) 40 CFR 60.46b(c)
(6) 40 CFR 60.46b(e)(1)
(7) 40 CFR 60.48b(b)
(8) 40 CFR 60.48b(b)(1)
(9) 40 CFR 60.48b(c)
(10) 40 CFR 60.48b(d)
(11) 40 CFR 60.48b(e)(2)
(12) 40 CFR 60.48b(f)
(13) 40 CFR 60.48b(g)
(14) 40 CFR 60.49(a)(1) and (3)
(15) 40 CFR 60.49b(b)
(16) 40 CFR 60.49b(c)
(17) 40 CFR 60.49b(d)
(18) 40 CFR 60.49b(g)(1-10)
(19) 40 CFR 60.49b(i)
(20) 40 CFR 60.49b(v)
(21) 40 CFR 60.49b(w)

SECTION E.3 NSPS

Emissions Unit Description:

(g) Other emission units, not regulated by a NESHAP, with PM10, NOx, and SO_2 emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:

(1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2006 for construction, with a maximum capacity of 250,000 gallons.

(2) One (1) tank for 200-proof ethanol or denaturant, identified as T002, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 250,000 gallons of 200-proof ethanol or denaturant. Natural gasoline is the denaturant used.

(3) One (1) denatured ethanol or 200-proof ethanol tank, identified as T003, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. Natural gasoline is the denaturant used.

(4) One (1) denatured ethanol or 200-proof ethanol tank, identified as T004, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. Natural gasoline is the denaturant used.

(5) One (1) denaturant tank, identified as T005, approved in 2006 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

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

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

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

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart Kb.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

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

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

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Kb (included as Attachment C to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

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

SECTION E.4 NSPS

Emissions Unit Description:

(o) One (1) diesel generator, identified as EU037, approved for construction in 2006, with a maximum power output rate of 3017.25 horsepower (2,250 kilowatts), and exhausting to stack SV015.

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

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

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

(a) 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 emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart IIII.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

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

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

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included as Attachment D to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(1) 40 CFR 60.4200 (a)(2)(i) and (c)
(2) 40 CFR 60.4205 (b)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207(a), (b), and (c)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211 (a), (c), and (e)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214 (b) and (c)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 1 to 40 CFR 60, Subpart IIII
(13) Table 8 to 40 CFR 60, Subpart IIII

SECTION E.5 NESHAP

Emissions Unit Description:

Emission Units:

(o) One (1) diesel generator, identified as EU037, approved for construction in 2006, with a maximum power output rate of 3017.25 horsepower (2,250 kilowatts), and exhausting to stack SV015.

(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 National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1][40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 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, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.5.2 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment E to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585, (a), (c), and (d)
(3) 40 CFR 63.6590, (a), (a)(2)(iii), and (c)(1)
(4) 40 CFR 63.6595(a)(6), (b)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675

SECTION E.6 NESHAP

Emission Unit Description:

(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006 and modified in 2016, with a 300 gallon capacity storage tank and an estimated annual throughput of 15,600 gallons per year.

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

(a) Pursuant to 40 CFR 63.1 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, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart CCCCCC.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.6.2 National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities NESHAP [40 CFR Part 63, Subpart CCCCCC]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart CCCCCC (included as Attachment G to the operating permit), for the emission unit(s) listed above:

(1) 40 CFR 63.11110
(2) 40 CFR 63.11111 (a), (b), (e), (f), (h), (i), (j), and (k)
(3) 40 CFR 63.11112(a) and (b)
(4) 40 CFR 63.11113(a), (a)(1), (d), (d)(1), (e), and (e)(1)
(5) 40 CFR 63.11115
(6) 40 CFR 63.11116
(7) 40 CFR 63.11125(d)
(8) 40 CFR 63.11126(b)
(9) 40 CFR 63.11130
(10) 40 CFR 63.11131
(11) 40 CFR 63.11132
(12) Table 3 to Subpart CCCCCC of Part 63

SECTION E.7 NSPS

Emissions Unit Description:

(a) One (1) grain receiving and handling operation, consisting of the following:

(2) Conveying system, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(B) Two (2) enclosed belt conveyors, identified as EU002b, approved in 2016 for construction, with a maximum rated capacity of 840 tons per hour, total, controlled by dust collectors CE016, CE017, and CE018, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(3) Grain bins, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(B) Two (2) grain bins, identified as EU003b, approved in 2016 for construction, each with a maximum capacity of 683,855 bushels, controlled by dust collectors CE016, CE017, and CE018, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected 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) Requirements [326 IAC 2-7-5(1)]

E.7.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1][40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart DD.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

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

E.7.2 Standard of Performance for Grain Elevators NSPS [326 IAC 12][40 CFR Part 60, Subpart DD]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart DD (included as Attachment I to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(1) 40 CFR 60.300
(2) 40 CFR 60.301
(3) 40 CFR 60.302(b), (c)(1) and (c)(2)

(4) 40 CFR 60.303
(5) 40 CFR 60.304

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

E.7.3 Testing Requirements [326 IAC 2-1.1-11][326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

In order to document the compliance status with Condition E.8.2, the Permittee shall perform the testing required under 40 CFR 60, Subpart DD for one (1) dust collector from the group of dust collectors CE008 through CE010 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 source will test the dust collector for which the longest period of time has passed since the last valid compliance test. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: POET Biorefining - Portland, LLC
Source Address: 1542 South 200 West, Portland, Indiana 47371
Part 70 Permit No.: T075-30802-00032

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: POET Biorefining - Portland, LLC
Source Address: 1542 South 200 West, Portland, Indiana 47371
Part 70 Permit No.: T075-30802-00032

This form consists of 2 pages **Page 1 of 2**

□ This is an emergency as defined in 326 IAC 2-7-1(12)

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

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

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

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: POET Biorefining - Portland, LLC
Source Address: 1542 South 200 West, Portland, Indiana 47371
Part 70 Permit No.: T075-30802-00032
Facility: Scrubber (CE008)
Parameter: Hours Vented To Atmosphere
Limit: The scrubber (CE008) shall not vent to the atmosphere more than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER:_____ YEAR:_____

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: POET Biorefining - Portland, LLC
Source Address: 1542 South 200 West, Portland, Indiana 47371
Part 70 Permit No.: T075-30802-00032
Facility: Ethanol Loading Rack EU036
Parameter: Denatured Ethanol Loadout
Limit: Less than 86 MMgal per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER:_____ YEAR:_____

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

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: POET Biorefining - Portland, LLC
Source Address: 1542 South 200 West, Portland, Indiana 47371
Part 70 Permit No.: T075-30802-00032

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

Page 1 of 2

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

Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modification

Source Description and Location

Source Name:	POET Biorefining - Portland, LLC
Source Location:	1542 South 200 West, Portland, IN 47371
County:	Jay
SIC Code:	2869 (Industrial Organic Chemicals, Not Elsewhere Classified) and 2048 (Prepared Feeds and Feed Ingredients for Animals and Fowls, Except for Dogs and Cats)
Operation Permit No.:	T 075-30802-00032
Operation Permit Issuance Date:	November 14, 2012
Significant Source Modification No.:	075-37200-00032
Significant Permit Modification No.:	075-37214-00032
Permit Reviewer:	Kristen Willoughby

Existing Approvals

The source was issued Part 70 Operating Permit No. T075-30802-00032 on November 14, 2012. The source has since received the following approvals:

Permit Type	Permit Number	Issuance Date
Interim Significant Source Modification	075-36541I-00032	January 15, 216
Significant Source Modification	075-36541-00032	March 16, 2106
Significant Permit Modification	075-36683-00032	March 31, 2016

County Attainment Status

The source is located in Jay 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 $PM_{2.5}$ 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. Jay 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) $PM_{2.5}$
Jay 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
Jay County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The source includes a grain elevator, an ethanol production operation, and package boilers which support the ethanol plant with a total heat input rating of greater than 250 million British thermal units per hour (MMBtu/hr).

(1) EPA published a final rule in the Federal Register on May 1, 2007, that excluded ethanol production facilities that produce ethanol through natural fermentation, from the major source category "Chemical Process Plants". Therefore, the fugitive emissions from ethanol production facilities are no longer counted toward determination of PSD, Emission Offset, and Part 70 Permit applicability.

(2) The grain elevator has an applicable New Source Performance Standard (Standards of Performance for Grain Elevators, Subpart DD) that was in effect on August 7, 1980; therefore its fugitive emissions are counted toward the determination of PSD applicability.

(3) The boilers, with a total heat input rating of greater than 250 MMBtu/hr are considered one of the 28 listed source categories, based on the EPA guidance for “nesting activities”. Therefore, any fugitive emissions from these boilers are counted toward PSD, Emission Offset, 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	<250
PM_{10}	<250
$PM_{2.5}$	<250
SO_2	<100
NO_X	<250
VOC	<250
CO	<250

Pollutant	**Emissions** (ton/yr)
Total HAPs	<25
Single HAP	<10

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant, 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) These emissions are based upon Significant Source Modification No. 075-36541-00032..

(c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by POET Biorefining - Portland, LLC on May 18, 2016, relating to the following changes:

- Construct a new (6th) fermenter, increasing the throughput of the fermentation process from 55,400 gph to 60,000 gph.
- Increase beer flow through distillation from 54,000 gallons per hour to 60,000 gallons per hour.
- Increase cooling tower water flow rate from 26,000 gallons per minute to 30,000 gallons per minute.
- Replace a plate and frame heat exchanger used as a vaporizer in distillation with a kettle style vaporizer.
- Revise the permit to reflect that the corn oil centrifuges are not controlled, but instead vent to atmosphere.
- Increase in DDGS dryer feed rate from 27.0 ton/hr to 73.0 ton/hr.
- Increase in DDGS dryer wetcake feed rate from 60.0 ton/hr to 73.0 ton/hr.
- Increase in throughput of T009 from 1,200 gallons per year to 15,600 gallons per year.
- Increase in the number of turnovers per year for T003 and T004.
- Clarify that the centrifuges (EU024) are controlled by the RTO except when the RTO is down.
- Change the company name from POET Biorefining - Portland to POET Biorefining-Portland, LLC.
- Add the existing wetcake storage previously identified in the calculations to the units description list.

- Clarify that EU024, EU038, and EU039 each has less than 10% VOC and is not subject to 40 CFR 60, Subpart VVa.
- Clarify that the denaturant used is natural gasoline. Therefore, the requirements of 40 CFR 63, Subpart BBBBBB are not applicable.

The following is a list of the proposed and modified emission units and pollution control device(s):

(a) One (1) fermentation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **production** rate of ~~55,400~~ **60,000** gallons **of beer** per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. **During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(b) One (1) distillation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **input** rate of ~~54,000~~ **60,000** gallons of ~~ethanol~~ **beer** per hour **and a maximum production rate of 12,000 gallons of ethanol per hour**, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. **During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008.

(c) One (1) set of four (4) **whole stillage** centrifuges, identified as EU024, approved in 2006 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During **RTO downtime** ~~wetcake production~~, emissions from EU024 are exhausted through bypass stack SV017.

(d) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2006 for construction, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum ~~throughput~~ **input rate of 73.0 tons/hr of wetcake and a maximum output** rate of 27 tons of DDGS per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to regenerative thermal oxidizer (RTO) CE009, and exhausting to stack SV009.

Insignificant Activities

(a) Two (2) centrifuges, identified as EU038 and EU039, approved in 2012 for construction, **with a maximum throughput for EU038 of 150 gpm and the maximum throughput for EU039 of 30 gpm**, used in series to separate corn oil from the syrup system, exhausted ~~to the thermal oxidizer CE009 and stack SV009~~ **atmosphere**.

(b) Storage Tanks:

(1) One (1) tank for 200-proof ethanol or denaturant, identified as T002, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of 200-proof ethanol or denaturant. **Natural gasoline is the denaturant used.**

(2) One (1) denatured ethanol or 200-proof ethanol tank, identified as T003, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. **Natural gasoline is the denaturant used.**

(3) One (1) denatured ethanol or 200-proof ethanol tank, identified as T004, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. **Natural gasoline is the denaturant used.**

(c) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006 **and modified in 2016**, with a 300 gallon capacity storage tank and an estimated annual throughput of ~~1,200~~ **15,600** gallons per year.

(d) **One (1) f**orced and induced draft cooling tower system not regulated under a NESHAP**, with a maximum flow rate of 30,000 gallons per minute.**

(e) Other emission units, not regulated by a NESHAP, with PM10, NOx, and SO_2 emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:

(1) One (1) wetcake storage operation, with a maximum throughput of 639,480 tons per year.

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.

PTE Change of the Modified Process			
Pollutant	**PTE Before Modification** (ton/yr)	**PTE After Modification** (ton/yr)	**Increase from Modification** (ton/yr)
PM	383.77	384.88	1.11
PM_{10}	387.45	388.55	1.10
$PM_{2.5}$	387.45	388.55	1.10
SO_2	10.40	10.40	0

PTE Change of the Modified Process			
Pollutant	**PTE Before Modification** (ton/yr)	**PTE After Modification** (ton/yr)	**Increase from Modification** (ton/yr)
VOC	6,062	9,517	3,455
CO	361.21	361.21	0
NO_X	90.18	90.18	0
Single HAP	>10	>10	>10
Total HAPs	>25	>25	>25

This source modification is subject to 326 IAC 2-7-10.5(g)(4), because the potential to emit of VOC is greater than 25 tons per year. 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 and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Project Emissions (ton/yr)						
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**NO_X**	**VOC**	**CO**
New Fermenter 6 (EU047)	-	-	-	-	-	***	-
Distillation Process Increases	-	-	-	-	-		-
DDG Dryer Increases	-	-	-	-	-		-
Equipment Leaks Increases / Kettle Style Vaporizer (Fugitive)**	-	-	-	-	-	5.13	-
Cooling Tower Increases**	1.10	1.10	1.10	-	-	-	-
Wet Cake Increases	-	-	-	-	-	0.47	-
T003 Increases	-	-	-	-	-	0.11	-
T004 Increases	-	-	-	-	-	0.11	-
T009 Increases	-	-	-	-	-	0.19	-
Paved Road Increases (fugitive)**	0.01	2.27 E-03	5.57E -04	-	-	-	-
Total for Modification	-	-	-	-	-	6.01	-
PSD Major Source Thresholds	250	250	250	250	250	250	250

*$PM_{2.5}$ listed is direct $PM_{2.5}$.
**Fugitive emissions that do not count towards PSD applicability.
***The existing VOC limitations on the fermentation process, distillation process, and DDG Dryers are not changing as a result of this modification.

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States

Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

This modification to an existing minor PSD stationary source is not major because the emissions increase of each PSD regulated pollutant are less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this Significant Source Modification, the Permittee shall:

(a) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2):

(1) The scrubber (CE008) and RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(4) PM emissions shall not exceed 24.21 lbs/hr.

(5) PM10 emissions shall not exceed 27.97 lbs/hr.

(6) PM2.5 emissions shall not exceed 29.55 lbs/hr.

(7) VOC emissions shall not exceed 27.06 lbs/hr.

(8) CO emissions shall not exceed 27.16 lbs/hr.

(b) <u>Alternative Operating Scenario No. 1 (AOS1)</u>

When the Scrubber (CE008) is not operating, the Permittee shall comply with the following:

(1) The RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(4) PM emissions shall not exceed 24.21 lbs/hr.

(5) PM10 emissions shall not exceed 27.97 lbs/hr.

(6) PM2.5 emissions shall not exceed 29.55 lbs/hr.

(7) VOC emissions shall not exceed 27.06 lbs/hr.

(8) CO emissions shall not exceed 27.16 lbs/hr.

(c) Alternative Operating Scenario No. 2 (AOS2)

When the RTO (CE009) is not operating, the Permittee shall comply with the following:

(1) The Scrubber (CE008) shall control emissions from the fermentation and distillation processes and the RTO bypass stack exhaust (SV008) shall be limited as follows:

(A) VOC emissions shall not exceed 79.39 lbs/hr.

(2) The scrubber (CE008) shall not vent to the atmosphere (RTO bypass stack SV008) more than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The DDGS dryers (EU25 and EU26) shall not be in operation.

Compliance with these limits, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide potential to emit of VOC to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each 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:

NSPS:

40 CFR Part 60, Subpart VVa – Standards of Performance for Equipment Leaks of VOC in Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modificaiton Commenced After November 7, 2006.
This source is subject to the New Source Performance Standards for Equipment Leaks of VOC in Synthetic Organic Chemical Manufacturing Industry for Which Construction, Reconstruction, or Modificaiton Commenced After November 7, 2006 (40 CFR 60, Subpart VVa), because ethanol is listed in 40 CFR 60.489. The units subject to this rule include the following:

(a) Pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, and valves of this process are considered affected facilities.

This source is subject to the following portions of Subpart VVa.

(1) 40 CFR 60.480a
(2) 40 CFR 60.481a
(3) 40 CFR 60.482-1a
(4) 40 CFR 60.482-2a
(5) 40 CFR 60.482-3a
(6) 40 CFR 60.482-4a

(7) 40 CFR 60.482-5a
(8) 40 CFR 60.482-6a
(9) 40 CFR 60.482-7a
(10) 40 CFR 60.482-8a
(11) 40 CFR 60.482-9a
(12) 40 CFR 60.482-10a
(13) 40 CFR 60.482-11a
(14) 40 CFR 60.483-1a
(15) 40 CFR 60.483-2a
(16) 40 CFR 60.484a
(17) 40 CFR 60.485a
(18) 40 CFR 60.486a
(19) 40 CFR 60.487a
(20) 40 CFR 60.488a
(21) 40 CFR 60.489a

EU024, EU038, and EU039 are not "in VOC service" as defined in 40 CFR 60.481a because they process a fluid that is less than 10% VOC by weight.

40 CFR Part 60, Subpart NNN – Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.
Ethanol is one of the chemicals listed in 40 CFR 60.667 of Subpart NNN, which makes a source subject to this NSPS. However, according to the EPA memo from Mr. George T. Czerniak dated December 6, 2002, the manufacture of ethanol using a fermentation process (biological synthesis) was excluded from the scope of NSPS, Subpart NNN. Therefore, the distillation unit at this ethanol production plant is not subject to the requirements of the New Source Performance Standards for Volatile Organic Liquid Storage Vessels VOC Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (326 IAC 12, 40 CFR 60.660 - 667, Subpart NNN).

40 CFR Part 60, Subpart RRR - New Source Performance Standards for Volatile Organic Compounds Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.
Ethanol is one of the chemicals listed in 40 CFR 60.707; however, according to the EPA memorandum from Mr. George T. Czerniak, dated December 6, 2002, the manufacture of ethanol using a fermentation process (biological synthesis) was excluded from the scope of NSPS, Subpart RRR. Therefore, Subpart RRR is not included for this source.

NESHAP:

40 CFR Part 63, Subparts F, G, and H – National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry
The ethanol production plant at this source is not subject the provisions of 40 CFR 63, Subparts F, G, and H because ethanol is not one of the listed chemicals to which these subparts apply and the source will take limits to remain an area source.

40 CFR Part 63, Subpart I – National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks
The ethanol production plant at this source is not subject to the provisions of 40 CFR 63, Subpart I because the source does not operate one of the processes listed in 40 CFR 63.190(b) and will take limits to remain an area source.

40 CFR Part 63, Subpart Q – National Emission Standards for Industrial Process Cooling Towers
The cooling tower at this source is not subject to the provisions of 40 CFR 63, Subpart Q because the source will take limits to remain an area source and the cooling towers are non-contact and not a source of VOCs or HAPs.

40 CFR Part 63, Subpart TT – National Emission Standards for Equipment Leaks - Control Level 1
The requirements of the National Emission Standards for Equipment Leaks - Control Level 1, 40 CFR 63, Subpart TT, are not included in this permit because there are no subparts of 40 CFR Part 63 that reference the use of Subpart TT.

40 CFR Part 63, Subpart UU – National Emission Standards for Equipment Leaks - Control Level 2 Standards
The requirements of the National Emission Standards for Equipment Leaks - Control Level 2 Standards, 40 CFR 63, Subpart UU, are not included in this permit because there are no subparts of 40 CFR Part 63 that reference the use of Subpart UU.

40 CFR Part 63, Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing
The ethanol production plant at this source is not subject to the provisions of 40 CFR 63, Subpart FFFF because the source will take limits to remain an area source.

40 CFR Part 63, Subpart BBBBBB - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities
The requirements of 40 CFR 63, Subpart BBBBBB are not included in the permit. The EPA has specifically stated that Subpart BBBBBB does not apply to the storage of denatured ethanol because denatured ethanol does not meet the Reid vapor pressure ("RVP") threshold in Subpart BBBBBB to qualify as gasoline and is not itself a fuel for internal combustion engines. See 76 Fed. Reg. 4156 (Jan. 24, 2011).

The denaturant received, stored, and used to process denatured ethanol is "natural gasoline" and not "refined" gasoline. For the purposes of Subpart BBBBBB, gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines. Natural gasoline is not considered a petroleum distillate. Natural gasoline is derived from natural gas, whereas refined gasoline is derived from crude oil (petroleum).

40 CFR 80.2 defines natural gas liquids: "Natural gas liquids (NGL) means the components of natural gas (primarily propane, butane, pentane, hexane, and heptane) that are separated from the gas state in the form of liquids in facilities such as a natural gas production facility, a gas processing plant, a natural gas pipeline, or a refinery or similar facility. The higher temperature boiling components of NGL are sometimes referred to as 'natural gasoline'". 40 CFR 63, Subpart OOOO defines Natural Gas liquids as hydrocarbons, such as ethane, propane, butane, and pentane that are extracted from field gas.

Natural gasoline itself is not used as a fuel in combustion engines.

Therefore, the requirements of 40 CFR 63, Subpart BBBBBB are not included in the permit.

40 CFR Part 63, Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
This source is subject to the National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities (40 CFR 63, Subpart CCCCCC). The unit subject to this rule include the following:

(a) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006 and modified in 2016, with a 300 gallon capacity storage tank and an estimated annual throughput of 15,600 gallons per year.

This source is subject to the following portions of Subpart CCCCCC.

(1) 40 CFR 63.11110

(2) 40 CFR 63.11111 (a), (b), (e), (h), (i), (j)
(3) 40 CFR 63.11112 (a), (b)
(4) 40 CFR 63.11113 (a)(1)
(5) 40 CFR 63.11115
(6) 40 CFR 63.11116
(7) 40 CFR 63.11125 (d)
(8) 40 CFR 63.11126 (b)
(9) 40 CFR 63.11130
(10) 40 CFR 63.11131
(11) 40 CFR 63.11132
(12) Table 3

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart CCCCCC.

40 CFR Part 63, Subpart VVVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources
The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Chemical Manufacturing Area Sources, 40 CFR 63.11494, Subpart VVVVVV, are not included for this permit, because the source does not process, produce, or use any of the HAPs listed in Table 1 to this subpart in concentrations greater than 0.1 percent for the listed carcinogens or greater than 1.0 percent for the listed noncarcinogens. This is based on national test data submitted by the Iowa Renewable Fuels Association and verified by the Iowa Department of Natural Resources and test data from numerous ethanol plants in Indiana.

CAM:

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)	**Pollutant**	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Fermentor 6 (EU047)	Scrubber/ RTO	Y	VOC	>250	<250	100	Y	N
Distillation Process (EU019 - EU023)			Acetaldehyde	>10	<10	10	Y	N
DDGS Dryers (EU025 -			Methanol	>10	<10	10	Y	N

CAM Applicability Analysis								
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Pollutant**	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
EU026)								

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to EU019 - EU023, EU025, EU026, and EU047 for VOC, Acetaldehyde, and Methanol 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))
In order to render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

(a) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2):

(1) The scrubber (CE008) and RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(4) Acetaldehyde emissions shall not exceed 1.00 lbs/hr.

(5) Methanol emissions shall not exceed 0.22 lbs/hr.

(6) Acrolein emissions shall not exceed 0.85 lbs/hr.

(b) Alternative Operating Scenario No. 1 (AOS1)

When the Scrubber (CE008) is not operating, the Permittee shall comply with the following:

(1) The RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(4) Acetaldehyde emissions shall not exceed 1.00 lbs/hr.

(5) Methanol emissions shall not exceed 0.22 lbs/hr.

(6) Acrolein emissions shall not exceed 0.85 lbs/hr.

(c) Alternative Operating Scenario No. 2 (AOS2)

When the RTO (CE009) is not operating, the Permittee shall comply with the following:

(1) The Scrubber (CE008) shall control emissions from the fermentation and distillation processes and the RTO bypass stack exhaust (SV008) shall be limited as follows:

(A) Acetaldehyde emissions shall not exceed 5.5 lbs/hr.

(2) The scrubber (CE008) shall not vent to the atmosphere (RTO bypass stack SV008) more than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The DDGS dryers (EU25 and EU26) shall not be in operation.

Compliance with these limits, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide potential to emit of any single HAP to less than ten (10) tons per twelve (12) consecutive month period for a single HAP, total HAPs to less than twenty five (25) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, and this source is an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

326 IAC 2-7-6(5) (Annual Compliance Cerification)
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certification that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements (BACT))
The source has combined potential VOC emissions from the fermentation process, distillation process, and DDGS dryers operations greater than 25 tons per year. However, the fermentation process, distillation process, and DDGS dryers operations at this source are subject to the requirements of 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills). Therefore these operations are not subject to the requirements of 326 IAC 8-1-6 (BACT).

The potential to emit from wet cake production is less than 25 tons per year. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills)
Pursuant to 326 IAC 8-5-6(c), the Permittee has chosen to control the VOC emissions from the fermentation process, the distillation process and the DDGS dryers (EU029 through EU032) with a scrubber CE008 and regenerative thermal oxidizer (RTO) CE009. Therefore, the following conditions apply:

(a) The VOC emissions from the fermentation and distillation processes shall be controlled by either the scrubber CE008 or the regenerative thermal oxidizer (RTO) CE009 or a combination of both the scrubber CE008 and RTO system CE009, unless otherwise specified in D.2.1.

(b) The overall efficiency for the scrubber (CE008) and RTO (CE009) (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

(c) The overall efficiency for the scrubber (CE008) (including the capture efficiency and the destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(d) The VOC emissions from the DDGS dryers (EU025 and EU026) shall be controlled by regenerative thermal oxidizer CE009.

(e) The overall efficiency for the regenerative thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

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

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU025	DDGS Dryer	73	48.17
EU026	DDGS Dryer	73	48.17

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

The RTO must be in operation at all times in order to comply with the DDGS Dryer limits.

Pursuant to 326 IAC 6-3-1(b)(11), particulate emissions from noncontact cooling tower systems are exempt from the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes). Therefore, the cooling tower is exempt from the requirements of 326 IAC 6-3-2.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached Fugitive Dust Control Plan. The provisions of 326 IAC 6-5 are not federally enforceable.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)
(a) Pursuant to 326 IAC 8-4-3(b)(1)(B), storage tanks T002 and T005 shall be maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.

(b) Pursuant to 326 IAC 8-4-3(b)(1)(C), all openings, except stub drains, are equipped with covers, lids, or seals such that:

(1) The cover, lid or seal in the closed potion at all times except when in actual use;

(2) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;

(3) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

326 IAC 8-4-6 (Gasoline Dispensing Facilities)
The throughput of the gasoline storage tank T009 is less than 10,000 gallons per month. Therefore, the requirements of 326 IAC 8-4-6 are not applicable.

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.

(a) The new Compliance Determination Requirements applicable to this modification are as follows:

Summary of Testing Requirements

Emission Unit	Control Device	Timeframe for Testing (or Date of Last Valid Demonstration)	Pollutant	Frequency of Testing	Authority
fermentation and distillation processes, the DDGS dryers, and the set of four centrifuges	RTO system stack (SV009)	Not later than12/06/2017	Acrolein	Once every five (5) years	326 IAC 2-4.1 and 40 CFR 63

Note: Based on acrolein testing at POET Biorefining - Portland, LLC (04/02/2013 and 12/20/2013), the Permittee can meet the new acrolein limit. Therefore, initial testing is delayed to match the testing schedule for other pollutants.

(b) There are no new or modified compliance monitoring requirements included with this modification.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T075-30802-00032. These changes may include Title I changes (ex changes that add or modify synthetic minor emission limits). Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

(1) The company name has been changed throughout the permit as follows:

POET Biorefining - Portland**, LLC**

(2) Conditions A.2, A.3, A.4 and the Facility Description Boxes have been updated to include the new and modified units.

(3) The control unit ID's for EU002b and EU003b have been changed throughout the permit.

(4) Condition C.5 was revised to correct the attachment ID for the Fugitive Dust Control Plan.

(5) The last paragraph in Conditions D.2.1, D.4.1, and D.5.1 were revised for clarification purposes.

(6) Section D.2 was revised such that the centrifuges (EU024) shall be controlled by the RTO except for during RTO downtime and to add acrolein limits / adjust acetaldehyde limits to ensure the Permittee is an area source under 40 CFR Part 63.

(7) Condition D.2.3 was revised due to the new throughput for the DDGS Dryers.

(8) The requirements of 40 CFR 63, Subpart VVVVVV are not applicable to ethanol plants. Therefore, Conditions D.2.4 and D.6.2 and the testing under Conditions D.2.7 and D.6.5 have been removed. For more information please see the Federal Rule Applicability section of this document.

(9) Conditions D.2.5, D.2.8, D.2.9, D.2.10, and D.2.11 were revised for clarity.

(10) Condition D.2.12 was revised to include record keeping for Condition D.2.1.

(11) IDEM, OAQ has decided it is not necessary to include a throughput limit to keep the requirements of 326 IAC 8-4-6 not applicable to T009. Condition D.6.3 and associated record keeping, reporting, and forms have been removed.

(12) Since 40 CFR 60, Subpart VVa is not applicable to EU024, EU038, and EU039, the requirements were removed.

(13) Section E.6 was removed since 40 CFR 63, Subpart BBBBBB does not apply to this source.

(14) Typographical errors have been corrected throughout.

Additional Changes

IDEM, OAQ made additional changes to the permit as described below in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

(1) IDEM, OAQ has decided it is not necessary to list state rule cites for specifically regulated insignificant activities.

(2) IDEM, OAQ has revised the language to clarify that a reasonable response may contain one or more steps.

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:

(a) One (1) grain receiving and handling operation, consisting of the following:

***

(2) Conveying system, with a maximum throughput rate of 840 tons per hour, consisting of the following:

***

(B) Two (2) enclosed belt conveyors, identified as EU002b, approved in 2016 for construction, with a maximum rated capacity of 840 tons per hour, total, controlled by dust collectors ~~CE008, CE009, and CE010~~ **CE016, CE017, and CE018**, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(3) Grain bins, with a maximum throughput rate of 840 tons per hour, consisting of the following:

***

(B) Two (2) grain bins, identified as EU003b, approved in 2016 for construction, each with a maximum capacity of 683,855 bushels, controlled by dust collectors ~~CE008, CE009, and CE010~~ **CE016, CE017, and CE018**, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

***

(e) One (1) fermentation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **production** rate of ~~55,400~~ **60,000** gallons **of beer** per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. **During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) Five (5) fermenters, identified as EU012 through EU016, constructed in 2006.

(2) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(~~2~~**3**) One (1) yeast propagation tank, identified as EU017, constructed in 2006.

(~~3~~**4**) One (1) beer well, identified as EU018, constructed in 2006.

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

(f) ***

(g) One (1) distillation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **input** rate of ~~54,000~~ **60,000** gallons of ~~ethanol~~ **beer** per hour **and a maximum production rate of 12,000 gallons of ethanol per hour**, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. **During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008. This process consists of the following ~~[This is an affected facility under NSPS VVa]~~:

***

(h) One (1) set of four (4) **whole stillage** centrifuges, identified as EU024, approved in 2006 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During **RTO downtime** ~~wetcake production~~, emissions from EU024 are exhausted through bypass stack SV017.

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

(i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2006 for construction, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum ~~throughput~~ **input rate of 73.0 tons/hr of wetcake and a maximum output** rate of 27 tons of DDGS per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to regenerative thermal oxidizer (RTO) CE009, and exhausting to stack SV009.

***

(l) One (1) DDGS handling and storage operation, approved in 2006 for construction, with a maximum throughput rate of 220 tons/hr of DDGS, and consisting of the following:

(1) One (1) DDGS storage silo, identified as EU030, approved in 2006 for construction, **with a maximum throughput rate of 27 tons/hr of DDGS,** controlled by baghouse CE011, with emissions exhausted to stack SV011.

(2) One (1) DDGS silo bypass, identified as EU031, approved in 2006 for construction, **with a maximum throughput rate of 27 tons/hr of DDGS,** controlled by baghouse CE012, with emissions exhausted to stack SV012.

***

(n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and two (2) racks for railcars, approved in 2006 for construction and modified in 2007, with a maximum throughput rate of 39,000 gallons per hour when loading trucks, and 144,000 gallons per hour when loading railcars. This unit is controlled by enclosed flare CE015, which is fueled by natural gas and has a pilot gas flare heat input capacity of 54,000 Btu/hr, and exhausts through stack SV016.

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

***

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

(b) Two (2) centrifuges, identified as EU038 and EU039, approved in 2012 for construction, **with a maximum throughput for EU038 of 150 gpm and the maximum throughput for EU039 of 30 gpm**, used in series to separate corn oil from the syrup system, exhausted ~~to the thermal oxidizer CE009 and stack SV009~~ **atmosphere**. ~~[40 CFR 60, Subpart VVa]~~

(c) Storage Tanks:

(1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2006 for construction, with a maximum capacity of 250,000 gallons. ~~[40 CFR 60, Subpart Kb]~~

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(2) One (1) tank for 200-proof ethanol or denaturant, identified as T002, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of 200-proof ethanol or denaturant. ~~[40 CFR 60, Subpart Kb][40 CFR 63, Subpart BBBBBB]~~ **Natural gasoline is the denaturant used.**

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(3) One (1) denatured ethanol or 200-proof ethanol tank, identified as T003, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. ~~[40 CFR 60, Subpart Kb]~~ **Natural gasoline is the denaturant used.**

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(4) One (1) denatured ethanol or 200-proof ethanol tank, identified as T004, approved in 2006 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of denatured ethanol or 200-proof ethanol. ~~[40 CFR 60, Subpart Kb]~~ **Natural gasoline is the denaturant used.**

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(5) One (1) denaturant tank, identified as T005, approved in 2006 for construction, with a maximum capacity of 126,900 gallons of natural gasoline. ~~[40 CFR 60, Subpart Kb][40 CFR 63, Subpart BBBBBB]~~

Under NSPS, 40 CFR 60, Subpart Kb, this unit is considered an affected facility.

(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006 **and modified in 2016**, with a 300 gallon capacity storage tank and an estimated annual throughput of ~~1,200~~ **15,600** gallons per year. ~~[326 IAC 8-4-6][40 CFR 63, Subpart CCCCCC]~~

Under NESHAP, 40 CFR 63, Subpart CCCCCC, this unit is considered an affected facility.

A.4 Other 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 not specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.

(b) **One (1) f**~~F~~orced and induced draft cooling tower system not regulated under a NESHAP **with a maximum flow rate of 30,000 gallons per minute.**

***

(f) Other emission units, not regulated by a NESHAP, with PM10, NOx, and SO_2 emissions less than five (5) pounds per hour or twenty-five (25) pounds per day, CO emissions less than twenty-five (25) pounds per day, VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day, lead emissions less than six-tenths (0.6) tons per year or three and twenty-nine hundredths (3.29) pounds per day, and emitting greater than one (1) pound per day but less than five (5) pounds per day or one (1) ton per year of a single HAP, or emitting greater than one (1) pound per day but less than twelve and five tenths (12.5) pounds per day or two and five tenths (2.5) ton per year of any combination of HAPs:

***

(7) One (1) wetcake storage operation, with a maximum throughput of 639,480 tons per year.

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

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment ~~A~~ **H**. The provisions of 326 IAC 6-5 are not federally enforceable.

***

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS – Grain and DDGS Handling Processes

Emissions Unit Description:

(a) One (1) grain receiving and handling operation, consisting of the following:

***

(2) Conveying system, with a maximum throughput rate of 840 tons per hour, consisting of the following:

***

(B) Two (2) enclosed belt conveyors, identified as EU002b, approved in 2016 for construction, with a maximum rated capacity of 840 tons per hour, total, controlled by dust collectors ~~CE008, CE009, and CE010~~ **CE016, CE017, and CE018**, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(3) Grain bins, with a maximum throughput rate of 840 tons per hour, consisting of the

following:

***

(B) Two (2) grain bins, identified as EU003b, approved in 2016 for construction, each with a maximum capacity of 683,855 bushels, controlled by dust collectors ~~CE008, CE009, and CE010~~ **CE016, CE017, and CE018**, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

***

(l) One (1) DDGS handling and storage operation, approved in 2006 for construction, with a maximum throughput rate of 220 tons/hr of DDGS, and consisting of the following:

(1) One (1) DDGS storage silo, identified as EU030, approved in 2006 for construction, **with a maximum throughput rate of 27 tons/hr of DDGS,** controlled by baghouse CE011, with emissions exhausted to stack SV011.

(2) One (1) DDGS silo bypass, identified as EU031, approved in 2006 for construction, **with a maximum throughput rate of 27 tons/hr of DDGS,** controlled by baghouse CE012, with emissions exhausted to stack SV012.

***

Insignificant Activity:

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

(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 PM, PM10 and PM2.5 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, PM, PM10 and PM2.5 emissions from the following units shall not exceed the emission limits listed in the table below.

Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
EU001, EU002a, EU003a, EU032, EU033, EU034, EU035	Grain Receiving, Conveyors, and Storage Bins, and DDGS conveying, storage, and loadout	CE001	2.82 (Combined)	3.26 (Combined)	3.45 (Combined)
EU004, EU005	Corn Scalper, Surge Bin	CE002	0.32 (Combined)	0.37 (Combined)	0.39 (Combined)
EU006	Hammermill #1	CE003	1.45	1.67	1.77
EU007	Hammermill #2	CE004	1.45	1.67	1.77
EU008	Hammermill #3	CE005	1.45	1.67	1.77
EU009	Hammermill #4	CE006	1.45	1.67	1.77
EU010	Hammermill #5	CE007	1.45	1.67	1.77
EU002b, EU003b	Conveyors, Storage Bins	~~CE008~~ **CE016**	0.05	0.05	0.01
EU002b, EU003b	Conveyors, Storage Bins	~~CE009~~ **CE017**	0.05	0.05	0.01
EU002b, EU003b	Conveyors, Storage Bins	~~CE010~~ **CE018**	0.05	0.05	0.01
EU030	DDGS Silo Loading	CE011	0.49	0.57	0.60

Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
EU031	DDGS Silo Bypass	CE012	0.49	0.57	0.60

***

D.1.2 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 the following operations shall not exceed the pound per hour limitations listed in the table below when operating at the maximum process weight rates listed below:

Unit ID	Unit Description	Max. Process Weight Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU001, EU002a, EU002b EU003a, EU003b	Grain Receiving, Conveyors, and Storage Bins	840	75.4
EU004, EU005	Corn Scalper, Surge Bin	140	54.7
EU006	Hammermill #1	20	30.5
EU007	Hammermill #2	20	30.5
EU008	Hammermill #3	20	30.5
EU009	Hammermill #4	20	30.5
EU010	Hammermill #5	20	30.5
EU030	DDGS Silo Loading	~~26~~ **27**	~~36.4~~ **37.3**
EU031	DDGS Silo Bypass	~~26~~ **27**	~~36.4~~ **37.3**
EU032	DDGS Storage Building	220	59.5
EU033	DDGS Conveyor	220	59.5
EU034	DDGS Truck Loadout Spout	220	59.5
EU035	DDGS Rail Loadout Spout	220	59.5

***

D.1.4 Particulate Control

(a) In order to assure compliance with Conditions D.1.1(a) and D.1.2, 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
EU001, EU002a, EU003a, EU032, EU033, EU034, EU035	Grain Receiving, Conveyors, and Storage Bins, and DDGS conveying, storage, and loadout	CE001
EU002b, EU003b	Conveyors, Storage Bins	~~CE008~~ **CE016**
EU002b, EU003b	Conveyors, Storage Bins	~~CE009~~ **CE017**
EU002b, EU003b	Conveyors, Storage Bins	~~CE010~~ **CE018**
EU004, EU005	Corn Scalper, Surge Bin	CE002
EU006	Hammermill #1	CE003
EU007	Hammermill #2	CE004
EU008	Hammermill #3	CE005
EU009	Hammermill #4	CE006
EU010	Hammermill #5	CE007
EU030	DDGS Silo Loading	CE011
EU031	DDGS Silo Bypass	CE012

***

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

In order to demonstrate compliance with Conditions D.1.1(a) and D.1.2, the Permittee shall perform PM, PM10 and PM2.5 testing on the following:

***

(d) Not later than 180 days after startup of EU002b and EU003b, the Permittee shall perform PM, PM10, and PM2.5 testing of dust collectors ~~CE008 through CE010~~ **CE016 through CE018**, utilizing methods as approved by the Commissioner. Testing shall be repeated for one (1) dust collector from the group of dust collectors ~~CE008 through CE010~~ **CE016 through CE018**,at least once every five (5) years from the date of the most recent valid compliance demonstration. The source will test the dust collector for which the longest period of time has passed since the last valid compliance test.

***

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS – Fermentation/Distillation and DDGS Drying

Emissions Unit Description:

(e) One (1) fermentation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **production** rate of ~~55,400~~ **60,000** gallons **of beer** per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. **During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) Five (5) fermenters, identified as EU012 through EU016, constructed in 2006.

(2) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(~~2~~**3**) One (1) yeast propagation tank, identified as EU017, constructed in 2006.

(~~3~~**4**) One (1) beer well, identified as EU018, constructed in 2006.

(f) One (1) regenerative thermal oxidizer (RTO), identified as CE009, approved in 2006 for construction, with a maximum heat input capacity of 30 MMBtu/hr, using natural gas as fuel, with emissions exhausted through stack SV009.

(g) One (1) distillation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **input** rate of ~~54,000~~ **60,000** gallons of ~~ethanol~~ **beer** per hour **and a maximum production rate of 12,000 gallons of ethanol per hour**, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. **During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008. This process consists of the following ~~[This is an affected facility under NSPS VVa]~~:

***

(h) One (1) set of four (4) **whole stillage** centrifuges, identified as EU024, approved in 2006 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During **RTO downtime** ~~wetcake production~~, emissions from EU024 are exhausted through bypass stack SV017.

(i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2006 for construction, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum

~~throughput~~ **input rate of 73.0 tons/hr of wetcake and a maximum output** rate of 27 tons of DDGS per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to regenerative thermal oxidizer (RTO) CE009, and exhausting to stack SV009.

~~***~~

D.2.1 PSD and HAP Minor Limits [326 IAC 2-2][326 IAC 2-4.1]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the following:

(a) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2)~~,~~ ~~the scrubber (CE008) and RTO (CE009) shall control emissions from the fermentation and distillation processes. Additionally, the RTO shall control emissions from the DDGS dryers (EU025 and EU026) and, when not producing wetcake, the set of four centrifuges.~~

(1) The scrubber (CE008) and RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(~~1~~**4**) PM emissions shall not exceed 24.21 lbs/hr.

(~~2~~**5**) PM10 emissions shall not exceed 27.97 lbs/hr.

(~~3~~**6**) PM2.5 emissions shall not exceed 29.55 lbs/hr.

(~~4~~**7**) VOC emissions shall not exceed 27.06 lbs/hr.

(~~5~~**8**) CO emissions shall not exceed 27.16 lbs/hr.

(~~6~~**9**) Acetaldehyde emissions shall not exceed 1.~~25~~**00** lbs/hr.

(~~7~~**10**) Methanol emissions shall not exceed 0.22 lbs/hr.

(11) Acrolein emissions shall not exceed 0.85 lbs/hr.

(b) Alternative Operating Scenario No. 1 (AOS1)

When the Scrubber (CE008) is not operating, the ~~RTO (CE009) shall control emissions from the fermentation and distillation processes, the DDGS dryers (EU025 and EU026), and, when not producing wetcake, the set of four centrifuges. The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:~~ **Permittee shall comply with the following:**

(1) The RTO (CE009) shall control emissions from the fermentation and distillation processes.

(2) The RTO (CE009) shall control emissions from the DDGS dryers (EU025 and EU026).

(3) The RTO (CE009) shall control emissions from the set of four centrifuges (EU024).

The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

(~~1~~**4**) PM emissions shall not exceed 24.21 lbs/hr.

(~~2~~**5**) PM10 emissions shall not exceed 27.97 lbs/hr.

(~~3~~**6**) PM2.5 emissions shall not exceed 29.55 lbs/hr.

(~~4~~**7**) VOC emissions shall not exceed 27.06 lbs/hr.

(~~5~~**8**) CO emissions shall not exceed 27.16 lbs/hr.

(~~6~~**9**) Acetaldehyde emissions shall not exceed 1.~~25~~**00** lbs/hr.

(~~7~~**10**) Methanol emissions shall not exceed 0.22 lbs/hr.

(11) Acrolein emissions shall not exceed 0.85 lbs/hr.

(c) Alternative Operating Scenario No. 2 (AOS2)

When the RTO (CE009) is not operating, the Permittee shall comply with the following:

(1) The Scrubber (CE008) shall control emissions from the fermentation and distillation processes and the RTO bypass stack exhaust (SV008) shall be limited as follows:

(A) VOC emissions shall not exceed 79.39 lbs/hr.

(B) Acetaldehyde emissions shall not exceed 5.5 lbs/hr.

(2) The scrubber (CE008) shall not vent to the atmosphere (RTO bypass stack SV008) more than 500 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The DDGS dryers (EU25 and EU26) ~~and, when not producing wetcake, the set of four centrifuges~~ shall not be in operation.

(4) The set of four centrifuges (EU024) shall vent to atmosphere through SV017. The time the set of four centrifuges vent to atmosphere shall not exceed 500 hours per year.

Compliance with these limits, combined with the ~~limits in Conditions D.1.1, D.4.1, D.5.1 and the~~ potential to emit PM, PM10, PM2.5, VOC, and CO from **all** other emission units at this source, shall limit the **source-wide potential to emit of** PM, PM10, PM2.5, VOC and CO ~~emissions from the entire source~~ to less than two hundred fifty (250) tons per twelve (12) consecutive month period**, each and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable**.

Compliance with the**se** ~~above~~ limits, combined with the ~~limits in Condition D.5.1 and the~~ potential to emit HAPs from **all** other emission units at this source, shall limit **the source-wide potential to emit of any single** HAP ~~emissions from the entire source~~ to less than ten (10) tons per twelve (12) consecutive month period for a single HAP**,** ~~and~~ **total HAPs to** less than twenty five (25) tons per twelve (12) consecutive month period ~~for any combination of HAPs. Therefore~~, **and shall render** the requirements of ~~326 IAC 2-2 (PSD), and~~ 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) ~~are~~ not applicable**, and this source is an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).**

***

D.2.3 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 limit listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU025	DDGS Dryer	~~27~~ **73**	~~37.3~~ **48.17**
EU026	DDGS Dryer	~~27~~ **73**	~~37.3~~ **48.17**

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

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

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

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.2.4 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV]~~

~~In order to render the requirements of the NESHAP for Chemical Manufacturing Area Sources (40 CFR Part 63, Subpart VVVVVV), not applicable, the Permittee shall comply with the following at the scrubber (CE008), at the beer well (EU018), and at the beer stripper (EU019):~~

~~Any HAP listed in Table 1 of 40 CFR 63, Subpart VVVVVV, that is generated or produced in the chemical manufacturing process unit (CMPU) and is present in process fluid shall be less than 0.1 percent for carcinogens, as defined by the Occupational Safety and Health Administration at 29 CFR 1910.1200(d)(4), and less than 1.0 percent for noncarcinogens.~~

~~Compliance with this limit, in conjunction with the limit in condition D.6.2 and the concentration of HAPs in process fluids at other locations of the source, shall render the requirements of 40 CFR Part 63, Subpart VVVVVV (National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources) not applicable.~~

D.2.~~5~~**4** Preventive Maintenance Plan [326 IAC 2-7-5(12)]

***

D.2.5 VOC and HAP Control [326 IAC 8-5-6]

(a) Unless operating under AOS1 or AOS2:
In order to ~~ensure~~ **assure** compliance with Condition D.2.1(a)**:**

(1) the regenerative thermal oxidizer (RTO) CE009 and the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes at all times that these ~~units~~ **processes** are in operation~~, and~~**.**

(2) the **regenerative thermal oxidizer (**RTO**) CE009** shall be in operation and control emissions from the DDGS dryers (EU25 and EU26) **at all times that the dryers are in operation**. ~~and~~

(3) the regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from ~~, when not producing wetcake,~~ the set of four **(4) whole stillage** centrifuges **(EU024) at all times that the set of four (4) centrifuges are in operation**.

(b) When operating under AOS1: **(Scrubber Downtime)**
In order to ~~ensure~~ **assure** compliance with D.2.1(b), ~~the regenerative thermal oxidizer (RTO) CE009 shall be in operation and controlling emissions from the fermentation and distillation processes, the DDGS dryers and, when not producing wetcake, the set of four centrifuges~~. **the RTO CE009 shall be in operation and control emissions from the fermentation and distillation processes, DDGS dryers, and the set up four (4) centrifuges (EU024) at all times that these processes are in operation.**

(c) When operating under AOS2: **(RTO Downtime)**
In order to ~~ensure~~ **assure** compliance with D.2.1(c), ~~the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes. The DDGS dryers and, when not producing wetcake, the set of four centrifuges shall not be in operation.~~ **the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes at all times that these processes are in operation.**

D.2.~~7~~6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 8-5-6]

***

(d) ~~In order to demonstrate compliance with Condition D.2.4, and to verify that the Acetaldehyde is present in process fluid at less than 0.1 percent, the Permittee shall perform Acetaldehyde testing of the process fluid from the beer well (EU018), the bottom of the scrubber (CE008) and the beer stripper (EU019) not later than 180 days after the issuance date of this permit, Permit No. T075-30802-00032, utilizing methods as approved by the Commissioner.~~

~~(e)~~ These tests shall be repeated at least once every five (5) years from the date of the last 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.

(e) In order to demonstrate compliance with Conditions D.2.1(a), D.2.2, and D.2.3, when both the RTO system (CE009) and scrubber (CE008) control emissions from the fermentation and distillation processes, DDGS dryers, and the set of four centrifuges, the Permittee shall perform Acrolein testing for the RTO system stack (SV009) utilizing methods as approved by the Commissioner, and in accordance with the following schedule:

(a) Not later than December 6, 2017 the source shall perform initial testing for Acrolein.

(b) Subsequent testing shall be performed 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.

(f) In order to demonstrate compliance with Conditions D.2.1(b), D.2.2, and D.2.3, when only the RTO system (CE009) controls emissions from the fermentation and distillation processes, the DDGS dryers, and the set of four centrifuges, the

Permittee shall perform Acrolein testing for the RTO system stack (SV009) utilizing methods as approved by the Commissioner, and in accordance with the following schedule:

(a) Not later than December 6, 2017 the source shall perform initial testing for Acrolein.

(b) Subsequent testing shall be performed 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.

***

D.2.8 Thermal Oxidizer Temperature [326 IAC 8-5-6]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the RTO system (CE009) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as 3-hour average.

(b) **When not operating under AOS1 or AOS2:**
The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2 ~~with and without the scrubber (CE008) operating~~.

When operating under AOS1:
The Permittee shall determine the 3-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperatures as observed during the latest compliant stack test. If the 3-hour average temperature falls below the **above mentioned 3-hour average temperature** ~~level observed during the latest compliant stack test~~, the Permittee shall take a reasonable response.

***

D.2.9 Parametric Monitoring [326 IAC 8-5-6]

(a) **When not operating under AOS1 or AOS2:**
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

When operating under AOS1:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1 and D.2.2.

***

D.2.~~11~~**10** Scrubber Pressure Drop and Flow Rate [326 IAC 8-5-6]

(a) The Permittee shall monitor and record the **water** flow rate of the scrubber (CE008) at least once per day when the fermentation and/or the distillation process is in operation.

(1) When not operating under AOS1 or AOS2:

The Permittee shall determine the minimum **water** flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1(a) and D.2.1(c).

When operating under AOS2:
The Permittee shall determine the minimum **water** flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1(a) and D.2.1(c).

(2) On and after the date the stack test results are available, the Permittee shall maintain a **water** flow rate at or above the minimum rate as observed during the latest compliant stack test. If the **water** flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

***

D.2.12 Record Keeping Requirements [326 IAC 8-5-6]

(a) To document the compliance status with Condition D.2.1(c)(2), the Permittee shall maintain monthly records of the number of hours the scrubber (CE008) is vented to the atmosphere.

(b) To document the compliance status with Condition D.2.7, the Permittee shall maintain daily records of visible emission notations of the RTO system stack (SV009). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(c) To document the compliance status with Condition D.2.8, the Permittee shall maintain continuous temperature records for the thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(d) To document the compliance status with Condition D.2.9, the Permittee shall maintain daily records of the duct pressure or fan amperage for the RTO system (CE009). The Permittee shall include in its daily record when the duct pressure or fan amperage is not taken and the reason for the lack of the reading (e.g., the process did not operate that day).

(e) To document the compliance status with Condition D.2.10, the Permittee shall maintain daily records of pressure drop and **water** flow rate for scrubber CE008. The Permittee shall include in its daily record when the pressure drop and flow rate are not taken and the reason for the lack of the readings (e.g., the process did not operate that day).

(f) Documentation of the dates, including the time, the system is operating under AOS1 or AOS2.

(**g**~~f~~) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.2.10 Scrubber Pressure Drop and Flow Rate [326 IAC 8-5-6]

(a) The Permittee shall monitor and record the flow rate of the scrubber (CE008) at least once per day when the fermentation and/or the distillation process is in operation.

(1) **When not operating under AOS1 or AOS2:**
The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1(a) and D.2.1(c).

When operating under AOS2:
The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1(a) and D.2.1(c).

***

(b)

D.4.1 PM, PM10 and PM2.5 Minor PSD Limits [326 IAC 2-2]

***

Compliance with the**se** ~~above~~ limits, combined with the ~~limits in Conditions D.1.1, D.2.1 and the~~ potential to emit PM, PM10 and PM2.5 from **all** other emission units at the source, shall limit the **source-wide total potential to emit of** PM, PM10 and PM2.5 ~~emissions from the entire source~~ to less than two hundred fifty (250) tons per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (PSD) not applicable ~~to the source~~.

D.4.7 Visible Emissions Notations

***

(e) If abnormal emissions are observed, the Permittee shall take **a** reasonable response ~~steps~~. 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.4.9 Record Keeping Requirements

***

(b) Section C - General Record Keeping Requirements ~~of this permit~~ contains the Permittee's obligation with regard to the records required by this condition.

***

D.5.1 PSD and HAP Minor Limits [326 IAC 2-2][326 IAC 2-4.1][40 CFR 63]

***

Compliance with the**se** ~~above~~ limits, in conjunction with ~~the limits in Condition D.2.1, and~~ the potential to emit VOC, CO, **and** NOx ~~and hexane~~ from **all** other emission units at this source, shall limit the **source-wide total potential to emit of** VOC, CO, and NOx ~~emissions from the entire source~~ to less than two hundred fifty (250) tons per twelve (12) consecutive month period ~~and the hexane emissions from the entire source to less than ten (10) tons per twelve (12) consecutive month period and less than twenty five (25) tons per twelve (12) consecutive month period for total HAPs. Therefore,~~ **and shall render** the requirements of 326 IAC 2-2 (PSD) ~~and 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are~~ not applicable ~~and the entire source is rendered an area source of HAP emissions under 40 CFR 63~~.

Compliance with these limits, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than ten (10) tons per twelve (12) consecutive month period, total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable, and this source is an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS – Storage Tanks

Emissions Unit Description:

Insignificant Activities

***

~~(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006, with a 300 gallon capacity storage tank and an estimated annual throughput of 1,200 gallons per year.~~

***

~~D.6.2 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV]~~

~~In order to render the requirements of the NESHAP for Chemical Manufacturing Area Sources, 40 CFR Part 63, Subpart VVVVVV, not applicable, the Permittee shall comply with the following at tanks T002-T004:~~

~~Any HAP listed in Table 1 of 40 CFR 63, Subpart VVVVVV, that is generated or produced in the chemical manufacturing process unit (CMPU) and is present in process fluid shall be less than 0.1 percent for carcinogens, as defined by the Occupational Safety and Health Administration at 29 CFR 1910.1200(d)(4), and less than 1.0 percent for noncarcinogens.~~

~~Compliance with this limit, in conjunction with the limit in Condition D.2.4, shall render the requirements of 40 CFR Part 63, Subpart VVVVVV (National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources) not applicable.~~

~~D.6.3 Volatile Organic Compounds (VOC) [326 IAC 8-4-6]~~

~~In order to render the requirements of 326 IAC 8-4-6 not applicable, the Permitee shall comply with the following at T009:~~

~~The monthly gasoline throughput from the small gasoline storage tank identified as T009 shall be less than 10,000 gallons per month.~~

~~Compliance with this limit shall render the requirements of 326 IAC 8-4-6 (Gasoline Dispensing Facilities) not applicable.~~

***

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

~~D.6.5 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]~~

~~In order to demonstrate compliance with Condition D.6.2, and to verify that the Acetaldehyde is present in process fluid at less than 0.1 percent, the Permittee shall perform Acetaldehyde testing of the 200-Proof ethanol from one (1) of the 200-Proof ethanol tanks, identified as T002, T003, or T004, not later than 180 days after the issuance date of Part 70 Operating Permit No. T075-30802-00032 utilizing methods as approved by the Commissioner. The Permittee shall repeat this testing at least once every five (5) years from the date of the most recent valid compliance demonstration. The Permitee shall alternate the tank to be tested every five (5) years and testing on a tank shall not be repeated until each tank has been tested. 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.~~

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

D.6.~~6~~**3** Record Keeping Requirements

(a) Pursuant to 326 IAC 8-4-3(d) and to document the compliance status with Condition D.6.1, the Permittee shall maintain the following records for tanks T002 and T005:

(1) The types of volatile petroleum liquid stored;

(2) The maximum true vapor pressure of the liquids as stored; and

(3) The results of the inspections performed on the storage vessels.

~~(b) To document the compliance status with Condition D.6.3, the Permittee shall maintain monthly records of the gasoline throughput for the 300 gallon gasoline dispensing operation storage tank.~~

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

~~D.6.7 Reporting Requirements~~

~~A quarterly summary of the information to document the compliance status with Condition D.6.3 shall be submitted not 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(34).~~

SECTION E.1 NSPS

Emissions Unit Description :

(e) One (1) fermentation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **production** rate of ~~55,400~~ **60,000** gallons **of beer** per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through SV009. **During scrubber downtime, emissions from the fermentation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

(1) Five (5) fermenters, identified as EU012 through EU016, constructed in 2006.

(2) One (1) fermenter, identified as EU047, approved in 2016 for construction.

(~~2~~**3**) One (1) yeast propagation tank, identified as EU017, constructed in 2006.

(~~3~~**4**) One (1) beer well, identified as EU018, constructed in 2006.

(g) One (1) distillation process, approved in 2006 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **input** rate of ~~54,000~~ **60,000** gallons of ~~ethanol~~ **beer** per hour **and a maximum production rate of 12,000 gallons of ethanol per hour**, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. **During scrubber downtime, emissions from the distillation process are controlled by the RTO with emissions exhausted through stack SV009.** During RTO downtime, emissions from the distillation process are exhausted through RTO bypass stack SV008. This process consists of the following ~~[This is an affected facility under NSPS VVa]~~:

***

(h) One (1) set of four (4) centrifuges, identified as EU024, approved in 2006 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. During wetcake production, emissions from EU024 are exhausted through bypass stack SV017.

***

Insignificant Activities

(b) Two (2) centrifuges, identified as EU038 and EU039, approved in 2012 for construction, used in series to separate corn oil from the syrup system, exhausted to the thermal oxidizer CE009 and stack SV009.

***

SECTION E.6 NESHAP

Emissions Unit Description:

Emission Units:

(n) One (1) ethanol and E85 loading system, identified as EU036, consisting of two (2) racks for trucks and two (2) racks for railcars, approved in 2006 for construction and modified in 2007, with a maximum throughput rate of 39,000 gallons per hour when loading trucks, and 144,000 gallons per hour when loading railcars. This unit is controlled by enclosed flare CE015, which is fueled by natural gas and has a pilot gas flare heat input capacity of 54,000 Btu/hr, and exhausting through stack SV016.

((c)(2) One (1) tank for 200-proof ethanol or denaturant, identified as T002, approved in 2006 for construction, approved for modification in 2009, with a maximum capacity of 250,000 gallons of 200-proof ethanol or denaturant. [40 CFR 60, Subpart Kb]

(c)(5) One (1) denaturant tank, identified as T005, approved in 2006 for construction, with a maximum capacity of 126,900 gallons of natural gasoline [40 CFR 60, Subpart Kb]

(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006, with a 300 gallon capacity storage tank and an estimated annual throughput of 1,200 gallons per year.

Under the NESHAP for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (Area Sources) (40 CFR 63, Subpart BBBBBB) the ethanol and E85 loading system (EU036), T002, T005 and T009 are considered affected facilities.

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

(a) Pursuant to 40 CFR 63.1 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, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart BBBBBB.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

~~E.6.2 National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (Area Sources) NESHAP [40 CFR Part 63, Subpart BBBBBB]~~

~~The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart BBBBBB (included as Attachment F to the operating permit), for the emission unit(s) listed above:~~

~~(a) for the ethanol loading system (EU036) and the denaturant tanks (T002 and T005), no later than January 10, 2008:~~

~~(1) 40 CFR 63.11080~~
~~(2) 40 CFR 63.11081 (a)(1), (b), (f), (g), (h), (i), and (j)~~
~~(3) 40 CFR 63.11082(a) and (b)~~
~~(4) 40 CFR 63.11083(a)(1)~~
~~(5) 40 CFR 63.11085~~
~~(6) 40 CFR 63.11087(f)~~
~~(7) 40 CFR 63.11088~~
~~(8) 40 CFR 63.11089~~
~~(9) 40 CFR 63.11092(a)(4), (b)(2), (f), (g)~~
~~(10) 40 CFR 63.11093~~
~~(11) 40 CFR 63.11094~~
~~(12) 40 CFR 63.11095~~
~~(13) 40 CFR 63.11098~~
~~(14) 40 CFR 63.11099~~
~~(15) 40 CFR 63.11100~~
~~(16) Table 1 to Subpart BBBBBB of Part 63, Item 2(b) and (d)~~
~~(17) Table 2 to Subpart BBBBBB of Part 63, Item 2~~
~~(18) Table 3 to Subpart BBBBBB of Part 63~~

~~(b) for the gasoline dispensing operation for plant vehicles (T009):~~

~~(1) 40 CFR 63.11080~~
~~(2) 40 CFR 63.11081(c)~~
~~(3) 40 CFR 63.11082(a) and (b)~~
~~(4) 40 CFR 63.11100~~

SECTION E.~~7~~**6** NESHAP

Emission Unit Description: (d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2006 **and modified in 2016**, with a 300 gallon capacity storage tank and an estimated annual throughput of ~~1,200~~ **15,600** gallons per year. ~~[326 IAC 8-4-6][40 CFR 63, Subpart CCCCCC]~~ ***

SECTION E.~~8~~**7** NSPS

Emissions Unit Description:

(a) One (1) grain receiving and handling operation, consisting of the following:

(2) Conveying system, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(B) Two (2) enclosed belt conveyors, identified as EU002b, approved in 2016 for construction, with a maximum rated capacity of 840 tons per hour, total, controlled by dust collectors ~~CE008, CE009, and CE010~~ **CE016, CE017, and CE018**, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

(3) Grain bins, with a maximum throughput rate of 840 tons per hour, consisting of the following:

(B) Two (2) grain bins, identified as EU003b, approved in 2016 for construction, each with a maximum capacity of 683,855 bushels, controlled by dust collectors ~~CE008, CE009, and CE010~~ **CE016, CE017, and CE018**, and exhausting through stacks SV018, SV019, SV020, respectively.

Under 40 CFR 60, Subpart DD, this is an affected grain handling operation.

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

~~INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT~~
~~OFFICE OF AIR QUALITY~~
~~COMPLIANCE AND ENFORCEMENT BRANCH~~

~~Part 70 Quarterly Report~~

~~Source Name: POET Biorefining - Portland~~
~~Source Address: 1542 South 200 West, Portland, Indiana 47371~~
~~Part 70 Permit No.: T075-30802-00032~~
~~Facility: Gasoline Dispensing Operation T009~~
~~Parameter: Monthly Gasoline Throughput~~
~~Limit: Less than 10,000 gallons per month, with compliance determined at the end of each month.~~

~~QUARTER: _____ YEAR: _____~~

~~Month~~	~~Gasoline Throughput for This Month (gallons)~~
_____	_____
_____	_____
_____	_____

~~☐ No deviation occurred in this quarter.~~

~~☐ Deviations occurred in this quarter.~~
~~Deviation has been reported on: _____~~

~~Submitted By: _____~~

~~Title/Position: _____~~

~~Signature: _____~~

~~Date: _____~~

~~Phone: _____~~

Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 075-37200-00032 and Significant Permit Modification No. 075-37214-00032. The staff recommend 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 Kristen Willoughby 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) 233-3031 or toll free at 1-800-451-6027 extension 3-3031.

(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.

Appendix A: Emission Calculations
Emissions Summary

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

		Potential to Emit after Issuance (tons/yr)													
		PM		PM10		PM2.5		NOx		SOx		VOC		CO	
Emission Point	Description	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
SV001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	2.82	**12.35**	3.26	**14.28**	3.45	**15.11**								
SV002	Corn Scalper/Transfer Conveyors (EU004), Surge Bin (EU005)	0.32	**1.40**	0.37	**1.62**	0.39	**1.71**								
SV003	Corn Hammermill #1 (EU006)	1.45	**6.35**	1.67	**7.31**	1.77	**7.75**								
SV004	Corn Hammermill #2 (EU007)	1.45	**6.35**	1.67	**7.31**	1.77	**7.75**								
SV005	Corn Hammermill #3 (EU008)	1.45	**6.35**	1.67	**7.31**	1.77	**7.75**								
SV006	Corn Hammermill #4 (EU009)	1.45	**6.35**	1.67	**7.31**	1.77	**7.75**								
SV007	Corn Hammermill #5 (EU010)	1.45	**6.35**	1.67	**7.31**	1.77	**7.75**								
SV008	Scrubber / RTO By-pass Stack* (EU012-EU023)											79.39	**19.85**		
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	24.21	**106.04**	27.97	**122.51**	29.55	**129.43**	20.59	90.18	2.37	10.40	27.06	**111.76**	27.16	**118.96**
SV010	DDG Fluid Bed Cooler (EU029)	2.89	**12.66**	3.34	**14.63**	3.53	**15.46**					5.70	**24.97**		
SV011	DDG Silo Loading (EU030)	0.49	**2.15**	0.57	**2.50**	0.60	**2.63**								
SV012	DDG Silo Bypass (EU031)	0.49	**2.15**	0.57	**2.50**	0.60	**2.63**								
SV013 & SV014	Boiler #1 (EU027) & Boiler #2 (EU028)	0.53	**2.33**	2.13	**9.33**	2.13	**9.33**	22.43	**98.25**	0.17	**0.74**	1.54	**6.75**	22.43	**98.25**
SV015	Diesel Generator (EU037)	0.12	**0.53**	0.12	**0.53**	0.12	**0.53**	4.13	**18.10**	0.70	**3.05**	0.12	**0.53**	0.95	**4.15**
SV016	Ethanol Loading System (Truck and Rail) (EU036) and Flare (CE015)							0.33	**1.44**			**7.24**	**31.71**	0.82	**3.61**
SV018	Conveyors (EU002b), Storage Bins (EU003b)	0.05	**0.22**	0.05	**0.22**	0.01	**0.04**								
SV019	Conveyors (EU002b), Storage Bins (EU003b)	0.05	**0.22**	0.05	**0.22**	0.01	**0.04**								
SV020	Conveyors (EU002b), Storage Bins (EU003b)	0.05	**0.22**	0.05	**0.22**	0.01	**0.04**								
EU024	Set of four (4) Centrifuges durring RTO By-Pass											2.41	0.60		
EU038 & EU039	Corn Oil Centrifuges											2.45E-04	7.16E-04		
Fugitive Emissions Subject to 40 CFR 60, Subpart DD															
F001	Grain Receiving (Fugitive)	17.24	75.51	5.65	24.75	0.96	4.19								
Total Emissions for PSD & Part 70			**247.52**		**229.87**		**219.92**		**207.97**		**14.19**		**196.17**		**224.97**
Insignificant Activities															
F002	Fugitive Emissions From DDGS Loadout	2.29	**10.03**	0.77	**3.38**	0.13	**0.57**								
F003	Truck Traffic	2.26	**9.91**	0.45	**1.98**	0.11	**0.49**								
F004	Equipment Leaks											19.16	**7.11**		
F005	Cooling Tower	2.09	**8.22**	2.09	**8.22**	2.09	**8.22**								
T001	190 Proof Ethanol Storage Tank											0.08	**0.37**		
T002	Denaturant Storage Tank											0.32	**1.40**		
T003	200 Proof Ethanol Storage Tank											0.07	**0.31**		
T004	200 Proof Ethanol Storage Tank											0.07	**0.31**		
T005	Denaturant Storage Tank											0.19	**0.84**		
T009	Gasoline Dispensing Operation											0.04	**0.19**		
EU040	Corn Oil / Defatted Syrup Process Tank											1.16E-03	**5.10E-03**		
EU041	Corn Oil / Defatted Syrup Process Tank											6.91E-04	**3.03E-03**		
EU042	Corn Oil / Defatted Syrup Process Tank											4.32E-04	**1.89E-03**		
EU043	Corn Oil / Defatted Syrup Process Tank											2.96E-04	**1.30E-03**		
EU044	Corn Oil / Defatted Syrup Process Tank											1.29E-04	**5.65E-04**		
EU045	Corn Oil / Defatted Syrup Storage Tank											3.88E-05	**1.70E-04**		
EU046	Corn Oil / Defatted Syrup Storage Tank											3.88E-05	**1.70E-04**		
Sub-Total (Insignificant Activites)			**0.00**		**0.00**		**0.00**		**0.00**		**0.00**		**3.44**		**0.00**
Sub-Total (Fugitive Insignficant Activites)			**28.16**		**13.59**		**9.29**		**0.00**		**0.00**		**7.11**		**0.00**
Fugitives 326 IAC 6-5			**103.67**												
Total Source			**247.5**		**229.9**		**219.9**		**208.0**		**14.2**		**199.6**		**225.0**

Shaded Cells indicate Source accepted a limit on that unit

* RTO By-pass is limited to only operate 500 hours per year.

Note the source can only produce either wet cake or DDGS at one time and the worse case scenario is to assume 100% DDGS production. Therefore, wet cake production is not included above.

Appendix A: Emission Calculations
Uncontrolled Potential to Emit

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Uncontrolled Potential to Emit (tons/yr)

Emission Point	Description	PM ton/yr	PM10 ton/yr	PM2.5 ton/yr	SO2 ton/yr	NOx ton/yr	VOC ton/yr	CO ton/yr
SV001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	352.15	352.15	59.87				
SV002	Corn Scalper/Transfer Conveyors (EU004), Surge Bin (EU005)	37.54	37.54	6.38				
SV003	Corn Hammermill #1 (EU006)	180.21	180.21	30.63				
SV004	Corn Hammermill #2 (EU007)	180.21	180.21	30.63				
SV005	Corn Hammermill #3 (EU008)	180.21	180.21	30.63				
SV006	Corn Hammermill #4 (EU009)	180.21	180.21	30.63				
SV007	Corn Hammermill #5 (EU010)	180.21	180.21	30.63				
SV008	Scrubber / RTO By-pass Stack* (EU012-EU023)						6736.44	
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	376.65	380.32	380.32	10.40	90.18	2695.94	361.21
SV010	DDG Fluid Bed Cooler (EU029)	446.76	446.76	75.95			31.93	
SV011	DDG Silo Loading (EU030)	60.07	60.07	10.21				
SV012	DDG Silo Bypass (EU031)	60.07	60.07	10.21				
SV013 & SV014	Boiler #1 (EU027) & Boiler #2 (EU028)	2.33	9.33	9.33	0.74	98.25	6.75	98.25
SV015	Diesel Generator (EU037)	0.53	0.53	0.53	18.10	3.05	0.53	4.15
SV016	Ethanol Loading System (Truck and Rail) (EU036) and Flare (CE015)					21.07	913.26	3.61
SV018	Conveyors (EU002b), Storage Bins (EU003b)	22.53	22.53	3.83				
SV019	Conveyors (EU002b), Storage Bins (EU003b)	22.53	22.53	3.83				
SV020	Conveyors (EU002b), Storage Bins (EU003b)	22.53	22.53	3.83				
EU024	Set of four (4) Centrifuges						0.21	
EU038 & EU039	Corn Oil Centrifuges						7.16E-04	
Fugitive Emissions Subject to 40 CFR 60, Subpart DD								
F001	Grain Receiving (Fugitive)	75.51	24.75	4.21				
Total Emissions for PSD & Part 70		**2380.22**	**2340.13**	**721.68**	**29.24**	**212.54**	**10385.07**	**467.22**
Insignificant Activities								
F002	Fugitive Emissions From DDGS Loadout	10.03	3.38	0.57				
F003	Truck Traffic	9.91	1.98	0.49				
F004	Equipment Leaks						83.94	
F005	Cooling Tower	8.22	8.22	8.22				
T001	190 Proof Ethanol Storage Tank						0.37	
T002	Denaturant Storage Tank						1.40	
T003	200 Proof Ethanol Storage Tank						0.31	
T004	200 Proof Ethanol Storage Tank						0.31	
T005	Denaturant Storage Tank						0.84	
T009	Gasoline Dispensing Operation						0.19	
EU040	Corn Oil / Defatted Syrup Process Tank						0.01	
EU041	Corn Oil / Defatted Syrup Process Tank						3.03E-03	
EU042	Corn Oil / Defatted Syrup Process Tank						1.89E-03	
EU043	Corn Oil / Defatted Syrup Process Tank						1.30E-03	
EU044	Corn Oil / Defatted Syrup Process Tank						5.65E-04	
EU045	Corn Oil / Defatted Syrup Storage Tank						1.70E-04	
EU046	Corn Oil / Defatted Syrup Storage Tank						1.70E-04	
Sub-Total (Insignificant Activites)		0.00	0.00	0.00	0.00	0.00	83.94	
Sub-Total (Fugitive Insignficant Activites)		**28.16**	**13.59**	**9.29**	**0.00**	**0.00**	**87.38**	**0.00**
Total Source		**2380.22**	**2340.13**	**721.68**	**29.24**	**212.54**	**10469.01**	**467.22**

Note the source can only produce either wet cake or DDGS at one time and the worse case scenario is to assume 100% DDGS production. Therefore, wet cake production is not included above.

Appendix A: Emission Calculations
Controlled Potential to Emit

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

		Potential to Emit after Control (tons/yr)						
Emission Point	**Description**	**PM ton/yr**	**PM10 ton/yr**	**PM2.5 ton/yr**	**SO2 ton/yr**	**NOx ton/yr**	**VOC ton/yr**	**CO ton/yr**
SV001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	3.52	3.52	0.60				
SV002	Corn Scalper/Transfer Conveyors (EU004), Surge Bin (EU005)	0.38	0.38	0.06				
SV003	Corn Hammermill #1 (EU006)	1.80	1.80	0.31				
SV004	Corn Hammermill #2 (EU007)	1.80	1.80	0.31				
SV005	Corn Hammermill #3 (EU008)	1.80	1.80	0.31				
SV006	Corn Hammermill #4 (EU009)	1.80	1.80	0.31				
SV007	Corn Hammermill #5 (EU010)	1.80	1.80	0.31				
SV008	Scrubber / RTO By-pass Stack* (EU012-EU023)							
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	38.77	42.44	42.44	10.40	90.18	57.40	45.85
SV010	DDG Fluid Bed Cooler (EU029)	4.47	4.47	0.76			31.93	
SV011	DDG Silo Loading (EU030)	0.60	0.60	0.10				
SV012	DDG Silo Bypass (EU031)	0.60	0.60	0.10				
SV013 & SV014	Boiler #1 (EU027) & Boiler #2 (EU028)	2.33	9.33	9.33	0.74	98.25	6.75	98.25
SV015	Diesel Generator (EU037)	0.53	0.53	0.53	18.10	3.05	0.53	4.15
SV016	Ethanol Loading System (Truck and Rail) (EU036) and Flare (CE015)					21.07	4.17	3.61
SV018	Conveyors (EU002b), Storage Bins (EU003b)	0.23	0.23	0.04				
SV019	Conveyors (EU002b), Storage Bins (EU003b)	0.23	0.23	0.04				
SV020	Conveyors (EU002b), Storage Bins (EU003b)	0.23	0.23	0.04				
EU024	Set of four (4) Centrifuges						10.57	
EU038 & EU039	Corn Oil Centrifuges						7.16E-04	
Fugitive Emissions Subject to 40 CFR 60, Subpart DD								
F001	Grain Receiving (Fugitive)	75.51	24.75	4.19				
Total Emissions for PSD & Part 70		**136.39**	**96.30**	**59.77**	**29.24**	**212.54**	**111.35**	**151.86**
F002	Fugitive Emissions From DDGS Loadout	10.03	3.38	0.57				
F003	Truck Traffic	9.91	1.98	0.49				
F004	Equipment Leaks						7.11	
F005	Cooling Tower	8.22	8.22	8.22				
T001	190 Proof Ethanol Storage Tank						0.37	
T002	Denaturant Storage Tank						1.40	
T003	200 Proof Ethanol Storage Tank						0.31	
T004	200 Proof Ethanol Storage Tank						0.31	
T005	Denaturant Storage Tank						0.84	
T009	Gasoline Dispensing Operation						0.19	
EU040	Corn Oil / Defatted Syrup Process Tank						0.01	
EU041	Corn Oil / Defatted Syrup Process Tank						3.03E-03	
EU042	Corn Oil / Defatted Syrup Process Tank						1.89E-03	
EU043	Corn Oil / Defatted Syrup Process Tank						1.30E-03	
EU044	Corn Oil / Defatted Syrup Process Tank						5.65E-04	
EU045	Corn Oil / Defatted Syrup Storage Tank						1.70E-04	
EU046	Corn Oil / Defatted Syrup Storage Tank						1.70E-04	
Sub-Total (Insignificant Activites)		0.00	0.00	0.00	0.00	0.00	3.44	
Sub-Total (Fugitive Insignficant Activites)		**28.16**	**13.59**	**9.29**	**0.00**	**0.00**	**7.11**	**0.00**
Total Source		**136.39**	**96.30**	**59.77**	**29.24**	**212.54**	**111.35**	**151.86**

Note the source can only produce either wet cake or DDGS at one time and the worse case scenario is to assume 100% DDGS production. Therefore, wet cake production is not included above.

Appendix A: Emissions Calculations
Modification Summary 075-37200-00032

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Uncontrolled Potential to Emit (tons/yr) - Modification								
Emission Unit	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**Total HAPs**
Fermentor 6 (EU047)	-	-	-	-	-	1496.99	-	10.76
Distillation Process Increases	-	-	-	-	-	282.76	-	0.04
DDG Dryer Increases						1611.68		126.09
Equipment Leaks Increases / Kettle Style Vaporizer	-	-	-	-	-	62.43	-	3.71
Cooling Tower Increases	1.10	1.10	1.10	-	-	-	-	-
Wet Cake Increase*	-	-	-	-	-	0.47	-	0.02
T003 Increase	-	-	-	-	-	0.11	-	-
T004 Increase	-	-	-	-	-	0.11	-	-
T009 Increase	-	-	-	-	-	0.19	-	0.01
Paved Road Increases	0.01	2.27E-03	5.57E-04	-	-	-	-	-
Total	**1.11**	**1.10**	**1.10**	**0.00**	**0.00**	**3454.73**	**0.00**	**140.64**

*Note the source can only produce either wet cake or DDGS at one time and the worse case scenario is to assume 100% DDGS production. Therefore, increasing wet cake production will not change source wide potential emissions.

Appendix A: Emission Calculations
NEW Fermenter 6 (EU047)

Company Name: **POET Biorefining - Alexandria, LLC**
Address City IN Zip: **13179 North 100 East, Alexandria, IN 46001**
Significant Source Modification No.: **095-36998-00127**
Part 70 Operating Permit Renewal No.: **095-37037-00127**
Reviewer: **Heath Hartley**

Potential Emissions

The potential emissions of VOC and HAP from the new (6th) Fermenter were conservatively estimated by dividing the uncontrolled scrubber inlet (lb/hr) emissions by five (i.e. the number of existing fermenters).

	Scrubber Inlet lb/hr [1]	6th Fermenter lb/hr [2]	6th Fermenter ton/yr [3]
Uncontrolled VOC	1708.89	341.78	1497.0
Acetaldehyde	12.22	2.44	10.7
Propionaldehyde	0.00	0.00	0.0
Methanol	0.03	0.01	0.0
Formaldehyde	0.03	0.01	0.0
Total Uncontrolled HAP	12.28	2.46	10.8

Controlled Emissions

During normal operating conditions, VOC and HAP emissions from the new (6th) Fermenter are controlled by the wet scrubber and the RTO.

Scrubber VOC Control Efficiency =	98%
Scrubber HAP Control Efficiency =	50%
RTO VOC Control Efficiency =	98%
RTO HAP Control Efficiency =	97%

	6th Fermenter lb/hr [4]	6th Fermenter ton/yr [5]
Controlled VOC	0.14	0.60
Acetaldehyde	0.04	0.16
Propionaldehyde	0.00	0.00
Methanol	0.00	0.00
Formaldehyde	0.00	0.00
Total Controlled HAP	0.04	0.16

Notes

1) lb/hr scrubber inlet emissions from RTO Bypass worksheet

2) Uncontrolled 6th Fermenter lb/hr = scrubber inlet emissions / 5

3) Uncontrolled 6th Fermenter ton/yr = 6th Fermenter lb/hr * 8760 hr/yr / 2000 lb/ton

4) Controlled 6th Fermenter lb/hr = uncontrolled 6th Fermenter lb/hr * (1- scrubber eff) * (1 - RTO eff)

5) Controlled 6th Fermenter ton/yr = controlled 6th Fermenter lb/hr * 8760 hr/yr / 2000 lb/ton

Appendix A: Emission Calculations
Increase to Distillation System

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Distillation System Potential to Emit

Current Distillation System Capacity =	54000	gallon/hour
Proposed Distillation System Capacity	60000	gallon/hour

Distillation System Emission Factor, Based on Stack Test Data from POET Biorefining Glenville, 2011		
Ethanol Production Rate =	79	gal/min
VOC emission rate, max value of 3 runs	0.85	lb/hr
Controlled VOC Emission Factor with 20% safety factor	0.000215	lb/gallon
Scrubber Control Efficiency =	98%	
Uncontrolled Distillation System Emission Factor	0.010759	lb/gallon

Increase in Uncontrolled PTE	**lb/hr**	**ton/year**
VOC	64.56	282.76
Acetaldehyde	0.46	2.02
Propionaldehyde	0.00	0.00
Methanol	0.00	0.01
Formaldehyde	0.00	0.01
Total Uncontrolled HAP	0.46	2.03

Increase in Controlled Emissions	**lb/hr**	**ton/year**
VOC	1.29	5.66
Acetaldehyde	0.01	0.04
Propionaldehyde	0.00	0.00
Methanol	0.00	0.00
Formaldehyde	0.00	0.00
Total Uncontrolled HAP	0.01	0.04

Methodology:

Controlled VOC Emission Factor (lb/gal) = VOC emission rate (lb/hr) / ethanol production rate (gal/min) x 1 hr/60 min x safety factor

Uncontrolled VOC Emission Factor (lb/gal) = Controlled VOC emission factor (lb/gal) / (1 - CE%)

Increase in Uncontrolled PTE (ton/yr) = [Proposed capacity (gal/hr) - current capacity (gal/hr)] x uncontrolled emission factor (lb/gal) x 8760 hr/yr x 1 ton/2000 lb

Increase in Controlled PTE (ton/yr) = [Proposed capacity (gal/hr) - current capacity (gal/hr)] x controlled emission factor (lb/gal) x 8760 hr/yr x 1 ton/2000 lb

Appendix A: Emission Calculations
VOC and HAP Emissions
Increase From the DDGS Dryers

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

VOC and HAP from the Dryers

Given:

The VOC and HAPs contained in the water fraction of the feed to the dryers is evaporated.

The VOC content of the water =	0.006	lb VOC/lb water	
The dryer feed rate =	46.0	ton/hour	solids + water
Water content of dryer feed =	66.7%		

Therefore:

	Potential VOC and HAP Emissions from Dryers			
	Total (Dryer)		Each Dryer	
	lb/hour	tons/year	lb/hour	tons/year
Inlet VOC Emissions to RTO	368.0	1611.7	184.0	805.8
Inlet HAP Emissions to RTO	28.79	126.1	14.4	63.0

	Speciated HAP emissions from Dryers		
HAP	HAP % (by wt of VOC)	Potential HAP from Dryers (lb/hr)	Potential HAP from Dryers (ton/yr)
Acetaldehyde	6.18%	22.75	99.7
Acrolein	0.37%	1.35	5.92
Methanol	1.24%	4.55	19.94
Formaldehyde	0.04%	0.13	0.58
Total	7.82%	28.79	126.09

Methodololgy

Speciated HAPs based upon Method 18 test on inlet to RTO at Big Stone, SD Facility (September 2008)
Potential HAP Emissions from Dryers (lb/hr) = Potential VOC emissions from dryer (lb/hr) x HAP % by wt of VOC
Potential HAP Emissions from Dryers (ton/yr) = Potential HAP Emissions from Dryers (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Appendix A: Emission Calculations
Increase from Leaks / New Kettle Style Vaporizer

Company Name: POET Biorefining - Alexandria, LLC
Address City IN Zip: 13179 North 100 East, Alexandria, IN 46001
Significant Source Modification No.: 095-36998-00127
Part 70 Operating Permit Renewal No.: 095-37037-00127
Reviewer: Heath Hartley

Previously Unpermitted Leaks

Equipment Type	Service	Component Count
Pump Seals	light liquid	2
	heavy liquid	
Valves	light liquid	278
	heavy liquid	
	gas	
Compressors	gas	
Relief Valves	gas	7
Sampling Connections	all	
Open Ended Lines	all	
Connectors	all	2275

New Equipment in VOC Service

	New			
LDAR Changes	Pump Seals	Valves	Connections	PRV
New fermenter pump seals	1			
New fermenter valves		20		
New fermenter connectors			64	
190 proof liquid to kettle vaporizer		6	17	
190 proof liquid weir side drain			1	
190 proof liquid blowdown to rectifier		7	15	
Kettle vaporizer non-process connections - 190 proof liquid			4	
Kettle vaporizer non-process connections - 190 proof vapor		1	15	1
190 proof vapor from kettle vaporizer		3	12	

Equipment Type	Service	Emission Factor (lbs/hour/source)
Pump Seals	light liquid	0.0438
	heavy liquid	0.0180
Valves	light liquid	0.0089
	heavy liquid	0.0005
	gas	0.0131
Compressors	gas	0.5016
Relief Valves	gas	0.2288
Sampling Connections	all	0.0330
Open Ended Lines	all	0.0037
Connectors	all	0.0040

Emission Factors (EPA-453/R-95-017, Table 2-1)

Uncontrolled Emissions

Equipment Type	Number of sources	VOC Emissions lbs/hr	TPY	Subpart VVa Control	Controlled (TPY)
Unpermitted - Pump Seals lt. Liq.	2	0.09	0.38	69.00%	0.12
Unpermitted - Valves lt. Liq.	278	2.46	10.80	88.00%	1.30
Unpermited - Relief Valves	7	1.60	7.02	92.00%	0.56
Unpermited - Connectors	2275	9.16	40.12	93.00%	2.81
Fermentation - Pump Seals Hvy. Liq.	1	0.02	0.1	69.00%	0.02
Distillation - Valves lt. Liq.	13	0.12	0.5	88.00%	0.06
Fermentation - Valves Hvy. Liq.	20	0.01	0.0	88.00%	0.01
Distillation - Valves gas	4	0.05	0.2	92.00%	0.02
Distillation - Compressors	0	0.00	0.0	0.00%	0.00
Distillation - Relief Valves	1	0.23	1.0	92.00%	0.08
Distillation - Sampling Connections	0	0.00	0.0	0.00%	0.00
Distillation - Open Ended Lines	0	0.00	0.0	0.00%	0.00
Fermentation - Connectors	64	0.26	1.1	93.00%	0.08
Distillation - Connectors	64	0.26	1.1	93.00%	0.08
	Total	**14.3**	**62.4**		**5.13**

Fugitive HAP Emissions (tons/yr) = Controlled TOC (tons/yr) x HAP Fraction

HAP	HAP Fraction	Fugitive HAP Emissions (lbs/hr)	Fugitive HAP Emissions (tons/yr)
Acetaldehyde	2.00E-04	2.85E-03	1.25E-02

Appendix A: Emission Calculations
Increase from Leaks / New Kettle Style Vaporizer

Company Name: **POET Biorefining - Alexandria, LLC**
Address City IN Zip: **13179 North 100 East, Alexandria, IN 46001**
Significant Source Modification No.: **095-36998-00127**
Part 70 Operating Permit Renewal No.: **095-37037-00127**
Reviewer: **Heath Hartley**

Methanol	2.00E-04	2.85E-03	1.25E-02
Benzene	2.50E-03	3.56E-02	1.56E-01
Carbon Disulfide	2.00E-05	2.85E-04	1.25E-03
Cumene	1.00E-03	1.43E-02	6.24E-02
Ethylbenzene	5.00E-05	7.13E-04	3.12E-03
Formaldehyde	2.81E-05	4.01E-04	1.75E-03
n-Hexane	5.00E-02	7.13E-01	3.12E+00
Toluene	5.00E-03	7.13E-02	3.12E-01
Xylenes	5.00E-04	7.13E-03	3.12E-02
Total			**3.71**

Appendix A: Emissions Calculations
Increase from Cooling Tower

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Particulate emissions can be estimated by analyzing the mass of condensed water that is released times the total mass of dissolved solids present in the water. The estimate is based on the assumption that all of the dissolved solids that are present in the water becomes airborne particulate matter upon evaporation of the release condensed water droplets. The released water droplets are referred to as the "drift loss" of the tower. The drift loss of the tower is usually referenced as a percent of the total water circulation rate of the tower.

Current Cooling Tower Condition

Water circulation flow =	26,000	gallons per minute
Water circulation flow =	98,421	liters per minute
Drift loss =	0.005%	
Drift loss =	4.9	liters per minute
Total Dissolved Solids in cooling tower =	2500	mg/l
Total Dissolved Solids in cooling tower =	2.5	g/l
PM-10 = Drift loss (l/min) x TDS (g/l)	12.3	grams/minute
g/min x 60 =	738.2	grams/hr
1 pound =	453.6	grams
Fugitive emissions=	1.6	lbs/hr
Fugitive emissions=	**7.13**	**TPY**

Future Cooling Tower Condition

Water circulation flow =	30,000	gallons per minute
Water circulation flow =	113,562	liters per minute
Drift loss =	0.005%	
Drift loss =	5.7	liters per minute
Total Dissolved Solids in cooling tower =	2500	mg/l
Total Dissolved Solids in cooling tower =	2.5	g/l
PM-10 = Drift loss (l/min) x TDS (g/l)	14.2	grams/minute
g/min x 60 =	851.7	grams/hr
1 pound =	453.6	grams
Fugitive emissions=	1.9	lbs/hr
Fugitive emissions=	**8.22**	**TPY**

Increase in Emissions	**1.10**	**TPY**

Appendix A: Emission Calculations
VOC and HAP Emissions
From Increase in Wet Cake Production

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:
Wet cake production, storage and loadout

Wet cake production storage and loadout is a source of VOC and HAP emissions because the wet cake contains a small quantity of ethanol and HAPs. This source is not controlled. The emission factors for this process come from emissions testing at a similar facility. The operation of the dryers and DDGS cooler represent the "worst case" emission scenario and thus are presented in the potential to emit summary.

Increased Capacity = 13.0 ton/hr dryer feed rate

	VOC	Acetaldehyde	Methanol	Formaldehyde	Acrolein	Total HAPs
Emission Factor* (lb/ton wet cake)	0.00830	0.00010	0.000040	0.00020	0.000020	
lb/hr	0.1079	0.0013	0.0005	0.0026	0.0003	
Ton/yr	**0.4726**	**0.0057**	**0.0023**	**0.0114**	**0.0011**	**0.0205**

* Emission Factors provided by the source based on the stack test results for DENCO, LLC in Morris, MN.

Methodology
PTE (tons/yr) = Max. Throughput Rate (tons/hr) x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
Particulate Emissions
New Paved Road Traffic Emission Calculations

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

All trucks are assumed to have an empty weight of 15 tons and a full weight of 40 tons. Actual ethanol and denaturant trucks have a capacity of 8,000 gallons and DDGS trucks have a capacity of 25 tons.

Assume for the limited potential to emit calculations that 100% of the ethanol and DDGS are trucked off-site. Also assume that 100% of the denaturant and grain is received by truck. Actual operations will result in some of the ethanol and DGGS being shipped off-site by rail.

Equation from AP-42 Section 13.2.1 Paved Roads, January 2011

$E = k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N)$ Equation 2 *(Used for annual uncontrolled emissions, but adjusted for precipitation.)*

Formula Variables

Description	Variable	Value	
Emission Factor (lb/VMT)	E		
Value used for lb/VMT PM2.5	k	0.00054	
Value used for lb/VMT PM10	k	0.0022	
Value used for lb/VMT PM	k	0.011	
Surface material silt content (g/m^2)	sL	1.1	*(From AP-42, Table 13.2-1-3, Corn Wet Mills.)*
Mean vehicle weight (tons)	W	0.1	
Number of Days in a year with at least 0.01" of precipitation	P	120.00	
Number of days in the averaging period	N	365	

Vehicle Information

Vehicle Type	Annual Limited Amount Trucked		Quantity Transported per Truck		Max No. of Trucks Annually	Truck Empty Wt. (ton)	Truck Full Wt. (ton)	Truck Average Wt. (ton)	Total distance (mile)	Annual VMT
Corn Oil Haul Out	15,625	ton	25	ton	625	15	40	27.5	0.75	469
Wetcake Haul Out	639,475	ton	25	ton	25,579	15	40	27.5	0.75	19,184
Chemical Delivery	19,500	ton	15	ton	1,300	15	30	22.5	0.75	975
Fleet Totals					**27,504**					**20,628**
Fleet Averages (weighted)						**15.00**	**0.06**	**0.10**		

Annual Limited Amounts and Quantity Transported per Truck values are linked to Project Parameters tab.

Fleet Emissions

Annual Uncontrolled $E_{(lb/VMT)}$	Annual Uncontrolled $E_{(lb/VMT)}$	Average Hourly Uncontrolled (lb/hr)	Annual Uncontrolled (ton/yr)
PM2.5	5.40E-05	1.27E-04	5.57E-04
PM10	2.20E-04	5.18E-04	2.27E-03
PM	1.10E-03	2.59E-03	0.01

Annual Uncontrolled E (lb/VMT) calculated from Equation 2 above.
Average Hourly Uncontrolled (lb/hr) = Annual Uncontrolled (ton/yr) / 8760 hr/yr x 2000 lb/ton
Annual Uncontrolled (ton/yr) = Annual Uncontrolled E x Annual VMT / 2000 lb/ton

Appendix A: Emissions Calculations
HAP Emissions Summary - Unrestricted PTE

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

		Unrestricted PTE (ton/yr)																	
Emission Point	Description	Benzene	Dichlorobenzene	Ethylbenzene	Formaldehyde	Hexane	Toluene	Lead	Carbon Disulfide	Cadmium	Chromium	Cumene	Manganese	Nickel	Acetaldehyde	Methanol	Acrolein	Xylene	Total HAP
SV001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV002	Corn Scalper/Transfer Conveyors (EU004), Surge Bin (EU005)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV003	Corn Hammermill #1 (EU006)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV004	Corn Hammermill #2 (EU007)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV005	Corn Hammermill #3 (EU008)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV006	Corn Hammermill #4 (EU009)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV007	Corn Hammermill #5 (EU010)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV008	Scrubber / RTO By-pass Stack* (EU012-EU023)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	1.35E-03	--	--	0.97	1.16	2.19E-03	3.22E-04	--	7.09E-04	9.02E-04	--	2.45E-04	1.35E-03	182.07	31.64	9.39	--	225.23
SV010	DDG Fluid Bed Cooler (EU029)	--	--	--	0.40	--	--	--	--	--	--	--	--	--	2.82	0.49	0.37	--	4.08
SV011	DDG Silo Loading (EU030)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV012	DDG Silo Bypass (EU031)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV013 & SV014	Boiler #1 (EU027) & Boiler #2 (EU028)	2.58E-03	1.47E-03	--	9.21E-02	2.21	4.18E-03	6.14E-04	--	1.35E-03	1.72E-03	--	4.67E-04	2.58E-03	--	--	--	--	2.32
SV015	Diesel Generator (EU037)	4.10E-03	--	--	4.17E-04	--	1.48E-03	--	--	--	--	--	--	--	1.33E-04	--	4.16E-05	1.02E-03	0.01
SV016	Ethanol Loading System (Truck and Rail) (EU036) and Flare (CE015)	0.50	--	--	--	18.47	0.35	--	--	--	--	--	--	--	--	--	--	--	19.31
EU024	Set of four (4) Centrifuges	--	--	--	0.02	--	--	--	--	--	--	--	--	--	0.23	0.04	0.02	--	0.31
EU038 & EU039	Corn Oil Centrifuges	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
Insignificant Activities				--					--			--							0.00
T001	190 Proof Ethanol Storage Tank	-	--	--	1.05E-05	-	-	--	--	--	--	--	--	--	7.44E-05	7.85E-06	5.21E-06	--	0.00
T002	Denaturant Storage Tank	3.51E-03	--	--	3.95E-05	0.07	0.01	--	--	--	--	--	--	--	2.81E-04	2.96E-05	1.97E-05	--	0.08
T003	200 Proof Ethanol Storage Tank	-	--	--	8.70E-06	-	-	--	--	--	--	--	--	--	6.19E-05	6.53E-06	4.33E-06	--	0.00
T004	200 Proof Ethanol Storage Tank	-	--	--	8.70E-06	-	-	--	--	--	--	--	--	--	6.19E-05	6.53E-06	4.33E-06	--	0.00
T005	Denaturant Storage Tank	2.11E-03	--	--	2.37E-05	0.04	4.22E-03	--	--	--	--	--	--	--	1.69E-04	1.78E-05	1.18E-05	--	0.05
T009	Gasoline Dispensing Operation	4.82E-04	--	--	5.42E-06	0.01	9.64E-04	--	--	--	--	--	--	'-	3.85E-05	4.07E-06	2.70E-06	--	0.01
F001	Grain Receiving (Fugitive)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F002	Fugitive Emissions From DDGS Loadout	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F003	Truck Traffic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F004	Equipment Leaks	1.78E-02	--	3.55E-04	2.00E-04	3.55E-01	3.55E-02	--	1.42E-04	--	--	0.01	--	--	1.42E-03	1.42E-03	--	3.55E-03	0.42
F005	Cooling Tower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU040	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU041	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU042	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU043	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU044	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU045	Corn Oil / Defatted Syrup Storage Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU046	Corn Oil / Defatted Syrup Storage Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
Total:		0.53	1.47E-03	3.55E-04	1.48	22.31	0.40	9.36E-04	1.42E-04	2.06E-03	2.62E-03	7.11E-03	7.11E-04	3.93E-03	185.12	32.18	9.78	4.57E-03	251.82

Appendix A: Emissions Calculations
HAP Emissions Summary - Unrestricted PTE

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Appendix A: Emissions Calculations
HAP Emissions Summary - Controlled PTE

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

		Controlled PTE (ton/yr)																	
Emission Point	Description	Benzene	Dichlorobenzene	Ethylbenzene	Formaldehyde	Hexane	Toluene	Lead	Carbon Disulfide	Cadmium	Chromium	Cumene	Manganese	Nickel	Acetaldehyde	Methanol	Acrolein	Xylene	Total HAP
SV001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV002	Corn Scalper/Transfer Conveyors (EU004), Surge Bin (EU005)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV003	Corn Hammermill #1 (EU006)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV004	Corn Hammermill #2 (EU007)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV005	Corn Hammermill #3 (EU008)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV006	Corn Hammermill #4 (EU009)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV007	Corn Hammermill #5 (EU010)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV008	Scrubber / RTO By-pass Stack* (EU012-EU023)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	1.35E-03	--	--	0.08	1.16	2.19E-03	3.22E-04	--	7.09E-04	9.02E-04	--	2.45E-04	1.35E-03	5.46	0.95	0.28	--	7.94
SV010	DDG Fluid Bed Cooler (EU029)	--	--	--	0.40	--	--	--	--	--	--	--	--	--	2.82	0.49	0.37	--	4.08
SV011	DDG Silo Loading (EU030)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV012	DDG Silo Bypass (EU031)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV013 & SV014	Boiler #1 (EU027) & Boiler #2 (EU028)	2.58E-03	1.47E-03	--	9.21E-02	2.21	4.18E-03	6.14E-04	--	1.35E-03	1.72E-03	--	4.67E-04	2.58E-03	--	--	--	--	2.32
SV015	Diesel Generator (EU037)	4.10E-03	--	--	4.17E-04	--	1.48E-03	--	--	--	--	--	--	--	1.33E-04	--	4.16E-05	1.02E-03	0.01
SV016	Ethanol Loading System (Truck and Rail) (EU036) and Flare (CE015)	9.99E-03	--	--	--	0.37	6.92E-03	--	--	--	--	--	--	--	--	--	--	--	0.39
EU024	Set of four (4) Centrifuges	--	--	--	4.13E-04	--	--	--	--	--	--	--	--	--	4.54E-03	8.25E-04	4.13E-04	--	0.01
EU038 & EU039	Corn Oil Centrifuges	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
Insignificant Activities																			
T001	190 Proof Ethanol Storage Tank	-	--	--	1.05E-05	-	-	--	--	--	--	--	--	--	7.44E-05	7.85E-06	5.21E-06	--	0.00
T002	Denaturant Storage Tank	3.51E-03	--	--	3.95E-05	7.02E-02	7.02E-03	--	--	--	--	--	--	--	2.81E-04	2.96E-05	1.97E-05	--	0.08
T003	200 Proof Ethanol Storage Tank	-	--	--	8.70E-06	-	-	--	--	--	--	--	--	--	6.19E-05	6.53E-06	4.33E-06	--	0.00
T004	200 Proof Ethanol Storage Tank	-	--	--	8.70E-06	-	-	--	--	--	--	--	--	--	6.19E-05	6.53E-06	4.33E-06	--	0.00
T005	Denaturant Storage Tank	2.11E-03	--	--	2.37E-05	4.22E-02	4.22E-03	--	--	--	--	--	--	--	1.69E-04	1.78E-05	1.18E-05	--	0.05
F001	Grain Receiving (Fugitive)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F002	Fugitive Emissions From DDGS Loadout	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F003	Truck Traffic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F004	Equipment Leaks	1.78E-02	--	3.55E-04	2.00E-04	3.55E-01	3.55E-02	--	1.42E-04	--	--	0.01	--	--	1.42E-03	1.42E-03	--	3.55E-03	0.42
F005	Cooling Tower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU040	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU041	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU042	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU043	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU044	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU045	Corn Oil / Defatted Syrup Storage Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU046	Corn Oil / Defatted Syrup Storage Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
Total:		4.14E-02	1.47E-03	3.55E-04	0.57	4.21	0.06	9.36E-04	1.42E-04	2.06E-03	2.62E-03	0.01	7.11E-04	3.93E-03	8.29	1.44	0.65	4.57E-03	15.29

Worst-Case HAP = 8.29 tons/year Acetaldehyde
Combined HAPs = 15.29 tons/year

Appendix A: Emissions Calculations
HAP Emissions Summary - Unrestricted PTE

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Appendix A: Emissions Calculations
HAP Emissions Summary - Limited PTE

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

		Limited PTE (ton/yr)																	
Emission Point	Description	Benzene	Dichlorobenzene	Ethylbenzene	Formaldehyde	Hexane	Toluene	Lead	Carbon Disulfide	Cadmium	Chromium	Cumene	Manganese	Nickel	Acetaldehyde	Methanol	Acrolein	Xylene	Total HAP
SV001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV002	Corn Scalper/Transfer Conveyors (EU004), Surge Bin (EU005)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV003	Corn Hammermill #1 (EU006)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV004	Corn Hammermill #2 (EU007)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV005	Corn Hammermill #3 (EU008)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV006	Corn Hammermill #4 (EU009)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV007	Corn Hammermill #5 (EU010)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV008	Scrubber / RTO By-pass Stack* (EU012-EU023)	--	--	--	0.01	--	--	--	--	--	--	--	--	--	1.38	0.01	--	--	1.39
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	1.35E-03	--	--	0.97	1.16	0.00	0.00	--	7.09E-04	9.02E-04	--	2.45E-04	1.35E-03	4.13	0.91	4.05	--	11.22
SV010	DDG Fluid Bed Cooler (EU029)	--	--	--	0.40	--	--	--	--	--	--	--	--	--	2.82	0.49	0.37	--	4.08
SV011	DDG Silo Loading (EU030)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV012	DDG Silo Bypass (EU031)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV013 & SV014	Boiler #1 (EU027) & Boiler #2 (EU028)	2.58E-03	1.47E-03	--	0.09	2.21	0.00	0.00	--	1.35E-03	1.72E-03	--	4.67E-04	2.58E-03	--	--	--	--	2.32
SV015	Diesel Generator (EU037)	4.10E-03	--	--	4.17E-04	--	0.00	--	--	--	--	--	--	--	1.33E-04	--	4.16E-05	1.02E-03	0.01
SV016	Ethanol Loading System (Truck and Rail) (EU036) and Flare (CE015)	5.00E-01	--	--	--	4.38	0.35	--	--	--	--	--	--	--	--	--	--	--	5.23
EU024	Set of four (4) Centrifuges durring RTO By-Pass	--	--	--	2.06E-02	--	--	--	--	--	--	--	--	--	1.30E-02	2.36E-03	1.18E-03	--	0.04
EU038 & EU039	Corn Oil Centrifuges	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
Insignificant Activities																			
T001	190 Proof Ethanol Storage Tank	-	--	--	1.05E-05	-	-	--	--	--	--	--	--	--	7.44E-05	7.85E-06	5.21E-06	--	9.79E-05
T002	Denaturant Storage Tank	3.51E-03	--	--	3.95E-05	7.02E-02	0.01	--	--	--	--	--	--	--	2.81E-04	2.96E-05	1.97E-05	--	0.08
T003	200 Proof Ethanol Storage Tank	-	--	--	8.70E-06	-	-	--	--	--	--	--	--	--	6.19E-05	6.53E-06	4.33E-06	--	8.14E-05
T004	200 Proof Ethanol Storage Tank	-	--	--	8.70E-06	-	-	--	--	--	--	--	--	--	6.19E-05	6.53E-06	4.33E-06	--	8.14E-05
T005	Denaturant Storage Tank	2.11E-03	--	--	2.37E-05	4.22E-02	4.22E-03	--	--	--	--	--	--	--	1.69E-04	1.78E-05	1.18E-05	--	0.05
F001	Grain Receiving (Fugitive)	4.82E-04	--	--	5.42E-06	9.64E-03	9.64E-04	--	--	--	--	--	--	'-	3.85E-05	4.07E-06	2.70E-06	--	0.01
F002	Fugitive Emissions From DDGS Loadout	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F003	Truck Traffic	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F004	Equipment Leaks	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
F005	Cooling Tower	0.02	--	3.55E-04	2.00E-04	3.55E-01	0.04	--	1.42E-04	--	--	0.01	--	--	1.42E-03	1.42E-03	--	3.55E-03	0.42
EU040	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU041	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU042	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU043	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU044	Corn Oil / Defatted Syrup Process Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU045	Corn Oil / Defatted Syrup Storage Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
EU046	Corn Oil / Defatted Syrup Storage Tank	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
Total:		5.32E-01	1.47E-03	3.55E-04	1.49	8.23	0.40	9.36E-04	1.42E-04	2.06E-03	2.62E-03	7.11E-03	7.11E-04	3.93E-03	8.34	1.41	4.41	4.57E-03	24.84

* Shaded cells indicate a limit has been taken on the pollutant for that unit.

**Included in RTO Stack Emissions

Worst-Case HAP = 8.34 tons/year Acetaldehyde
Combined HAPs = 24.84 tons/year

Appendix A: Emission Calculations
Project Parameters

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Receiving	**Current**	
Annual Grain Receiving	29,962,547	
Denaturant Delivery (actual):	6,000,000	
Grain Receiving Capacity	30,000	
Grain Receiving Capacity	840	
Annual Grain Receiving	838,951	
Grain Density:	56	
Gallons Ethanol Produced per Bushel of Corn:	2.67	

Production	**Current**	
Total Production in Gallons Anhydrous Ethanol Produced per Year:	80,000,000	
E-85 Operation (assume 10% of Anhydrous Ethanol Production is loaded out at E70):		
Gallons E-85 Produced:	10,400,000	
Denaturant Throughput:	2,400,000	(3)
Gallons Anhydrous Ethanol Loaded out in E-85 Service:	8,000,000	
Normal Denatured Ethanol Operation:		
Gallons Denatured Ethanol Produced:	75,600,000	
Denaturant Throughput:	3,600,000	(4)
Gallons Anhydrous Ethanol Loaded out in Denatured Service:	72,000,000	
Combined Denatured Ethanol and E85 Production Rate	**86,000,000**	

DDGS Production	**Current**	
Hourly DDGS Production	27.44	
Annual DDGS Production	233,228	
Percent Grain Throughput that becomes DDGS	27.8%	(5)

	Current
DDGS Haul Out	9,329
Ethanol Haul Out	10,750
Denaturant Delivery	750
Grain Delivery	33,558
Tons Hauled per Truck	25
Gallons Hauled per Truck	8,000

Storage Tanks	**Current**	
190 Proof Ethanol Storage Tank (T001) [5]	84,210,526	(8)
Denaturant Storage Tank (T002) [3]	3,000,000	(6)
Denatured Ethanol or 200 Proof Ethanol Storage Tank (T003) [4]	86,000,000	(7)
Denatured Ethanol or 200 Proof Ethanol Storage Tank (T004) [4]	86,000,000	(7)
Denaturant Storage Tank (T005) [3]	3,000,000	(6)

(1) Current permit limit.
(2) Assume 10% of combined production is E-85.
(3) E-85 can be blended anywhere between 70% to 83% undenatured ethanol, depending on atmospheric conditions. Assume denaturant is 30% of E-85 product.
(4) Assume denaturant is 5% of denatured alcohol product.
(5) Based upon percentages from POET Biorefining - Glenville West calculations
(6) Assumed worst case scenario of denaturant throughput divided evenly through tanks T002 and T005.
(7) T003 and T004 half of the denatured ethanol throughput is assumed to pass through each tank.
(8) Calculated: Anhydrous Ethanol Produced per Year (gal) / (1.9 / 2)

Appendix A: Emission Calculations
Particulate Emissions
From the Grain Receiving and Handling Operations

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Potential to Emit PM/PM10/PM2.5 - Captured Emissions:

Baghouse ID	Process Description	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	PTE of PM/PM10 after Control* (lbs/hr)	PTE of PM/PM10 after Control (tons/yr)	PTE of PM2.5 after Control** (lbs/hr)	PTE of PM2.5 after Control** (tons/yr)	Control Efficiency (%)	PTE of PM/PM10 before Control (tons/yr)	PTE of PM/PM10 before Control (lbs/hr)	PTE of PM2.5 before Control (tons/yr)
CE001	Grain Receiving (EU001), Conveyors (EU002a), Storage Bins (EU003a), and DDGS Loadout Operations (EU032-EU035)	Baghouse	0.004	23,450	0.80	3.52	0.14	0.60	99%	352	80.4	59.9
CE002	Corn Scalper (EU004), Surge Bin (EU005)	Baghouse	0.004	2,500	0.09	0.38	0.01	0.06	99%	38	8.6	6.4
CE003	Hammermill #1 (EU006)	Baghouse	0.004	12,000	0.41	1.80	0.07	0.31	99%	180	41.1	30.6
CE004	Hammermill #2 (EU007)	Baghouse	0.004	12,000	0.41	1.80	0.07	0.31	99%	180	41.1	30.6
CE005	Hammermill #3 (EU008)	Baghouse	0.004	12,000	0.41	1.80	0.07	0.31	99%	180	41.1	30.6
CE006	Hammermill #4 (EU009)	Baghouse	0.004	12,000	0.41	1.80	0.07	0.31	99%	180	41.1	30.6
CE007	Hammermill #5 (EU010)	Baghouse	0.004	12,000	0.41	1.80	0.07	0.31	99%	180	41.1	30.6
CE016	Conveyors (EU002b), Storage Bins (EU003b)	Dust Collector	0.005	1,200	0.05	0.23	0.01	0.04	99%	23	5.1	3.8
CE017	Conveyors (EU002b), Storage Bins (EU003b)	Dust Collector	0.005	1,200	0.05	0.23	0.01	0.04	99%	23	5.1	3.8
CE018	Conveyors (EU002b), Storage Bins (EU003b)	Dust Collector	0.005	1,200	0.05	0.23	0.01	0.04	99%	23	5.1	3.8
CE011	DDGS Silo Loading (EU030)	Baghouse	0.004	4,000	0.14	0.60	0.02	0.10	99%	60	13.7	10.2
CE012	DDGS Silo Bypass (EU031)	Baghouse	0.004	4,000	0.14	0.60	0.02	0.10	99%	60	13.7	10.2
Total						14.8	0.6	2.5	11.9	1478.4	337.5	251.3

*Assume all PM emissions equal PM10 emissions.
** Assume controlled PM2.5 emissions equal 17% PM/PM10 emissions (AP-42 Table 9.9.1-1 Reference 40).
*** Outlet Grain Loading values were supplied by source.

Methodology

PTE of PM/PM10 after Control (lbs/hr) = Outlet Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr
PTE of PM/PM10 after Control (tons/yr) = Outlet Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs
PTE of PM/PM10 before Control (tons/yr) = PTE of PM/PM10 after Control (tons/yr) / (1-Control Efficiency)
PTE of PM2.5 = PTE of PM/PM10 x 17% (per AP-42 Table 9.9.1-1 Reference 40)

2. Potential to Emit PM/PM10 - Fugitive Emissions:

Unit ID	Unit Description	Annual Throughput Limit (tons/yr)	Uncontrolled PM Emission Factor (lbs/ton)	Uncontrolled PM10 Emission Factor (lbs/ton)	Uncontrolled PM2.5 Emission Factor (lbs/ton)	Uncontrolled Fugitive PM Emissions (tons/yr)	Uncontrolled Fugitive PM10 Emissions (tons/yr)	Uncontrolled Fugitive PM2.5 Emissions** (tons/yr)
F001	Uncaptured Grain Receiving	838,951	0.180	0.0590	0.0100	75.51	24.75	4.19
F002	Fugitive Emissions From DDGS Loadout	233,228	0.086	0.0290	0.0049	10.03	3.38	0.57
					Total:	85.53	28.13	4.77

Note: Emission factors are from AP-42, Chapter 9.9.1 - Grain Elevators, Table 9.9.1-1 Grain Receiving and Grain Shipping (04/03) . Assume all the grain receiving and loadout is by truck, which is the worst case scenario. There are no fugitive emissions from the grain handling operations because the emissions from these units are 100% captured.

Methodology

Fugitive PM/PM10/PM2.5 Emissions (tons/yr) = Annual Throughput Limit (tons/yr) x Uncontrolled Emission Factor for (PM/PM10/PM2.5)(lbs/ton) x (1-Capture Efficiency%) x 1 ton/2000 lbs

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR >100
Boilers

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Combined Heat Input Capacity for Boiler #1 & Boiler #2	Potential Throughput
MMBtu/hr	MMCF/yr
286.0	2456.2

	Pollutant						
	PM*	PM10*	PM2.5**	SO2	NOx**	VOC	CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	80.0	5.5	80.0
Potential Emission in tons/yr	2.33	9.33	9.33	0.74	98.25	6.75	98.25

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined. PM2.5 emission factor is equal to PM10.

**All Emission Factors except for NOx and CO are from AP-42 Chapter 1 Table 1-4.1 for natural gas combustion. The source used manufacturer's certified emission factors for the low NOx burners in the previous FESOP permit. The manufacturer's emission factors are less than the AP-42 values (40 lb of NOx/MMCF and 40 lb of CO/MMCF) and have been verified by performance testing (Test Date: February 5, 2008). The boiler emission factors no longer need to be this stringent to avoid being a major source under 326 IAC 2-2 PSD. However, these boilers have a combined heat input greater than 250 MMBTU/hr, and are considered one of the 28 listed source categories, based on the EPA guidance for "nesting activities". Therefore more conservative values (twice the manufacturer's estimated NOx and CO emission factors) will be used for the boilers rendering the testing for NOx and CO no longer necessary in the permit.

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 from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAP emissions calculations.

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.58E-03	1.47E-03	9.21E-02	2.21E+00	4.18E-03

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.14E-04	1.35E-03	1.72E-03	4.67E-04	2.58E-03
				Total HAPs:	2.32E+00

Methodology is the same as above

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
PM, PM10, PM2.5, NOx, SOx, VOC, CO and HAP Emissions
From the RTO controlling the Fermenters, Distillation System, and DDGS Dryers

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:
Emission point SV009 includes the emissions from the fermentation system, the distillation system, and the DDGS dryers. The fermentation system and distillation system vent to a scrubber which then exhausts into the regenerative thermal oxidizer (RTO). The DDGS dryers vent directly to the RTO.
The RTO exhausts through stack SV009.
The RTO is scheduled to operate 8760 hr/yr, however by permit it is allowed to be by-passed up to 500 hr/yr.

The RTO controls emissions from the dryers and the fermentation/distillation scrubber.
The RTO has the following control efficiencies (based on engineering estimates and stack test results at similar facilities as provided by the source):

PM:	90%
VOC:	98%
CO:	90%
HAP:	97%

2. Potential to Emit (PTE) from fermentation, distillation and dryers:

Dryer Emission factors
Each dryer has a 60 MMBtu/hr natural gas fired burner. The dryers do not have the capacity to combust any other fuel. The dryers are connected in series, therefore, all of the DDGS is processed by each dryer.

DDGS Dryer EU025	60	MMBtu/hr
DDGS Dryer EU026	60	MMBtu/hr
	120	**MMBtu/hr**

Dryer Combustion Emissions:

Pollutant	lb/MMBTU	Source	lb/hr	ton/year
PM	0.0019	AP-42 Section 1.4	0.22	1.0
PM10	0.0075	AP-42 Section 1.4	0.89	3.9
PM2.5	0.0075	AP-42 Section 1.4	0.89	3.9
NOx	0.1373	AP-42 Section 1.4	16.47	72.1
VOC	0.0054	AP-42 Section 1.4	0.65	2.8
SO2	0.0006	AP-42 Section 1.4	0.07	0.3

AP-42 emission factors from Section 1.4 were converted to lb/MMBtu assuming a heating value of 1020 Btu/ft3 for natural gas.

Dryer Process Emissions - PM/PM10/PM2.5

Dryer Feed Rate =	73.0	ton/hr
RTO Exhaust Flow Rate =	50,000	dscfm
	0.200	gr/dscf
	85.7	lb/hr
Uncontrolled emission rate =	375.4	tons/year
Allowable Emissions Under 326 IAC 6-3-2	72.6	lb/hr
Controlled Emission Rate (90%) =	8.57	lb/hr
	37.5	ton/yr

Methodololgy
Potential Particulate Emissions from Dryers (lb/hr) = Dryer Exhaust Rate (dscfm) x Outlet Grain Loading (gr/dscf) x (60 min/hr) x (1 lb/7000 gr)
Potential Particulate Emissions from Dryers (ton/yr) = Potential Particulate Emissions from Dryers (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Dryer Process Emissions - SO_2

Ethanol Production (gal/yr)	SO2 Emission Factor (lb/gal EtOH produced)	Uncontrolled Emission Rate (ton/yr)	Uncontrolled Emission Rate (lb/hr)
80,000,000	0.00025	10.01	2.28

Note:

The SO2 Emission Factor is based on test data from POET - North Manchester, March 3, 2009. Since the RTO is not controlling SO_2, this represents unrestricted potential to emit.

SO2 Emission Factor (lb/gal) = tested emission rate (1.837 lb/hr) / [beer feed rate (720 gpm) x 17 vol% ethanol x (60 min/hr)]

Emission Rate (ton/yr) = Ethanol Production (gal/yr) x SO2 Emission Factor (lb/gal EtOH produced) x (1 ton/2000 lb)

CO Emissions from the Dryers

	Uncontrolled Emission Rate	Uncontrolled Emission Rate	Controlled Emission Rate	Controlled Emission Rate
CO	lb/hr	ton/year	lb/hr	ton/year
	80.0	350.4	8.0	35.0

Based on stack test results from similar facilities, the inlet CO rate to the RTO will be approximately 80 lb/hr.

Appendix A: Emission Calculations
PM, PM10, PM2.5, NOx, SOx, VOC, CO and HAP Emissions
From the RTO controlling the Fermenters, Distillation System, and DDGS Dryers

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

VOC and HAP from the Dryers

Given:
The VOC and HAPs contained in the water fraction of the feed to the dryers is evaporated.
The VOC content of the water = 0.006 lb VOC/lb water
The dryer feed rate = 73.0 ton/hour solids + water
Water content of dryer feed = 66.7%
Therefore:

	Potential VOC and HAP Emissions from Dryers			
	Total (Dryer)		Each Dryer	
	lb/hour	tons/year	lb/hour	tons/year
Inlet VOC Emissions to RTO	583.9	2557.7	292.0	1278.8
Inlet HAP Emissions to RTO	45.69	200.1	22.8	100.1

	Speciated HAP emissions from Dryers		
HAP	HAP % (by wt of VOC)	Potential HAP from Dryers (lb/hr)	Potential HAP from Dryers (ton/yr)
Acetaldehyde	6.18%	36.11	158.2
Acrolein	0.37%	2.14	9.39
Methanol	1.24%	7.22	31.64
Formaldehyde	0.04%	0.21	0.92
Total	7.82%	45.69	200.10

Methodololgy

Speciated HAPs based upon Method 18 test on inlet to RTO at Big Stone, SD Facility (September 2008)
Potential HAP Emissions from Dryers (lb/hr) = Potential VOC emissions from dryer (lb/hr) x HAP % by wt of VOC
Potential HAP Emissions from Dryers (ton/yr) = Potential HAP Emissions from Dryers (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

VOC and HAP Emissions from the Fermentation and Distillation System (After Scrubber)

	lb/hour	tons/year
Inlet VOC Emissions to RTO	30.8	134.7
Inlet HAP (Acetaldehyde) Emissions to RTO	5.5	23.9

VOC and HAP Emissions from the RTO

Total Processing Systems VOC and HAP Emissions from RTO

	Uncontrolled Emission Rate lb/hr	**Uncontrolled Emission Rate** ton/year	**Control Efficiency** %	**Controlled Emission Rate** lb/hr	**Controlled Emission Rate** ton/year
VOC	614.7	2692.4	98.0%	12.3	53.8
Acetaldehyde	41.6	182.1	97%	1.25	5.46
Acrolein	2.1	9.4	97%	0.06	0.28
Methanol	7.2	31.6	97%	0.22	0.95
Formaldehyde	0.21	0.92	97%	0.01	0.03
Total HAP	51.2	224.1	97%	1.54	6.72

Appendix A: Emission Calculations
PM, PM10, PM2.5, NOx, SOx, VOC, CO and HAP Emissions
From the RTO controlling the Fermenters, Distillation System, and DDGS Dryers

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

RTO Combustion Emissions:

The RTO is equipped with five natural gas fired burners rated at 6 MMBtu/hr each for a total of 30 MMBTU/hr. The RTO is not equipped with burners to combust any other fuel.

NG burners: 5

6 MMBtu/hr

30 MMBtu/hr

Pollutant	lb/MMBTU	Source	lb/hr	ton/year
PM	0.0019	AP-42 Section 1.4	0.06	0.2
PM10	0.0075	AP-42 Section 1.4	0.22	1.0
PM2.5	0.0075	AP-42 Section 1.4	0.22	1.0
NOx	0.1373	AP-42 Section 1.4	4.12	18.0
CO	0.0823	AP-42 Section 1.4	2.47	10.8
TSP	0.0075	AP-42 Section 1.4	0.23	1.0
VOC	0.0054	AP-42 Section 1.4	0.16	0.7
SO2	0.0006	AP-42 Section 1.4	0.02	0.1

AP-42 emission factors from Section 1.4 were converted to lb/MMBtu assuming a heating value of 1020 Btu/ft3 for natural gas.

Total Emissions from the RTO Stack

	Uncontrolled		RTO Control	Controlled	
Pollutant	**lb/hr**	**ton/year**	**Efficiency (%)**	**lb/hr**	**ton/year**
PM	85.99	376.7	90%	8.85	38.8
PM_{10}	86.83	380.3	90%	9.69	42.4
$PM_{2.5}$	86.83	380.3	90%	9.69	42.4
NOx	20.59	90.18	0%	20.59	90.18
CO	82.5	361.2	90%	10.47	45.85
VOC	616	2696	98%	13.1	57.40
SO2	2.37	10.40	0%	2.37	10.40
Acetaldehyde	41.6	182.1	97%	1.25	5.46
Acrolein	2.14	9.39	97%	0.06	0.28
Methanol	7.2	31.6	97%	0.22	0.95
Formaldehyde	0.21	0.92	97%	0.01	0.03
Combustion HAPs	0.28	1.22	N/A	0.28	1.22
TOTAL HAPs	51.42	225.23		1.81	7.94

Appendix A: Emission Calculations
HAP Emissions
From the Dryers and RTO

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:

POET Biorefining - Portland will operate two DDG dryers. Each dryer will be 60 MMBtu/hr and be fired on natural gas. There is no back-up fuel. The dryer exhaust is directed to the RTO at all times the dryers are operating. The RTO has an estimated HAP control efficiency of 97%.

2. Potential to Emit (PTE) HAPs from the dryers:

HAP Pollutant	Emission Factor [1] (lb/MMSCF)	Potential to Emit Emissions (Uncontrolled) (lb/hr)	Potential to Emit Emissions (Uncontrolled) (ton/yr)	Potential to Emit Emissions (Controlled) (lb/hr)	Potential to Emit Emissions (Controlled) (ton/yr)
Benzene	2.10E-03	2.47E-04	1.08E-03	7.41E-06	3.25E-05
Formaldehyde	7.50E-02	8.82E-03	3.86E-02	2.65E-04	1.16E-03
Hexane	1.80E+00	2.12E-01	9.28E-01	6.35E-03	2.78E-02
Naphthalene	6.10E-04	7.18E-05	3.14E-04	2.15E-06	9.43E-06
Toluene	3.40E-03	4.00E-04	1.75E-03	1.20E-05	5.26E-05
Arsenic	2.00E-04	2.35E-05	1.03E-04	2.35E-05	1.03E-04
Beryllium	1.20E-05	1.41E-06	6.18E-06	1.41E-06	6.18E-06
Cadmium	1.10E-03	1.29E-04	5.67E-04	1.29E-04	5.67E-04
Chromium	1.40E-03	1.65E-04	7.21E-04	1.65E-04	7.21E-04
Cobalt	8.40E-05	9.88E-06	4.33E-05	9.88E-06	4.33E-05
Lead	5.00E-04	5.88E-05	2.58E-04	5.88E-05	2.58E-04
Manganese	3.80E-04	4.47E-05	1.96E-04	4.47E-05	1.96E-04
Mercury	2.60E-04	3.06E-05	1.34E-04	3.06E-05	1.34E-04
Nickel	2.10E-03	2.47E-04	1.08E-03	2.47E-04	1.08E-03
Selenium	2.40E-05	2.82E-06	1.24E-05	2.82E-06	1.24E-05
		0.222	**0.972**	**0.007**	**0.032**

1 - Emission factor is from AP-42, 5th Edition, Section 1.4, 7/98

1. Process Description:

POET Biorefining - Portland will operate an RTO to control emissions from the fermentation and distillation systems, the DDG dryers. The RTO is equipped with five natural gas fired burners rated at 6 MMBtu/hr each for a total of 30 MMBTU/hr. The RTO is not equipped with burners to combust any fuel other than natural gas.

2. Potential to Emit (PTE) HAPs from the RTO:

HAP Pollutant	Emission Factor [1] (lb/MMBtu)	Potential to Emit Emissions (lb/hr)	Potential to Emit Emissions (ton/yr)
Benzene	2.10E-03	6.18E-05	2.71E-04
Formaldehyde	7.50E-02	2.21E-03	9.66E-03
Hexane	1.80E+00	5.29E-02	2.32E-01
Naphthalene	6.10E-04	1.79E-05	7.86E-05
Toluene	3.40E-03	1.00E-04	4.38E-04
Arsenic	2.00E-04	5.88E-06	2.58E-05
Beryllium	1.20E-05	3.53E-07	1.55E-06
Cadmium	1.10E-03	3.24E-05	1.42E-04
Chromium	1.40E-03	4.12E-05	1.80E-04
Cobalt	8.40E-05	2.47E-06	1.08E-05
Lead	5.00E-04	1.47E-05	6.44E-05
Manganese	3.80E-04	1.12E-05	4.90E-05
Mercury	2.60E-04	7.65E-06	3.35E-05
Nickel	2.10E-03	6.18E-05	2.71E-04
Selenium	2.40E-05	7.06E-07	3.09E-06
		0.056	**0.243**

1 - Emission factor is from AP-42, 5th Edition, Section 1.4, 7/98

Total HAPs from Dryers and RTO

HAP Pollutant	CAS	Potential to Emit Emissions (lb/hr)	Potential to Emit Emissions (ton/yr)
Benzene	71-43-2	3.09E-04	1.35E-03
Formaldehyde	50-00-0	1.10E-02	4.83E-02
Hexane	110-54-3	2.65E-01	1.16E+00
Naphthalene	91-20-3	8.97E-05	3.93E-04
Toluene	108-88-3	5.00E-04	2.19E-03
Arsenic	7440-38-2	2.94E-05	1.29E-04
Beryllium	7440-41-7	1.76E-06	7.73E-06
Cadmium	7440-43-7	1.62E-04	7.09E-04
Chromium	7440-47-3	2.06E-04	9.02E-04
Cobalt	7440-48-4	1.24E-05	5.41E-05
Lead	NA	7.35E-05	3.22E-04
Manganese	7439-96-5	5.59E-05	2.45E-04
Mercury	7439-97-6	3.82E-05	1.67E-04
Nickel	7440-02-0	3.09E-04	1.35E-03
Selenium	7782-49-2	3.53E-06	1.55E-05
		0.278	**1.216**

1 - Emission factor is from AP-42, 5th Edition, Section 1.4, 7/98

Appendix A: Emission Calculations
VOC and HAP Emissions
From the Scrubber controlling the Fermenters and Distillation System

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:
The RTO must occasionally be temporarily shut down for unscheduled maintenance or other operational reasons. In this event, the DDGS dryers will be shut down, however, the fermentation tanks and distillation systems will continue to be operated in normal mode. The emissions from these sources will be vented to the scrubber stack (RTO by-pass stack) SV008. The emissions will be controlled by the wet scrubber, CE008.

2. Potential to Emit (PTE) of VOC and HAP from the scrubber:

Scrubber VOC Control Efficiency =	98.00%
Scrubber HAP Control Efficiency =	50.00%
Yearly operation limit for RTO By-Pass scenario=	500 hours

PTE Before Control	lb/hr	@ 500 hrs ton/yr	*@ 8760 hrs ton/yr*
VOC	1538.0	384.5	*6,736*
Acetaldehyde	10.9	2.7	*47.83*
Methanol	0.028	0.007	*0.123*
Formaldehyde	0.028	0.007	*0.123*
Total Uncontrolled HAP	11.0	2.7	*48.07*

PTE After Control	lb/hr	ton/yr	
VOC	30.76	7.69	Horizon Ethanol, LLC (Jewell, IA) stack test results, July 2006 + safety factor of 1.2
Acetaldehyde	5.5	1.37	April 2010 stack test data from Alexandria with 1.4 safety factor
Methanol	0.01	0.004	
Formaldehyde	0.01	0.004	
Total Controlled HAP	5.5	1.4	

Methodology
PTE after Control (tons/yr) = Emission Rate after Control (lbs/hr) x 500 hr/yr x 1 ton/2000 lbs
PTE before Control (tons/yr) = PTE after Control (tons/yr) / (1- Control Efficiency)

Limited PTE	lb/hr	ton/yr
VOC	79.39	19.85
Acetaldehyde	5.5	1.38
Methanol	0.028	0.007
Formaldehyde	0.028	0.007
Total Controlled HAP	5.6	1.4

Appendix A: Emission Calculations
VOC Emission Calculations
Ethanol/E85 Load-out Racks (EU036) and Flare (CE015)

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Emission Factors: AP-42, Section 5.2, June 2008

Denatured ethanol (95% to 98% ethanol) and E85 (70% to 85% ethanol) will be shipped by either truck loading rack or railcar loading rack. Railcars will be dedicated fleets, but the trucks may be used to carry gasoline prior to filling with ethanol. Both railcars and trucks will be filled by submerged loading process. Both loadout operations will be controlled by a flare (CE13), which has a control efficiency of 98% for VOC and HAPs.

According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids (06/08), the VOC emission factors for the truck and rail loading racks can be estimated from the following equation:

$$L = 12.46 \times (SPM)/T$$

where:

L = loading loss (lbs/kgal)
S = a saturation factor (see AP-42, Table 5.2-1)
P = true vapor pressure of the liquid loaded (psia)
M = molecular weight of vapors
T = temperature of the bulk liquid loaded (degree R)

Previous Stored Liquid	*S	P (psia)	M (lbs/mole lbs)	T (degree R)	L (lbs/kgal)
Gasoline (dedicated vapor balance)	1.0	4.0226	66	507	6.52
Gasoline (clean cargo)	0.5	4.0226	66	507	3.26
E-85 Ethanol (dedicated normal)	0.6	1.73	56.75	507	1.45
E-85 Ethanol (clean cargo)	0.5	1.73	56.75	507	1.21
Denatured Ethanol (dedicated normal)	0.6	0.55	49.7	507	0.40
Denatured Ethanol (clean cargo)	0.5	0.55	49.7	507	0.34

Source-Specific Emission Factors

		(lbs/kgal)
The emission factor for loading denatured ethanol to rail which previously contained denatured ethanol = L (Denatured ethanol, normal) =	Denatured Ethanol to Rail	0.40
The emission factor for loading E-85 to rail which previously contained denatured ethanol or E-85 = L (Denatured ethanol, normal) =	E-85 to Rail	1.45
The emission factor for loading denatured ethanol to trucks which stored gasoline previously = L (gasoline, dedicated vapor balance) - L (gasoline, clean cargo) + L (denatured ethanol, clean cargo) =	Denatured Ethanol to Truck	3.60
= L (gasoline, dedicated vapor balance) - L (gasoline, clean cargo) + L (E-85, clean cargo) =	E-85 to Truck	4.47

1. Throughputs:

	Truck and Rail Combined (MMgal/yr)	Truck (gal/hr)	Rail (gal/hr)
Ethanol (anticipated)	75.6		
E-85 (anticipated)	10.4		
Ethanol (for PTE)	86.0	39,000	144,000
E-85 (for PTE)	86.0	39,000	144,000
Ethanol and E85 Combined	86.0	39,000	144,000

2. Hourly Potential to Emit:

	Throughput kgal/hr	Emission Factor lb/kgal	VOC Emissions Uncontrolled lb/hr	VOC Emissions Uncontrolled ton/yr	Control Efficiency	VOC Emissions Controlled lb/hr
Ethanol loaded out via truck:	39	3.60	140.33	614.65	98%	2.81
Ethanol loaded out via rail:	144	0.40	58.04	254.22	98%	1.16
E85 loaded out via truck:	39	4.47	174.29	763.39	98%	3.49
E85 loaded out via rail:	144	1.45	208.51	913.26	98%	4.17
Worst case scenario =			**208.51**	**913.26**		**4.17**

Emissions Uncontrolled (lb/hr) = Throughput (kgal/hr) x Emission Factor (lb/kgal)
Emissions Controlled (lb/hr) = Emissions Uncontrolled (lb/hr) x (1 - Control Efficiency)

Appendix A: Emission Calculations
VOC Emission Calculations
Ethanol/E85 Load-out Racks (EU036) and Flare (CE015)

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

3. Annual Potential to Emit:

	Throughput kgal/yr	Emission Factor lbs/kgal	Emissions Uncontrolled ton/yr	Flare Control Efficiency	Emissions Controlled ton/yr
All ethanol loaded out via truck:	86,000	3.60	154.7	98%	3.09
All ethanol loaded out via rail:	86,000	0.40	17.3	98%	0.35
All E85 loaded out via truck:	86,000	4.47	192.2	98%	3.84
All E85 loaded out via Rail:	86,000	1.45	62.3	98%	1.25
Worst case scenario =			**192.17**		**3.84**

Emissions Uncontrolled (ton/yr) = Throughput (kgal/yr) x Emission Factor (lb/kgal) / 2000 lb/ton
Emissions Controlled (ton/yr) = Emissions Uncontrolled (ton/yr) x (1 - Control Efficiency)

Flare Control Efficiency = 98%

4. Potential to Emit HAPs:

HAP	HAP Fraction*	PTE of HAP before Control (tons/yr)	Limited PTE of HAP after Control (tons/yr)	Limited PTE of HAP after Control (lbs/hr)
Benzene	2.60E-03	0.50	9.99E-03	1.08E-02
Hexane	9.61E-02	18.47	3.69E-01	4.01E-01
Toluene	1.80E-03	0.35	6.92E-03	7.51E-03
Total	**0.10**	19.3	0.39	0.42

* Based on the weight fraction of denaturant (October 2007 laboratory analysis of natural gasoline/denaturant)

Methodology
HAP emissions are based on worst-case VOC emission scenario.
PTE of HAP before Control (tons/yr) = PTE of VOC before Control (tons/yr) x HAP Fraction
Limited PTE of HAP after Control (tons/yr) = Limited PTE of VOC after Control (tons/yr) x HAP Fraction
Average Limited PTE of HAP after Control (lbs/hr) = Limited PTE of HAP after Control (tons/yr) / 8760 hr/yr x 2000 lb/ton

5. Flare Emissions

Heat Input Capacity	Max Hourly Rate (Rail)	Annual Production Limit
0.054 MMBtu/hr	kgal/hr	kgal/yr
0.4638 MMCF/yr	144.0	86,000

	Pollutant						
	PM*	PM10*	PM2.5*	SO_2*	NOx**	VOC***	CO**
Emission Factor Process Combustion	NA	NA	NA	NA	0.0334 (lbs/kgal)		0.084 (lbs/kgal)
Limited Potential to Emit in tons/yr	**NA**	**NA**	**NA**	**NA**	**1.44**	**31.71**	**3.61**
Limited Potential to Emit in lbs/hr	NA	NA	NA	NA	0.33	7.24	0.82
Unlimited Potential to emit tons/yr	NA	NA	NA	NA	21.07	913.26	3.61
Controlled Potenttial to Emit tons/yr	NA	NA	NA	NA	21.07	4.17	3.61

*PM, PM10, PM2.5 and SO_2 emission factors are negligible due to the smokeless design and minimal H_2S levels in the fuel.
**Emission factors for NO_x and CO are based on the information provided by the flare manufacturer (John Zink Company).
*** VOC emission calculations can be found above in loading rack calculations.

Appendix A: Emission Calculations
VOC and Particulate Emissions
From the DDGS Cooler, DDGS Handling and Silo Operations

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Potential to Emit PM/PM10/PM2.5

Baghouse ID	Process Description	Control Device	Outlet Grain Loading (gr/dscf)	Nominal Air Flow Rate (scfm)	PTE of PM/PM10 after Control (lbs/hr)	PTE of PM/PM10 after Control (tons/yr)	PTE of PM2.5 after Control* (tons/yr)	Control Efficiency (%)	PTE of PM/PM10 before Control (tons/yr)	PTE of PM/PM10 before Control (lbs/hr)	PTE of PM2.5 before Control (tons/yr)	PTE of PM2.5 before Control (lbs/hr)
CE010	DDGS Cooler (EU029)	Baghouse	0.005	23,800	1.02	4.47	0.76	99%	447	102.0	76	17.3

Assume all PM emissions equal PM10 emissions.

* Assume controlled PM2.5 emissions equal 17% PM/PM10 emissions (AP-42 Table 9.9.1-1 Reference 40).

Methodology
PTE of PM/PM10 after Control (lbs/hr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr
PTE of PM/PM10 after Control (tons/yr) = Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x 60 mins/hr x 1/7000 lb/gr x 8760 hr/yr x 1 ton/2000 lbs
PTE of PM/PM10 before Control (tons/yr) = PTE of PM/PM10 after Control (tons/yr) / (1-Control Efficiency)
PTE of PM2.5 = PTE of PM/PM10 x 17% (per AP-42 Table 9.9.1-1 Reference 40)

2. Potential to Emit VOC:

	Unrestricted	Actual[1]	Limited
Process Throughput (DDGS) =	27.0 ton/hr	23.0 ton/hr	
Nominal Air Flow Rate (as carbon) =	23,800.0 scfm	24,836.5 scfm	
VOC Emission Rate (as carbon) =	74.5 ppmv	29.59 ppmv	
VOC Emission Rate (as carbon) =	3.31 lb/hr	1.37 lb/hr	
Ethanol Response Factor [2]=	2.2 lb EtOH/lb VOC	2.2 lb EtOH/lbVOC	
VOC Emission Rate (as ethanol) =	7.3 lb/hr	2.58 lb/hr	5.70 lb/hr
Annual VOC Emission Rate (as ethanol) =	31.93 ton/yr	11.30 ton/yr	< 25 ton/yr

(1) from Stack test conducted at POET - Portland Plant on 2/5/2008

(2) Midwest Scaling Factor (2.2) is being used for conservative estimation purposes.
Source: Midwest Scaling Protocol for the Measurement of "VOC Mass Emissions"; VOC sampling at Wet and Dry Grain Mills and Ethanol Production Facilities, US EPA, August 2004.

2. Potential to Emit HAPs:

	Pollutant				
	Acetaldehyde	Methanol	Formaldehyde	Acrolein	Total
Emission Rate (lbs/hr)***	0.64	0.11	0.09	0.08	**0.93**
Uncontrolled PTE in tons/yr	**2.82**	**0.49**	**0.40**	**0.37**	**4.08**

***HAP emission rates were provided by the source based on stack test results (October 16, 2008) and multiplied by a 1.4 safety factor.

Methodology
Uncontrolled PTE (tons/yr) = Emission Rate (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
Particulate Emissions
Paved Road Traffic Emission Calculations

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

All trucks are assumed to have an empty weight of 15 tons and a full weight of 40 tons. Actual ethanol and denaturant trucks have a capacity of 8,000 gallons and DDGS trucks have a capacity of 25 tons.

Assume for the limited potential to emit calculations that 100% of the ethanol and DDGS are trucked off-site. Also assume that 100% of the denaturant and grain is received by truck. Actual operations will result in some of the ethanol and DGGS being shipped off-site by rail.

Equation from AP-42 Section 13.2.1 Paved Roads, January 2011

$E = k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N)$ Equation 2 *(Used for annual uncontrolled emissions, but adjusted for precipitation.)*

Formula Variables

Description	Variable	Value	
Emission Factor (lb/VMT)	E		
Value used for lb/VMT PM2.5	k	0.00054	
Value used for lb/VMT PM10	k	0.0022	
Value used for lb/VMT PM	k	0.011	
Surface material silt content (g/m^2)	sL	1.1	*(From AP-42, Table 13.2-1-3, Corn Wet Mills.)*
Mean vehicle weight (tons)	W	27.4	
Number of Days in a year with at least 0.01" of precipitation	P	120.00	
Number of days in the averaging period	N	365	

Vehicle Information

Vehicle Type	Annual Limited Amount Trucked		Quantity Transported per Truck		Max No. of Trucks Annually	Truck Empty Wt. (ton)	Truck Full Wt. (ton)	Truck Average Wt. (ton)	Total distance (mile)	Annual VMT
DDGS Haul Out	233,228	ton	25	ton	9,329	15	40	27.5	0.75	6,997
Ethanol Haul Out	86,000,000	gal	8,000	gal	10,750	15	40	27.5	0.75	8,063
Denaturant Delivery	6,000,000	gal	8,000	gal	750	15	40	27.5	0.75	563
Grain Delivery	838,951	ton	25	ton	33,558	15	40	27.5	0.75	25,169
Corn Oil Haul Out	15,625	ton	25	ton	625	15	40	27.5	0.75	469
Wetcake Haul Out	639,475	ton	25	ton	25,579	15	40	27.5	0.75	19,184
Chemical Delivery	19,500	ton	15	ton	1,300	15	30	22.5	0.75	975
Fleet Totals					**81,891**					**61,418**
Fleet Averages (weighted)						**15.0**	**39.8**	**27.4**		

Annual Limited Amounts and Quantity Transported per Truck values are linked to Project Parameters tab.

Fleet Emissions

Annual Uncontrolled $E_{(lb/VMT)}$	Annual Uncontrolled $E_{(lb/VMT)}$	Average Hourly Uncontrolled (lb/hr)	Annual Uncontrolled (ton/yr)
PM2.5	0.0158	0.11	0.49
PM10	0.0645	0.45	1.98
PM	0.3226	2.26	9.91

Annual Uncontrolled E (lb/VMT) calculated from Equation 2 above.
Average Hourly Uncontrolled (lb/hr) = Annual Uncontrolled (ton/yr) / 8760 hr/yr x 2000 lb/ton
Annual Uncontrolled (ton/yr) = Annual Uncontrolled E x Annual VMT / 2000 lb/ton

Appendix A: Emission Calculations
Particulate Emissions
Cooling Tower

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Water circulation flow =	30,000	gallons per minute
Water circulation flow =	113,562	liters per minute
Drift loss =	0.005%	
Drift loss =	5.7	liters per minute
Total Dissolved Solids in cooling tower =	2500	mg/l
Total Dissolved Solids in cooling tower =	2.5	g/l
PM-10 = Drift loss (l/min) x TDS (g/l)	14.2	grams/minute
g/min x 60 =	851.7	grams/hr
1 pound =	453.6	grams
Fugitive emissions=	1.9	lbs/hr
Fugitive emissions=	**8.22**	**TPY**

Appendix A: Emission Calculations
Emergency Diesel Generator

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:

2. Potential to Emit (PTE) of Generator:

Generator Manufacturer	Caterpillar		
Generator Model #	3516B		
Generator Size	2250	kW	
Conversion Factor	1.341	HP/kW	AP-42 Appendix A: Miscellaneous Data and Conversion Factors
Generator Size	3017.25	HP	
Maximum Usage	500	hours/year	**Emergency Use Only**

Available Emission Factors

	Max Limits (EPA Tier 1)	AP-42 Emission Factors Section 3.4 (10/96)	AP-42 Emission Factors Section 3.4
TSP	0.54000 g/kW-hr	0.4256 g/kW-hr	0.0007 lb/HP-hr
PM10	0.54000 g/kW-hr	0.4256 g/kW-hr	0.0007 lb/HP-hr
PM2.5	0.54000 g/kW-hr	0.4256 g/kW-hr	0.0007 lb/HP-hr
NOx	9.20000 g/kW-hr	14.592 g/kW-hr	0.024 lb/HP-hr
SOx		2.45936 g/kW-hr	0.004045 lb/HP-hr
VOC	1.30000 g/kW-hr	0.42864 g/kW-hr	0.000705 lb/HP-hr
CO	11.40000 g/kW-hr	3.344 g/kW-hr	0.0055 lb/HP-hr

Note: Conservatively assume that all TSP = PM10 = PM2.5
The sulfur content of the fuel used for the generator will be less than 0.5 wt%.

Emission Guarantees (Not to exceed data from Caterpillar)

TSP	0.54	lb/hr at 100% load operating condition
PM10	0.54	lb/hr at 100% load operating condition
PM2.5	0.54	lb/hr at 100% load operating condition
NOx	65.88	lb/hr at 100% load operating condition
SOx		
VOC	0.98	lb/hr at 50% load operating condition*
CO	9.33	lb/hr at 100% load operating condition

*Emission factor for VOC was highest (Most conservative) at 50% load.

The potential emissions for the generator are either the mass emission rate not to exceed provided by Caterpillar or the appropriate emission factor multiplied by the rated capacity of the generator.

	PM lb/hr	**PM10 lb/hr**	**PM2.5 lb/hr**	**NOx lb/hr**	**SOx lb/hr**	**VOC lb/hr**	**CO lb/hr**
Generator	0.54	0.54	0.54	65.88	12.2	1.0	9.3
	lb/HP-hr	**lb/HP-hr**	**lb/HP-hr**	**lb/HP-hr**	**lb/HP-hr**	**lb/HP-hr**	**lb/HP-hr**
Generator	1.79E-04	1.79E-04	1.79E-04	2.19E-02	4.05E-03	3.25E-04	3.09E-03

PTE based on 500 hours of operation ***

	PM ton/year	**PM10 ton/year**	**PM2.5 ton/year**	**NOx ton/year**	**SOx ton/year**	**VOC ton/year**	**CO ton/year**
Generator**	0.53	0.53	0.53	18.10	3.05	0.53	4.15

** Generator was limited to 100 hours in the FESOP, in the Title V Permit this unit is an emergency generator and therefore only operates 500 hours per year.

*** PTE for Emergency Generator is calculated using AP-42 Emission Factors (AP-42 Table 3.4-1) and 500 hrs/yr

Methodology

PTE = Hours of operation (hours/year) x Generator size (HP) x Specific pollutant Emission Factor (lb/HP-hr) x 1 ton/2000 lbs

Appendix A: Emission Calculations
HAP Emissions
Emergency Diesel Generator

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:

The facility will be equipped with a 2250 kw electric generator. The primary purpose of the generator will be to provide electricity in the event of an emergency condition at the plant. The generator is for emergency use only and will not exceed 500 hours per 12-month rolling average year.

2. Potential to Emit (PTE) HAPs for Generator:

HAP Pollutant	Emission Factor [1] (lb/MMBtu)	Emission Factor lb/HP-hr	Potential to Emit Emissions (Uncontrolled) (lb/hr)	(ton/yr)
Acetaldehyde	2.52E-05	1.76E-07	5.32E-04	1.33E-04
Acrolein	7.88E-06	5.52E-08	1.66E-04	4.16E-05
Benzene	7.76E-04	5.43E-06	1.64E-02	4.10E-03
Formaldehyde	7.89E-05	5.52E-07	1.67E-03	4.17E-04
Naphthalene	1.30E-04	9.10E-07	2.75E-03	6.86E-04
Toluene	2.81E-04	1.97E-06	5.93E-03	1.48E-03
Xylenes	1.93E-04	1.35E-06	4.08E-03	1.02E-03
			3.15E-02	**7.88E-03**

1. Emission factors are from AP-42 Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines.

**Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Methodology

PTE (lb/hr) = Generator Size (HP) x Specific Pollutant Emission Factor (lb/HP-hr)
PTE (tons/yr) = Generator Size (HP) x Specific Pollutant Emission Factor (lb/HP-hr) x 1 ton/2000 lbs x 8760 hrs/yr

Emission Calculations
VOC and HAP Emissions
From Equipment Leaks

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Fugitive VOC Emissions:

Process Stream	Equipment Component Source	Product	Component Count	Emission Factor (lb/comp.-hr)	Uncontrolled Rate (lb/hr)	Uncontrolled Rate (ton/yr)	Subpart VVa Control Effectiveness	Controlled Rate (lb/hr)	TOC Weight (%)	Emitted Water (lb/hr)	Controlled TOC (lb/hr)	Controlled TOC (ton/yr)
EU019 - EU024 Distillation	Valves	Gas/Vapor	33	0.013134	0.43	1.90	92.00%	0.03	100.00%	0.000	0.035	0.152
	Valves	Light Liquid	271	0.008866	2.40	10.52	88.00%	0.29	100.00%	0.000	0.288	1.263
	Pump Seals	Light Liquid	7	0.04378	0.31	1.34	69.00%	0.10	100.00%	0.000	0.095	0.416
	Compressors	Gas/Vapor	0	0.5016	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	10	0.2288	2.29	10.02	92.00%	0.18	100.00%	0.000	0.183	0.802
	Sampling Connections	All	0	0.033	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0.00374	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Connectors	All	1194	0.004026	4.81	21.05	93.00%	0.34	100.00%	0.000	0.336	1.474
EU011 - EU018 Fermentation	Valves	Gas/Vapor	1	0.013134	0.01	0.06	92.00%	0.00	15.00%	0.001	0.000	0.001
	Valves	Heavy Liquid	137	0.000506	0.07	0.30	88.00%	0.01	15.00%	0.007	0.001	0.005
	Pump Seals	Heavy Liquid	7	0.01804	0.13	0.55	69.00%	0.04	15.00%	0.033	0.006	0.026
	Compressors	Gas/Vapor	0	0.5016	0.00	0.00		0.00	15.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	0	0.2288	0.00	0.00	92.00%	0.00	15.00%	0.000	0.000	0.000
	Sampling Connections	All	0	0.033	0.00	0.00		0.00	15.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0.00374	0.00	0.00		0.00	15.00%	0.000	0.000	0.000
	Connectors	All	443	0.004026	1.78	7.81	93.00%	0.12	15.00%	0.106	0.019	0.082
T002 , T005 Denaturant Tanks	Valves	Gas/Vapor	0	0.013134	0.00	0.00	92.00%	0.00	100.00%	0.000	0.000	0.000
	Valves	Light Liquid	40	0.0089	0.36	1.56	88.00%	0.04	100.00%	0.000	0.043	0.187
	Pump Seals	Light Liquid	2	0.04378	0.09	0.38	69.00%	0.03	100.00%	0.000	0.027	0.119
	Compressors	Gas/Vapor	0	0.5016	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	1	0.2288	0.23	1.00	92.00%	0.02	100.00%	0.000	0.018	0.080
	Sampling Connections	All	0	0.033	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0.00374	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Connectors	All	151	0.004026	0.61	2.66	93.00%	0.04	100.00%	0.000	0.043	0.186
T001, T003 - T004 Non-denaturant tanks (200-Proof Tanks)	Valves	Gas/Vapor	0	0.013134	0.00	0.00	92.00%	0.00	100.00%	0.000	0.000	0.000
	Valves	Light Liquid	160	0.0089	1.42	6.24	88.00%	0.17	100.00%	0.000	0.171	0.748
	Pump Seals	Light Liquid	5	0.04378	0.22	0.96	69.00%	0.07	100.00%	0.000	0.068	0.297
	Compressors	Gas/Vapor	0	0.5016	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	4	0.2288	0.92	4.01	92.00%	0.07	100.00%	0.000	0.073	0.321
	Sampling Connections	All	0	0.033	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0.00374	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Connectors	All	769	0.004026	3.10	13.56	93.00%	0.22	100.00%	0.000	0.217	0.949
	Totals				**19.16**	**83.94**		**1.77**		**0.15**	**1.62**	**7.11**

Methodology
* Component count provided by source.
** Emission factors are from Protocol for Equipment leak Emission Estimates, EPA-453/R-95-017. Table 2-1 and Table 5-2

Emission Calculations
VOC and HAP Emissions
From Equipment Leaks

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

2. Fugitive HAP Emissions:

Fugitive HAP Emissions (tons/yr) = Controlled TOC (tons/yr) x HAP Fraction

HAP	HAP Fraction	Fugitive HAP Emissions (lbs/hr)	Fugitive HAP Emissions (tons/yr)
Acetaldehyde	2.00E-04	3.25E-04	1.42E-03
Methanol	2.00E-04	3.25E-04	1.42E-03
Benzene	2.50E-03	4.06E-03	1.78E-02
Carbon Disulfide	2.00E-05	3.25E-05	1.42E-04
Cumene	1.00E-03	1.62E-03	7.11E-03
Ethylbenzene	5.00E-05	8.11E-05	3.55E-04
Formaldehyde	2.81E-05	4.56E-05	2.00E-04
n-Hexane	5.00E-02	8.11E-02	3.55E-01
Toluene	5.00E-03	8.11E-03	3.55E-02
Xylenes	5.00E-04	8.11E-04	3.55E-03
Total			**0.42**

Appendix A: Emission Calculations
VOC Emission Calculations
Tanks and Corn Oil Production

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

VOC Emission Calculations - Tanks T001 - T005, & T009

Emissions were calculated using the TANKS 4.0 Program.

Tank	Contents [1]	Annual Throughput (gal)	Capacity (gal)	No. of Turn Overs	Emissions		
					lb/year	lb/hr	Ton/year
T001	190-Proof Ethanol	84,210,526	250,000	336.8	743.85	0.08	0.37
T002	Denaturant	3,000,000	250,000	12.0	2807.99	0.32	1.40
T003	200-Proof Ethanol	86,000,000	2,000,000	43.0	618.88	0.07	0.31
T004	200-Proof Ethanol	86,000,000	2,000,000	43.0	618.88	0.07	0.31
T005	Denaturant	3,000,000	126,900	23.6	1687.79	0.19	0.84
T009	Small Gasoline Tank	15,600	300	52.0	385.44	0.04	0.19
	Total				6,862.83	0.78	3.43

[1] Assume:
190-Proof Ethanol is 100% ethyl alcohol in TANKS calculations.
Denaturant is 100% gasoline (RVP 13) in TANKS calculations.
200-Proof Ethanol is 100% ethyl alcohol in TANKS calculations.

Estimated Denaturant Usage		Estimated E85 Production	
6,000,000	gal/yr	10,400,000	gal/yr
16,438	gal/day	28,493	gal/day

Total amount meeting definition of "gasoline" under 40 CFR 63.11100: 44,932 gal/day

VOC Emission Calculations - Tanks EU040 - EU046

Emissions were calculated using the TANKS 4.0 Program.

Tank	Emission Unit ID	Contents	Annual Throughput	Capacity (gal)	Avg. Capacity	No. of Turn Overs	Emissions		
							lb/year	lb/hr	Ton/year
EU040 (T-552)	Defatted Syrup Tank	corn oil / defatted syrup	70,956,000	1,000	135	70,956	10.19	1.16E-03	5.10E-03
EU041 (T-553)	Emulsion Tank	corn oil / defatted syrup	42,048,000	1,000	80	42,048	6.05	6.91E-04	3.03E-03
EU042 (T-555)	Defatted Emulsion Tank	corn oil / defatted syrup	26,280,000	500	50	52,560	3.78	4.32E-04	1.89E-03
EU043 (T-556)	Oil Separation Tank	corn oil / defatted syrup	15,768,500	2,350	30	6,710	2.59	2.96E-04	1.30E-03
EU044 (T-557)	Oil Rundown Tank	corn oil / defatted syrup	7,884,000	200	15	39,420	1.13	1.29E-04	5.65E-04
EU045 (T-561)	Oil Storage Tank #1	corn oil / defatted syrup	2,628,000	30,000	15	263	0.34	3.88E-05	1.70E-04
EU046 (T-562)	Oil Storage Tank #2	corn oil / defatted syrup	2,628,000	30,000	15	263	0.34	3.88E-05	1.70E-04
		Total					**24.42**	**2.79E-03**	**1.22E-02**

Appendix A: Emission Calculations
VOC Emission Calculations
Tanks and Corn Oil Production

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Tank	Contents [1]	Benzene ton/yr	Hexane(-n) ton/yr	Toluene ton/yr	Acetaldehyde ton/yr	Methanol ton/yr	Formaldehyde ton/yr	Acrolein ton/yr	Total ton/yr
T001	190-Proof Ethanol	-	-	-	7.44E-05	7.85E-06	1.05E-05	5.21E-06	9.79E-05
T002	Denaturant	3.51E-03	7.02E-02	7.02E-03	2.81E-04	2.96E-05	3.95E-05	1.97E-05	8.11E-02
T003	200-Proof Ethanol	-	-	-	6.19E-05	6.53E-06	8.70E-06	4.33E-06	8.14E-05
T004	200-Proof Ethanol	-	-	-	6.19E-05	6.53E-06	8.70E-06	4.33E-06	8.14E-05
T005	Denaturant	2.11E-03	4.22E-02	4.22E-03	1.69E-04	1.78E-05	2.37E-05	1.18E-05	4.87E-02
T009	Gasoline	4.82E-04	9.64E-03	9.64E-04	3.85E-05	4.07E-06	5.42E-06	2.70E-06	1.11E-02
	Total	6.10E-03	1.22E-01	1.22E-02	6.86E-04	7.24E-05	9.64E-05	4.80E-05	1.41E-01
Note: Ethanol contains very small concentrations of HAP compounds including acetaldehyde, acrolein, methanol, and formaldehyde								**Total:**	**0.14**

Gasoline Wt Fraction

HAP	HAP Fraction*
Acetaldehyde **	2.00E-04
Acrolein	1.40E-05
Methanol	2.11E-05
Benzene	2.50E-03
Carbon Disulfide	2.00E-05
Cumene	1.00E-03
Ethylbenzene	5.00E-05
Formaldehyde	2.81E-05
n-Hexane	5.00E-02
Toluene	5.00E-03
Xylenes	5.00E-04

[1] Assume:
190-Proof Ethanol is 100% ethyl alcohol in TANKS calculations.
Denaturant is 100% gasoline (RVP 13) in TANKS calculations.
200-Proof Ethanol is 100% ethyl alcohol in TANKS calculations.

Appendix A: Emission Calculations
VOC and HAP Emissions
From Centrifuge Bypass

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Whole stillage is pumped to the centrifuges where the solids (wet cake) is separated from the liquid (thin stillage). A fraction of the residual VOC and HAP contained in the whole stillage is emitted from the centrifuges during the separation process. The centrifuges are normally vented to the RTO. Therefore, the emissions were assumed to be uncontrolled only during RTO downtime.

Emission data from a performance test completed on May 29th, 2003 for the centrifuge stack at POET Research Center (aka Broin Enterprises Ethanol) was used to calculate the potential to emit from Portland. Speciated compounds with non-detect results were assumed to be emitted at the listed detection limit. Emissions were ratioed based on two factors, the average ethanol content of the whole stillage (0.05 wt% at PRC) vs. the maximum whole stillage content (0.10 wt%) and whole stillage feed rate to the centrifuges.

Speciated VOC data from POET Research Center, Scotland, SD on May 29th, 2003.

Test Results	Run 1	Run 2	Run 3	Average	Maximum	Density	Max
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/gal	gal/hr
Ethanol	0.0073	0.0064	0.0142	0.0093	0.019	6.59	2.82E-03
Acetic Acid	0.0475	0.0438	0.0342	0.0418	0.084	8.76	9.55E-03
Lactic Acid	0.0021	0.0022	0.0022	0.0022	0.004	10.01	4.33E-04
Ethyl Acetate	0.0002	0.0002	0.0002	0.0002	0.000	7.51	5.33E-05
2-Furaldehyde	0.0002	0.0002	0.0002	0.0002	0.000	9.68	4.13E-05
Formic Acid	0.0042	0.0044	0.0045	0.0044	0.009	10.20	8.56E-04
Glycerol	0.0401	0.0419	0.0423	0.0414	0.083	10.50	7.89E-03
Formaldehyde	0.0002	0.0002	0.0002	0.0002	0.000	6.84	5.85E-05
Methanol	0.0004	0.0004	0.0004	0.0004	0.001	6.59	1.21E-04
Acetaldehyde	0.0028	0.0023	0.0015	0.0022	0.004	6.59	6.68E-04
Acrolein	0.0002	0.0002	0.0002	0.0002	0.000	7.00	5.71E-05
Total VOC				**0.1025**	**0.2050**		**0.0226**
Total HAP				**0.0030**	**0.0060**		

Process Rates =	Run 1	Run 2	Run 3	Average
	gpm	gpm	gpm	gpm
PRC 601 Centrifuge	42.33	42.66	42.39	42.46
PRC 603 Centrifuge	42.17	42.63	42.56	42.45
Total				**84.91**

1,000 gallons liquid per minute through centrifuges
60,000 gallons liquid per hour through centrifuges
525,600,000 gallons liquid per year through centrifuges
500 Limited RTO Bypass Condition hours per year [1]

	Uncontrolled Emissions		Controlled Emissions		Limited Emissions	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Total VOC	**2.41**	**10.57**	**0.05**	**0.21**	**2.41**	**0.60**
Formaldehyde	4.71E-03	0.02	9.42E-05	4.13E-04	4.71E-03	2.06E-02
Methanol	0.01	0.04	1.88E-04	8.25E-04	0.01	2.36E-03
Acetaldehyde	0.05	0.23	1.04E-03	4.54E-03	0.05	0.01
Acrolein	0.00	0.02	9.42E-05	4.13E-04	4.71E-03	1.18E-03
Total HAP	**0.07**	**0.31**	**1.41E-03**	**0.01**	**0.07**	**0.02**

Emissions Calculations

Potential VOC Emission Rate	**2.41**	**lb/hr**
Potential VOC Emission Rate	**10.57**	**ton/year**
VOC Controlled	**0.21**	**ton/year**
Limited VOC Emission Rate	**0.60**	**ton/year**

1. The centrifuges are normally vented to the RTO.

Appendix A: Emission Calculations
Corn Oil Centrifuges

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Syrup from the thin stillage evaporators is pumped to two centrifuges that operate in series. The first centrifuge, EU038, has a maximum capacity of 150 gpm and achieve primary separation of the corn oil from the syrup. The second centrifuge, EU039, has a maximum capacity of 30 gpm and achieve final separation of the corn oil from the residual syrup. Corn oil has a vapor pressure of 0.000305 psia at 200F. As a very conservative assumption, emissions were calcuated assuming that the syrup contained the same maximum concentration of residual ethanol and HAPs as the thin stillage.

The maximum VOC content was calculated using a "safety factor" of 1.5 was applied to the detected compounds (ethanol, acetaldehyde, and formaldehyde) and 50% of the detection limit was applied to non-detected coumpounds (methanol, and acrolien) to account for process variables.

Analytical Results (Sample Collected 4-17-15, Ashton, IA)

	Thin Stillage		Maximum VOC Content	
	mg/l		wt%	lb/gal
Ethanol		9	0.0014%	1.12E-04
Acetaldehyde		1.69	0.0003%	2.11E-05
Methanol	Non-detect @	10.0	0.0005%	4.17E-05
Formaldehyde		4.16	0.0006%	5.20E-05
Acrolein	Non-detect @	0.50	0.0000%	2.08E-06

2.29E-04

	Actual	MW	Moles	Mole Fraction	VP @ 180 F	Partial Pressure	Mole Fraction	Vapor	Mass Fraction
	lbs	lbs/lbmol		Liquid	mmHg	mmHg	Vapor	MW	Vapor
Ethanol	7.50E-05	46.1	1.63E-06	0.0004%	750	2.64E-03	0.001%	0.0003	0.002%
Acetaldehyde	1.41E-05	44.1	3.20E-07	0.0001%	750	5.18E-04	0.000%	0.0001	0.000%
Methanol	8.33E-05	32	2.60E-06	0.0006%	750	4.22E-03	0.001%	0.0003	0.002%
Formaldehyde	3.47E-05	30	1.16E-06	0.0002%	750	1.87E-03	0.000%	0.0001	0.001%
Acrolein	4.17E-06	56.1	7.43E-08	0.0000%	210	3.37E-05	0.000%	0.0000	0.000%
Water	8.33	18	4.63E-01	99.9988%	395	3.95E+02	99.998%	17.9996	99.995%
	8.33		**4.63E-01**	**100%**		**3.95E+02**	**100%**	**18.0**	**100%**

Appendix A: Emission Calculations
Corn Oil Centrifuges

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

Given:
Surface evaporation from centrifuge due to mixing.

Ex = B* {Mx * Kx * A * Px * 3600 * H} / {R * T)
Where:
Ex = Emissions of VOC species
Mx = Molecular weight of VOC species X (lb/lbmole)
Kx = Gas Phase mass transfer coefficient of VOC species x (ft/sec)
A = Surface area of tank (ft2)
Px = Vapor pressure of VOC x (psia)
3600 = 3600 seconds per hour
H = Batch time (hours)
R = Universal gas constant (10.73 psia ft3/lb mole R)
T = Temperature of the liquid (R)
B = Batch Number

H =	0.02	hours	Residence time in centrifuge is less than 1 minute.
B =	1	batch	
R =	10.73		
T =	200.0	^{o}F	
T =	639.7	^{o}R	
A =	3.14	ft^2	Used 2 ft Diameter for surface area as a conservative assumption for mixing surface.
Batch Size	234		

Species	Mx	Px		Emissions
	lb/lbmol	psia	Kx	lbs/gallon
Ethanol	46.1	0.003	0.000532	7.59E-09
Acetaldehyde	44.1	0.001	0.000540	1.45E-09
Methanol	32.0	0.004	0.000601	9.52E-09
Formaldehyde	30.0	0.002	0.000614	4.05E-09
Acrolein	56.1	0.000	0.000499	1.11E-10
Water	18.0	394.995	0.000728	6.07E-04

Proces Rates =

180	gpm	Max flowrate
10,800	gal/hr	

	Emission Rate		
	lb/hr	lb/year	tpy
Ethanol	8.19E-05	0.72	6.84E-05
Acetaldehyde	1.56E-05	0.14	4.50E-04
Methanol	1.03E-04	0.90	1.91E-04
Formaldehyde	4.37E-05	0.38	5.23E-06
Acrolein	1.19E-06	0.01	0.00E+00
Total VOC	**2.5E-04**	**2.15**	**7.2E-04**
Total HAP	**1.6E-04**	**1.43**	**6.5E-04**

Appendix A: Emission Calculations
VOC and HAP Emissions
From Wet Cake Production

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

1. Process Description:
Wet cake production, storage and loadout

Wet cake production storage and loadout is a source of VOC and HAP emissions because the wet cake contains a small quantity of ethanol and HAPs. This source is not controlled. The emission factors for this process come from emissions testing at a similar facility. The operation of the dryers and DDGS cooler represent the "worst case" emission scenario and thus are presented in the potential to emit summary.

Capacity = 73.0 ton/hr maximum dryer feed rate

	VOC	Acetaldehyde	Methanol	Formaldehyde	Acrolein	Total HAPs
Emission Factor* (lb/ton wet cake)	0.00830	0.00010	0.000040	0.00020	0.000020	
lb/hr	0.6059	0.0073	0.0029	0.0146	0.0015	
Ton/yr	**2.6538**	**0.0320**	**0.0128**	**0.0639**	**0.0064**	**0.1151**

* Emission Factors provided by the source based on the stack test results for DENCO, LLC in Morris, MN.

Methodology
PTE (tons/yr) = Max. Throughput Rate (tons/hr) x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
Particulate Emission Limitations for Manufacturing Processes (326 IAC 6-3-2)

Company Name: POET Biorefining - Portland, LLC
Address: 1542 South 200 West, Portland, IN 47371
Significant Source Modification No.: 075-37200-00032
Significant Permit Modification No.: 075-37214-00032
Reviewer: Kristen Willoughby

		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)
CE001	Grain Receiving (EU001), Conveyors (EU002), Storage Bins (EU003)	1,680,000	840	-	75.4
CE001	DDGS Loadout Operations (EU032-EU035)	440,000	220	-	59.5
CE002	Corn Scalper (EU004), Surge Bin (EU005)	280,000	140	-	54.7
CE003	Hammermill #1 (EU006)	40,000	20	30.5	-
CE004	Hammermill #2 (EU007)	40,000	20	30.5	-
CE005	Hammermill #3 (EU008)	40,000	20	30.5	-
CE006	Hammermill #4 (EU009)	40,000	20	30.5	-
CE007	Hammermill #5 (EU010)	40,000	20	30.5	-
CE008,	Conveyors (EU002b), Storage Bins (EU003b)	1,680,000	840	-	75.4
CE009,	Conveyors (EU002b), Storage Bins (EU003b)	1,680,000	840	-	75.4
CE010	Conveyors (EU002b), Storage Bins (EU003b)	1,680,000	840	-	75.4
CE011	DDGS Silo Loading (EU030)	52,000	26	36.4	-
CE012	DDGS Silo Bypass (EU031)	52,000	26	36.4	-
CE013 & CE014 and CE009	RTO Stack & DDGS Dryers (EU025 & EU026)	54,000	27	37.3	-
CE010	DDG Fluid Bed Cooler (EU029)	54,000	27	37.3	-

(c) This rule shall not apply if a particulate matter limitation established in one of the following is more stringent than the particulate limitation established in this rule:
(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.

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

August 12, 2016

Mr. Matt Clamme
POET Biorefining – Portland, LLC
1542 South 200 West
Portland, IN 47371

Re: Public Notice
POET Biorefining – Portland, LLC
Permit Level: Title V Significant Source Modification and Significant Permit Modification
Permit Number: 075-37200-00032 and 075-37214-00032

Dear Mr. Clamme:

Enclosed is a copy of your draft Title V Significant Source Modification and Significant Permit Modification, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Commercial Review in Portland, Indiana publish the abbreviated version of the public notice no later than August 16, 2016. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Jay County Public Library, 315 North Ship Street in Portland, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Kristen Willoughby, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-3031 or dial (317) 233-3031.

Sincerely,

Vivian Haun

Vivian Haun
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

August 11, 2016

Commercial Review
309 West Main Street
PO Box 1049
Portland, IN 47371

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for POET Biorefining – Portland, LLC, Jay County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than August 16, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Vivian Haun at 800-451-6027 and ask for extension 3-6878 or dial 317-233-6878.

Sincerely,

Vivian Haun

Vivian Haun
Permit Branch
Office of Air Quality

Permit Level: Title V Significant Source Modification and Significant Permit Modification
Permit Number: 075-37200-00032 and 075-37214-00032

Enclosure
PN Newspaper.dot 8/27/2015

Indiana Department of Environmental Management
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Michael R. Pence
Governor

Carol S. Comer
Commissioner

August 12, 2016

To: Jay County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: POET Biorefining – Portland, LLC
Permit Number: 075-37200-00032 and 075-37214-00032

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

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. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library.dot 2/16/2016

Indiana Department of Environmental Management
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100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

Notice of Public Comment

August 12, 2016
POET Biorefining – Portland, LLC
075-37200-00032 and 075-37214-00032

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover.dot 2/17/2016

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

August 12, 2016

A 30-day public comment period has been initiated for:

Permit Number: **075-37200-00032 and 075-37214-00032**
Applicant Name: **POET Biorefining – Portland, LLC**
Location: **Portland, Jay County, Indiana**

The public notice, draft permit and technical support documents can be accessed via the **IDEM Air Permits Online** site at:
http://www.in.gov/ai/appfiles/idem-caats/

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.

Mail Code 61-53

IDEM Staff	VHAUN 8/12/2016 POET Biorefining - Portland 075-37200 and 37214-00032 DRAFT			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		Matt Clamme POET Biorefining - Portland 1542 S 200 W Portland IN 47371 (Source CAATS)									
2		Matt Tomano General Manager POET Biorefining - Portland 1542 S 200 W Portland IN 47371 *(RO CAATS)*									
3		Jay County Commissioners Jay County Courthouse Portland IN 47371 *(Local Official)*									
4		Portland City Council and Mayors Office 321 N. Meridian Portland IN 47371 *(Local Official)*									
5		Jay County Public Library 315 N. Ship Street Portland IN 47371 *(Library)*									
6		Jay County Health Department 504 West Arch Street Portland IN 47371 *(Health Department)*									
7		Mr. John Williams LASER and Neighbors for Good Neighbors 19815 NW Nestucca Dr. Portland OR 97229 *(Affected Party)*									
8		Chris White AECOM 800 LaSalle Avenue, Suite 500 Minneapolis MN 55402 *(Consultant)*									
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Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	
8			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