



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

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

for POET Biorefining - North Manchester, LLC in Wabash County

Significant Source Modification No.: 169-37113-00068

Significant Permit Modification No.: 169-37123-00068

The Indiana Department of Environmental Management (IDEM) has received an application from POET Biorefining - North Manchester, LLC, located at 868 East 800 North, North Manchester, IN 46962, for a significant modification of its Part 70 Operating Permit issued on August 2, 2012. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow POET Biorefining - North Manchester, LLC to make certain changes at its existing source. POET Biorefining - North Manchester, LLC has applied to do the following:

- (1) Construction and operation of fermenter (EU047), which will increase the capacity downstream due to the increase in yield on the available starch contained within the grain received and processed.
- (2) Increase production and loadout of denatured ethanol from 83,150,000 to 86,000,000 gallons per year.
- (3) Increase beer flow through distillation from 57,000 to 60,000 gallons per hour.
- (4) Increase flow rate at the cooling tower from 26,000 to 30,000 gallons per minute.
- (5) Increase fugitive emissions from the new kettle style vaporizer used in the distillation process.
- (6) Increase in throughput of the DDGS handling (DDGS Dryers – EU025 and EU026, DDGS Fluid Bed Cooler – EU029, DDGS Storage Silo - EU030, DDGS Silo Bypass – EU031, and DDGS Storage Building – EU032) maximum throughput rate from 26 tons per hour to 29 tons per hour.

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:

North Manchester Public Library
405 North Market Street
North Manchester, IN 46962

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 169-37113-00068 and SPM 169-37123-00068 in all correspondence.

Comments should be sent to:

Thomas Olmstead
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 3-9664
Or dial directly: (317) 233-9664
Fax: (317) 232-6749 attn: Thomas Olmstead
E-mail: tolmstea@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 Thomas Olmstead of my staff at the above address.

A handwritten signature in black ink, appearing to read 'Jenny Acker', written in a cursive style.

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality



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Mr. Keith Caudill
POET Biorefining - North Manchester, LLC
868 East 800 North
North Manchester, IN 46962

Re: 169-37113-00068
Significant Source Modification

Dear Mr. Caudill:

POET Biorefining - North Manchester, LLC was issued Part 70 Operating Permit No. T169-31191-00068 on August 2, 2012 for a stationary ethanol production plant located at 868 East 800 North, North Manchester, IN 46962. An application to modify the source was received on April 22, 2016. Pursuant to the provisions of 326 IAC 2-7-10.5, a Significant Source Modification is hereby approved as described in the attached Technical Support Document.

Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

- (a) One (1) fermentation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 60,000 gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.
 - (2) One (1) fermenter, identified as EU047, approved in 2016 for construction.
 - (3) One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.
 - (4) One (1) beer well, identified as EU018, approved in 2007 for construction.
- (b) One (1) distillation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum input feed 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:
 - (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
 - (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
 - (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.

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- (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
- (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 for construction.
- (c) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2007 for construction and approved in 2016 for modification, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum throughput rate of 78 tons of wetcake per hour, and an output of 29 tons of DDGS produced per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to thermal oxidizer CE009, and exhausting to stack SV009.
- (d) One (1) fluidized DDGS cooler, identified as EU029, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, controlled by baghouse CE010, exhausting to the DDGS Dryers (EU025 and EU026), and equipped with bypass stack SV010, exhausting to atmosphere.
- (e) One (1) DDGS handling and storage operation, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, and consisting of the following:
 - (1) One (1) DDGS storage silo, identified as EU030, approved in 2007 for construction, controlled by baghouse CE011, with emissions exhausted to stack SV011.
 - (2) One (1) DDGS silo bypass, identified as EU031, approved in 2007 for construction, controlled by baghouse CE012, with emissions exhausted to stack SV012.
 - (3) One (1) DDGS storage building, identified as EU032, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.

The following construction conditions are applicable to the proposed modification:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

Commenced Construction

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(j), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of

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this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Approval to Construct

6. Pursuant to 326 IAC 2-7-10.5(h)(2), this Significant Source Modification authorizes the construction of the new emission unit(s), when the Significant Source Modification has been issued.

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

Pursuant to 326 IAC 2-7-12, operation of the new emission unit(s) is not approved until the Significant Permit Modification has been issued. Operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification in accordance with 326 IAC 2-7-10.5(m)(2) and 326 IAC 2-7-12 (Permit Modification).

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

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

If you have any questions on this matter, please contact Thomas Olmstead, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-233-9664 or 1-800-451-6027, and ask for extension 3-9664.

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

Attachments: Significant Source Modification and Technical Support Document

cc: File - Wabash County
Wabash County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch



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Significant Source Modification to a Part 70 Source

OFFICE OF AIR QUALITY

**POET Biorefining - North Manchester, LLC
868 East 800 North
North Manchester, Indiana 46962**

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

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

This permit also addresses certain new source review requirements for new and/or existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

Significant Source Modification No.: T169-37113-00068

Issued by:

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

Issuance Date:

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SECTION A

SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(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:	868 East 800 North, North Manchester, Indiana 46962
General Source Phone Number:	(260) 774-3532
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:	Wabash
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, approved in 2007 for construction, controlled by baghouse CE001, exhausting through stack SV001, and consisting of the following:
 - (1) Two (2) truck dump pits and one (1) rail dump pit, identified as EU001, approved in 2007 for construction, with a maximum throughput rate of 840 tons of corn per hour.
 - (2) Two (2) grain legs and conveying system, identified as EU002, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour.
 - (3) Four (4) grain bins, identified as EU003, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour. Three (3) of these grain bins have the capacity to store up to 674,600 bushels each. The fourth bin has a capacity of 53,000 bushels for a total storage capacity of 2,076,800 bushels.
- (b) One (1) corn transfer conveyor system, identified as EU004, approved in 2007 for construction, with a maximum throughput rate of 140 tons of corn per hour, controlled by baghouse CE002, and exhausting through stack SV002.

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- (c) One (1) surge bin, identified as EU005, approved in 2007 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 2007 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 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 60,000 gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.
 - (2) One (1) fermenter, identified as EU047, approved in 2016 for construction.
 - (3) One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.
 - (4) One (1) beer well, identified as EU018, approved in 2007 for construction.
- 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 2007 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 2007 for construction and approved in 2016 for modification, with a maximum input feed 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:
 - (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
 - (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
 - (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
 - (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
 - (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 for construction.

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

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- (h) One (1) set of four (4) centrifuges, identified as EU024, approved in 2007 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through stack SV009. When DDGS is not being produced, emissions from EU024 are exhausted through bypass stack SV017.
- (i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2007 for construction and approved in 2016 for modification, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum throughput rate of 78 tons of wetcake per hour, and an output of 29 tons of DDGS produced per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to thermal oxidizer CE009, and exhausting to stack SV009.
- (j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2007 for construction, each with a maximum heat input rate of 143 MMBtu/hr each, with emissions exhausting to stacks SV013 and SV014, respectively.

Under 40 CFR, Subpart Db, the two (2) boilers are new steam generating units.

- (k) One (1) fluidized DDGS cooler, identified as EU029, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, controlled by baghouse CE010, exhausting to the DDGS Dryers (EU025 and EU026), and equipped with bypass stack SV010, exhausting to atmosphere.
- (l) One (1) DDGS handling and storage operation, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, and consisting of the following:
 - (1) One (1) DDGS storage silo, identified as EU030, approved in 2007 for construction, controlled by baghouse CE011, with emissions exhausted to stack SV011.
 - (2) One (1) DDGS silo bypass, identified as EU031, approved in 2007 for construction, controlled by baghouse CE012, with emissions exhausted to stack SV012.
 - (3) One (1) DDGS storage building, identified as EU032, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
- (m) One (1) DDGS loadout operation, approved in 2007 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 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
 - (2) One (1) DDGS truck loadout spout, identified as EU034, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
 - (3) One (1) DDGS rail loadout spout, identified as EU035, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
- (n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, with a maximum throughput rate of 39,000 gallons per hour when loading trucks, and 144,000 gallons per

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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 2007 for construction, with a maximum power output rate of 2,640 HP, and exhausting to stack SV015.

Under NSPS, Subpart IIII, this unit is an affected source.

Under NESHAP, Subpart ZZZZ, 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.
- (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. During wetcake production, emissions from EU038 and EU039 are exhausted through a pressure relief vent.
- (c) Storage Tanks:
 - (1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2007 for construction, with a maximum capacity of 250,000 gallons.
 - (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of natural gasoline.
 - (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
 - (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
 - (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 2,200 gallons per year.

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

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- (e) Vapor collection-equipped gasoline cargo tanks.

A.4 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:

- (a) Solvent recycling systems with batch capacity less than or equal to 100 gallons.
- (b) Forced and induced draft cooling tower system not regulated under a NESHAP. The cooling tower has a maximum throughput 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, NO_x, and SO₂ 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 2007 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 2007 for construction, with a maximum storage capacity of 500,000 gallons of thin stillage.
 - (3) One (1) syrup tank, identified as T008, approved in 2007 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 2007 for construction.

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);

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- (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).

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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, T169-31191-00068, 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:

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- (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.

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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:

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- (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.

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- (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;

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- (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 T169-31191-00068 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)]

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- (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

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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

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- (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;

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- (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

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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.

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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 A. 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.

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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.

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- (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)]

- (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

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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.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.

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- (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 [326 IAC 2-7-5][326 IAC 2-7-6]

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

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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]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 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:

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- (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]

- (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.
- (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.

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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.

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SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) grain receiving and handling operation, approved in 2007 for construction, controlled by baghouse CE001, exhausting through stack SV001, and consisting of the following:
 - (1) Two (2) truck dump pits and one (1) rail dump pit, identified as EU001, approved in 2007 for construction, with a maximum throughput rate of 840 tons of corn per hour.
 - (2) Two (2) grain legs and conveying system, identified as EU002, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour.
 - (3) Four (4) grain bins, identified as EU003, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour. Three (3) of these grain bins have the capacity to store up to 674,600 bushels each. The fourth bin has a capacity of 53,000 bushels for a total storage capacity of 2,076,800 bushels.
- (b) One (1) corn transfer conveyor system, identified as EU004, approved in 2007 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 2007 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 2007 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 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, and consisting of the following:
 - (1) One (1) DDGS storage silo, identified as EU030, approved in 2007 for construction, controlled by baghouse CE011, with emissions exhausted to stack SV011.
 - (2) One (1) DDGS silo bypass, identified as EU031, approved in 2007 for construction, controlled by baghouse CE012, with emissions exhausted to stack SV012.
 - (3) One (1) DDGS storage building, identified as EU032, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
- (m) One (1) DDGS loadout operation, approved in 2007 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 2007 for

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	construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
(2)	One (1) DDGS truck loadout spout, identified as EU034, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
(3)	One (1) DDGS rail loadout spout, identified as EU035, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)	

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

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the PM, PM₁₀, and PM_{2.5}, emissions shall not exceed the following:

Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM ₁₀ Emission Limit (lbs/hr)	PM _{2.5} Emission Limit (lbs/hr)
EU001, EU002, EU003	Grain Receiving, Conveyors, and Storage Bins	CE001	5.47 (combined)	5.76 (combined)	5.87 (combined)
EU004, EU005	Corn Scalper, Surge Bin	CE002	0.40 (combined)	0.42 (combined)	--
EU006	Hammermill #1	CE003	1.65	1.74	1.77
EU007	Hammermill #2	CE004	1.65	1.74	1.77
EU008	Hammermill #3	CE005	1.65	1.74	1.77
EU009	Hammermill #4	CE006	1.65	1.74	1.77
EU010	Hammermill #5	CE007	1.65	1.74	1.77
EU030	DDGS Silo Loading	CE011	0.56	0.59	--
EU031	DDGS Silo Bypass	CE012	0.60	0.63	--
EU032, EU033, EU035	DDGS conveying, storage, and loadout	CE016	1.37 (combined)	1.44 (combined)	1.44 (combined)

Compliance with these limits, the limits in Conditions D.2.1(a)(1), D.2.1(a)(2), D.2.1(a)(3), D.2.1(b)(1), D.2.1(b)(2), and D.2.1(b)(3), and the unrestricted PM, PM₁₀, and PM_{2.5} emissions from all other emission units shall limit the PM, PM₁₀, and PM_{2.5} emissions from the entire source to less than two hundred fifty (250) tons per year, each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the grain receiving and DDGS handling operations.

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 following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU001, EU002, EU003	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

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Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU009	Hammermill #4	20	30.5
EU010	Hammermill #5	20	30.5
EU030	DDGS Silo Loading	29	39.1
EU031	DDGS Silo Bypass	29	39.1
EU032	DDGS Storage Building	29	39.1
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:

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

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:

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

Pursuant to 326 IAC 6-3-2(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 preventive maintenance plan required by this condition.

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

D.1.4 Particulate Control

In order to ensure compliance with Conditions D.1.1 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, EU002, EU003	Grain Receiving, Conveyors, and Storage Bins	CE001
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

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Unit ID	Unit Description	Baghouse ID
EU032, EU033, EU035	DDGS conveying, storage, and loadout	CE016

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 and D.1.2, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing for:

- (a) one (1) of the following baghouses: CE001 through CE007 and CE016, and
- (b) one (1) of the following baghouses: CE011 and CE012,

utilizing methods as approved by the Commissioner. These tests shall be repeated on a different baghouse at least once every five (5) years from the date of the last valid compliance demonstration. Testing on a baghouse shall not be repeated until each baghouse in the respective groups 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. PM₁₀ and PM_{2.5} includes filterable and condensable particulate matter.

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, and SV018) 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.1.7 Broken or Failed Bag Detection - Single Compartment Baghouses

- (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

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

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

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

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

D.1.8 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.6, the Permittee shall maintain a daily record of 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 record keeping requirements of this requirement.

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SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (e) One (1) fermentation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 60,000 gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.
- (2) One (1) fermenter, identified as EU047, approved in 2016 for construction.
- (3) One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.
- (4) One (1) beer well, identified as EU018, approved in 2007 for construction.

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 2007 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 2007 for construction and approved in 2016 for modification, with a maximum input feed 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

- (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
- (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
- (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
- (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
- (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 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) centrifuges, identified as EU024, approved in 2007 for construction, controlled by regenerative thermal oxidizer (RTO) CE009, with emissions

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exhausted through stack SV009. When DDGS is not being produced, emissions from EU024 are exhausted through bypass stack SV017.

- (i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2007 for construction and approved in 2016 for modification, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum throughput rate of 78 tons of wetcake per hour, and an output of 29 tons of DDGS produced per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to thermal oxidizer CE009, and exhausting to stack SV009.
- (k) One (1) fluidized DDGS cooler, identified as EU029, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, controlled by baghouse CE010, exhausting to the DDGS Dryers (EU025 and EU026), and equipped with bypass stack SV010, exhausting to atmosphere.

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. During wetcake production, emissions from EU038 and EU039 are exhausted through a pressure relief vent.

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

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

D.2.1 PSD and HAP Minor Limits [326 IAC 2-2][326 IAC 2-4.1][40 CFR 63]

The Permittee shall comply with the following emission limits for the RTO system (CE009) and Scrubber (CE008), and the DDGS Cooler (EU029):

- (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 DDGS is being produced, the set of four centrifuges. The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:
 - (1) PM emissions shall not exceed 26.64 lbs/hr.
 - (2) PM₁₀ emissions shall not exceed 29.70 lbs/hr.
 - (3) PM_{2.5} emissions shall not exceed 28.40 lbs/hr.
 - (4) VOC emissions shall not exceed 39.49 lbs/hr.
 - (5) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
 - (6) Methanol emissions shall not exceed 1.75 lbs/hr.
 - (7) Acrolein emissions shall not exceed 0.21 lbs/hr.
 - (8) Total HAP emissions shall not exceed 3.73 lbs/hr.
- (b) Alternative Operating Scenario No. 1 (AOS1)

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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 DDGS is being produced, the set of four centrifuges. The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

- (1) PM emissions shall not exceed 26.64 lbs/hr.
 - (2) PM₁₀ emissions shall not exceed 29.70 lbs/hr.
 - (3) PM_{2.5} emissions shall not exceed 28.40 lbs/hr.
 - (4) VOC emissions shall not exceed 39.49 lbs/hr.
 - (5) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
 - (6) Methanol emissions shall not exceed 1.75 lbs/hr.
 - (7) Acrolein emissions shall not exceed 0.21 lbs/hr.
 - (8) Total HAP emissions shall not exceed 3.73 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 shall continue to control the VOC emissions for the fermentation and distillation processes, during the periods when the RTO is down. The RTO downtime shall not exceed more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.
 - (2) VOC emissions from the scrubber (CE008) shall not exceed 84.21 pounds per hour.
 - (3) Acetaldehyde emissions from the scrubber (CE008) shall not exceed 5.60 lbs/hr.
 - (4) Total HAP emissions from the scrubber (CE008) shall not exceed 5.72 lbs/hr.
- (d) The Permittee shall comply with the following emission limits for the DDGS cooler (EU029):
- (1) VOC emissions from the DDGS cooler (EU029) bypass stack exhaust SV010, shall not exceed 5.685 lbs/hr.
 - (2) Acetaldehyde emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 1.61 lbs/hr.
 - (3) Total HAP emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 2.22 lbs/hr.
 - (4) The DDGS Cooler (EU029) shall not vent to atmosphere more than two hundred (200) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit PM, PM₁₀, PM_{2.5}, and VOC from all other emission units at the source, shall limit the source-wide potential to emit of PM,

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PM₁₀, PM_{2.5}, and VOC to less than two hundred fifty (250) tons per year, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits, combined with the potential to emit HAP from all other emission units at the source, shall limit HAP emissions from the entire source to less than ten (10) tons per year of any single HAP, and less than twenty-five (25) tons per year of total HAP. Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are rendered not applicable to the fermentation and distillation processes and the DDGS dryers (EU025 and EU026), 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 comply with the following:

- (a) Fermentation and Distillation Process
 - (1) The VOC emissions from the fermentation and distillation process shall be controlled by either the scrubber CE008 or the regenerative thermal oxidizer CE009 or a combination of both the scrubber CE008 and RTO system CE009.
 - (2) The overall efficiency for the scrubber CE008 and regenerative thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) of not less than 98%, or resulting in a volatile organic compound concentration of not more than 10 ppmv.
 - (3) The overall efficiency for the scrubber CE008 (including the capture efficiency and destruction efficiency) of not less than 98%, or resulting in a volatile organic compound concentration of not more than 20 ppmv.
 - (4) The overall efficiency for the regenerative thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) of not less than 98%, or resulting in a volatile organic compound concentration of not more than 10 ppmv.
- (b) DDGS dryers
 - (1) The VOC emissions from the DDGS dryers (EU025 and EU026) shall be controlled by regenerative thermal oxidizer CE009.
 - (2) The overall efficiency for the regenerative thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) of not less than 98%, or resulting in a volatile organic compound concentration of not more than 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	78.0	48.8
EU026	DDGS Dryer	78.0	48.8
EU029	DDGS Cooler	29.0	39.1

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

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

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

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:

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

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),
- (i) the regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from the DDGS dryers (EU025 and EU026) at all times that the dryers are in operation, and, when DDGS is being produced, the set of four centrifuges.
 - (ii) 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 are in operation.
- (b) When operating under AOS1:
In order to assure compliance with D.2.1(b), when the scrubber CE008 is down, emissions from the fermentation and distillation processes, the DDGS dryers (EU025 and EU026), and, when DDGS is being produced, the set of four centrifuges shall be controlled by the RTO CE009 at all times that these processes are in operation.
- (c) When operating under AOS2:
In order to assure compliance with D.2.1(c), when the regenerative thermal oxidizer (RTO) CE009 is down, emissions from the fermentation and distillation processes shall be controlled by the scrubber CE008 at all times that these processes are in operation.
- (d) In order to assure compliance with Condition D.2.1(d), the regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from the DDGS Cooler (EU029) at all times that the cooler is in operation, except for the two hundred (200) hours per twelve (12) consecutive month period when the DDGS Cooler (EU029) vents to the atmosphere.
- (e) In order to assure compliance with Condition D.2.2 the regenerative thermal oxidizer (RTO) CE009 and/or the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes, and the DDGS dryers at all times these processes are in operation.

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D.2.6 Particulate Control

In order to assure compliance with Condition D.2.3, Baghouse CE010 shall be in operation and control emissions from the DDGS cooler (EU029) at all times that this unit is in operation.

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

D.2.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

- (a) In order to demonstrate compliance with Conditions D.2.1(a), D.2.2, and D.2.3, when both the RTO (CE009) and scrubber (CE008) control emissions from the fermentation and distillation processes, DDGS dryers, and four (4) centrifuges (EU024), the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), and Acetaldehyde testing for the RTO system stack (SV009), 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. PM10 and PM2.5 includes filterable and condensable 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. Note: During the test, the DDGS cooler shall be venting to the DDGS dryers.
- (b) In order to demonstrate compliance with Conditions D.2.1(b), D.2.2, and D.2.3, the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), and Acetaldehyde testing for the RTO system (CE009) with the fermentation and distillation processes, DDGS dryers, and four (4) centrifuges (EU024) all exhausting to the RTO without the scrubber (CE008) operating, 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. PM10 and PM2.5 includes filterable and condensable 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. Note: During the test, the DDGS cooler shall be venting to the DDGS dryers.
- (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), utilizing methods approved by the Commissioner. These tests shall be performed without the RTO operating and 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 the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
- (d) In order to demonstrate compliance with Condition D.2.1(d), the Permittee shall perform VOC, and Acetaldehyde testing for the DDGS cooler (EU029) baghouse bypass stack (SV010), utilizing methods as approved by the Commissioner. 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

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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.2.8 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust from the RTO system stack (SV009) and the DDGS Cooler baghouse stack exhaust (stack SV010) 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.2.9 Regenerative 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 most recent 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 regenerative thermal oxidizers at or above the 3-hour average temperature as observed during the compliant stack test.
- (d) If the 3-hour average temperature falls below the above mentioned 3-hour average temperature, 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.2.10 Parametric Monitoring [326 IAC 8-5-6]

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the RTO system (CE009) for measuring the duct pressure or fan amperage. For the purpose

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of this condition, continuous means no less often 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 appropriate 3-hour average 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 3-hour average 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.
- (c) On and after the date the stack test results are available, the 3-hour average duct pressure or fan amperage shall be maintained within the 3-hour average normal range as established in latest compliant stack test.
- (d) When, for any one reading, the 3-hour average duct pressure or fan amperage is outside the above mention 3-hour average ranges, 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. Failure to take response steps shall be considered a deviation from this permit.

D.2.11 Scrubber Pressure Drop and Water 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 associated processes are in operation.
- (b) 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 and D.2.2.
- 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 and D.2.2.
- (c) 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.
- (d) When for any one reading, the water flow rate is below the above mentioned minimum, 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.
- (e) The Permittee shall monitor and record the pressure drop across the scrubber (CE008) at least once per day when the associated processes are 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 1.0 and 12.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

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- (f) 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.2.12 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

- (a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process will 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 scrubber 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).

D.2.13 Broken or Failed Bag Detection - Single Compartment Baghouses

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

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

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

D.2.14 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.1(c)(1), 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.2.8, the Permittee shall maintain a daily record of visible emission notations of the RTO system stack (SV009) and the DDGS Cooler baghouse stack exhaust (stack SV010). 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.2.9, 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

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test.

- (d) To document the compliance status with Condition D.2.10, the Permittee shall maintain continuous duct pressure or fan amperage records for the RTO system (CE009) and the 3-hour average duct pressure or fan amperage used to demonstrate compliance during the most recent compliant stack test.
- (e) To document the compliance status with Conditions D.2.1(d)(4), the Permittee shall maintain monthly records of the number of hours the fluidized DDGS cooler (EU029) exhausts to the atmosphere.
- (f) To document the compliance status with Condition D.2.11, the Permittee shall maintain a daily record of pressure drop and water flow rate for scrubber CE008. The Permittee shall include in its daily record whether the system is operating under AOS2. The Permittee shall include in its daily record when the readings are not taken and the reason for the lack of the readings (e.g., the process did not operate that day).
- (g) Documentation of the dates, including the time, the system is operating under AOS1 or AOS2.
- (h) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

D.2.15 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.2.1(c)(1) and D.2.1(d)(4), shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2007 for construction, each with a maximum heat input rate of 143 MMBtu/hr each, with emissions exhausting to stacks SV013 and SV014, respectively.

Under 40 CFR, Subpart Db, the two (2) boilers are new steam generating units.

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

Emission Limitations and Standards [326 IAC 2-7-5(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) CO emissions from the boilers shall not exceed 20 pounds per MMCF.
(b) NO_x emissions from each boiler shall not exceed 30 pounds per MMCF.

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, each. 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), the PM emissions from the boilers shall not exceed 0.25 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 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.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 O₂ or CO₂ 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.

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- (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.3.1, the Permittee shall maintain records of all NO_x and O₂ or CO₂ 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).

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SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, 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.

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

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

D.4.1 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6, 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.4.2 HAP Minor Limits [326 IAC 2-4.1][40 CFR 63]

- (a) The total combined denatured ethanol and E-85 loadout 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 E-85 loadout from the ethanol loading rack EU036 shall not exceed 10,060,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The Permittee shall use flare CE015 to control the emissions from the ethanol loading rack (EU036).
- (d) The ethanol loading rack shall utilize submerged loading method when loading trucks and railcars.
- (e) The railcars and trucks shall not use vapor balance services during ethanol loading.
- (f) The flare CE015 shall be designed as a smokeless flare.
- (g) Hexane emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 0.79 lbs/hr.
- (h) Total HAP emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 1.00 lbs/hr.

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Compliance with these limits, the limits in Condition D.2.1, and the unrestricted HAP PTE from all other emission units shall limit the HAP emissions from the entire source to less than 10 tons per year of any single HAP, and less than twenty-five (25) tons per year of total HAPs. Therefore, the requirements of 326 IAC 2-4.1 (MACT) are not applicable to the ethanol loading rack, and the entire source is rendered an area source of HAP emissions under 40 CFR 63.

D.4.3 PSD Minor Limit [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:

VOC emissions from the ethanol loading system (EU036) shall not exceed 4.17 lbs/hr.

Compliance with this limit, the limits in Conditions D.2.1(a)(4), D.2.1(b)(4), D.2.1(c)(2), D.4.2(a), and D.4.2(b), and the unrestricted VOC emissions from all other emission units shall limit the VOC emissions from the entire source to less than two hundred fifty (250) tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the ethanol loading rack (EU036).

D.4.4 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.4.5 VOC Control

In order to ensure compliance with Condition D.4.1, 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.4.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.4.1, D.4.2, and D.4.3, the Permittee shall perform VOC and hexane (including emission rate, destruction efficiency, and capture efficiency) 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 this 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.4.7 Flare Pilot Flame [326 IAC 8-5-6]

In order to ensure compliance with Conditions D.4.1 and D.4.2, 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.

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

D.4.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.4.2(a), the Permittee shall maintain monthly records of the total combined denatured ethanol and E-85 loaded out from loading rack EU036.

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- (b) To document the compliance status with Condition D.4.2(b), the Permittee shall maintain monthly records of the total amount of E-85 loaded out from the loading rack EU036.
- (c) To document the compliance status with Condition D.4.7, 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.
- (d) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.4.9 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Conditions D.4.2(a) and D.4.2(b) 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.

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SECTION E.1

NSPS

Emissions Unit Description:

- (e) One (1) fermentation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 60,000 gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.
- (2) One (1) fermenter, identified as EU047, approved in 2016 for construction.
- (3) One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.
- (4) One (1) beer well, identified as EU018, approved in 2007 for construction.

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

- (g) One (1) distillation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum input feed 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:

- (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
- (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
- (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
- (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
- (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 for construction.

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

- (n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, 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.

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Insignificant Activities:

(c) Storage Tanks:

- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2007 for construction, with a maximum capacity of 250,000 gallons.
- (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of natural gasoline.
- (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
- (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
- (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

(The information describing the process contained in this emissions unit 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 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 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 B to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

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- (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

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SECTION E.2

NSPS

Emissions Unit Description:

- (j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2007 for construction, each with a maximum heat input rate of 143 MMBtu/hr each, with emissions exhausting to stacks SV013 and SV014, respectively.

Under 40 CFR, Subpart Db, the two (2) boilers are new steam generating units.

(The information describing the process contained in this emissions unit 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 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units 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 C to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

- (1) 40 CFR 60.40b(a), (g), and (j)
- (2) 40 CFR 60.41b
- (3) 40 CFR 60.44b(a), (h), (i), (l)(2), and (l)(3)
- (4) 40 CFR 60.46b(a), (c), (e), (e)(1), (e)(4), and (g)
- (5) 40 CFR 60.48b(b), (b)(1), (c), (d), (e)(2)(i), (f), and (g)
- (6) 40 CFR 60.49(a)(1), (a)(3), (b), (c), (d), (g), (h), (h)(2)(ii), (h)(4), (i), (o), (v), and (w)

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SECTION E.3

NSPS

Emissions Unit Description:

Insignificant Activities:

(c) Storage Tanks:

- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2007 for construction, with a maximum capacity of 250,000 gallons.
- (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of natural gasoline.
- (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
- (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
- (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

(The information describing the process contained in this emissions unit 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

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E.3.2 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 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 D to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

- (1) 40 CFR 60.110b(a) and (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), (b), (c), (d), and (e)
- (7) 40 CFR 60.117b

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SECTION E.4

NSPS

Emissions Unit Description:

- (o) One (1) diesel generator, identified as EU037, approved in 2007 for construction, with a maximum power output rate of 2,640 HP, and exhausting to stack SV015.

Under NSPS, Subpart IIII, this unit is an affected source.

Under NESHAP, Subpart ZZZZ, this unit is an affected source.

(The information describing the process contained in this emissions unit 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 E 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

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SECTION E.5

NESHAP

Emissions Unit Description:

- (o) One (1) diesel generator, identified as EU037, approved in 2007 for construction, with a maximum power output rate of 2,640 HP, and exhausting to stack SV015.

Under NSPS, Subpart IIII, this unit is an affected source.

Under NESHAP, Subpart ZZZZ, this unit is an affected source.

(The information describing the process contained in this emissions unit 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 Emissions 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 F 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

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SECTION E.6

NESHAP

Emissions Unit Description:

Insignificant Activities:

- (d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 2,200 gallons per year.

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

(The information describing the process contained in this emissions unit 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 H 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)(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 40 CFR 63 Subpart CCCCCC

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

Source Name: POET Biorefining - North Manchester, LLC
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068

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:

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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 - North Manchester, LLC
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068

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:

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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: _____

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

Part 70 Quarterly Report

Source Name: POET Biorefining - North Manchester, LLC
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068
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	Hours Vented To Atmosphere for This Month (hours)	Hours Vented To Atmosphere for Previous 11 Months (hours)	Hours Vented To Atmosphere for 12-Month Period (hours)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Part 70 Quarterly Report

Source Name: POET Biorefining - North Manchester, LLC
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068
Facility: DDGS Cooler (EU029)
Parameter: Hours Vented To Atmosphere
Limit: The DDGS Cooler (EU029) shall not vent to atmosphere more than two hundred (200) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ **YEAR:** _____

Month	Hours Vented To Atmosphere for This Month (hours)	Hours Vented To Atmosphere for Previous 11 Months (hours)	Hours Vented To Atmosphere for 12-Month Period (hours)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Part 70 Quarterly Report

Source Name: POET Biorefining - North Manchester, LLC
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068
Facility: Ethanol Loading Rack EU036
Parameter: Denatured Ethanol Loadout
Limit: Less than 86.00 MMgal per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ **YEAR:** _____

Month	Denatured Ethanol Loadout for This Month (gallons)	Denatured Ethanol Loadout for Previous 11 Months (gallons)	Denatured Ethanol Loadout for 12-Month Period (gallons)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Part 70 Quarterly Report

Source Name: POET Biorefining - North Manchester, LLC
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068
Facility: Ethanol Loading Rack EU036
Parameter: E-85 Loadout
Limit: Less than 10.06 MMgal per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ **YEAR:** _____

Month	E-85 Loadout for This Month (gallons)	E-85 Loadout for Previous 11 Months (gallons)	E-85 Loadout for 12-Month Period (gallons)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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**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 - North Manchester, LLC
 Source Address: 868 East 800 North, North Manchester, Indiana 46962
 Part 70 Permit No.: T169-31191-00068

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

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

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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
Modification and Significant Permit Modification**

Source Description and Location

Source Name:	POET Biorefining - North Manchester, LLC
Source Location:	868 East 800 North, North Manchester, IN 46962
County:	Wabash
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.:	T169-31191-00068
Operation Permit Issuance Date:	August 2, 2012
Significant Source Modification No.:	169-37113-00068
Significant Permit Modification No.:	169-37123-00068
Permit Reviewer:	Thomas Olmstead

Existing Approvals

The source was issued Part 70 Operating Permit No. 169-31191-00068 on August 2, 2012. The source has since received the following approvals:

- (a) Significant Permit Modification No. 169-33491-00068, issued on December 13, 2013.

County Attainment Status

The source is located in Wabash 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. Wabash 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}**
Wabash County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
Wabash 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 stationary ethanol production operation and boilers supporting 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 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	200.63
PM ₁₀	224.61
PM _{2.5}	235.50
SO ₂	23.60
NO _x	135.62
VOC	200.84
CO	82.32
Worst Single HAP Methanol	7.70
Total HAPs	24.71

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, excluding GHGs, is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) On April 30, 2013 the Indiana Court of Appeals reversed the Indiana, Marion County Superior Court decision (Cause Nos. 49F12-1102-MI-5363, 49F12-1102-MI-5373, and 49F12-1102-MI-5298) that held that ethanol production plants that produce ethanol by natural fermentation do not constitute a “chemical process plant” under 326 IAC 2-2-1(ff)(1)(U). The Indiana Department of Environmental Management has filed a motion for rehearing with the Indiana Court of Appeals and takes the position that because the current Indiana State Implementation Plan is silent as to what constitutes a “chemical process plant” Indiana should follow the current federal law that specifically excludes fuel grade ethanol plants from the definition of “chemical process plants” if the fuel grade ethanol is produced through a natural fermentation process. During the appeal process IDEM amended its rule to include the federal rule language that specifically excludes fuel grade natural fermentation ethanol plants from the definition of “chemical process plant”. IDEM submitted this rule to U.S. EPA for SIP approval in September 2011. For this reason, it is IDEM’s position that this category of fuel ethanol production should be subject to the 250 tons per year threshold for Prevention of Significant Deterioration (PSD) New Source Review. POET Biorefining - North Manchester, LLC is aware that IDEM’s interpretation of the Indiana PSD State Implementation Plan is still under court review and has asked IDEM to process its permit under current rule 326 IAC 2-2-1(ff)(1)(U) that excludes natural fermentation fuel ethanol plants from the definition of “chemical process plant”.
- (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).
- (d) These emissions are based upon Appendix A of Technical Support Document 169-33491-00068.

Nested Activity

The table below summarizes the potential to emit, reflecting all limits, of the emission units that are a nested activity under PSD.

Process/Emission Unit	Potential To Emit of the Nested Activities (tons/year)							Total HAPs	Single HAP
	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO		
Boiler (027) and (028)	2.33	9.33	9.33	0.74	36.84	6.75	24.56	2.32	2.21 (Hexane)
Total PTE of Nested Activity	2.33	9.33	9.33	0.74	36.84	6.75	24.56	2.32	2.21 (Hexane)
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA

The nested activity is not a major stationary source for PSD (326 IAC 2-2) because the emissions of each regulated pollutant, excluding GHGs, are less than one hundred (<100) tons per year, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by POET Biorefining - North Manchester, LLC on April 22, 2016, relating to the following:

1. Construction and operation of fermenter (EU047), which will increase the capacity downstream due to the increase in yield on the available starch contained within the grain received and processed.
2. Increase production and loadout of denatured ethanol from 83,150,000 to 86,000,000 gallons per year.
3. Increase beer flow through fermentation and distillation processes from 58,500 and 57,000, respectively, to 60,000 gallons per hour, each.
4. Increase flow rate at the cooling tower from 26,000 to 30,000 gallons per minute.
5. Increase fugitive emissions from the new kettle style vaporizer used in the distillation process.
6. Increase in throughput of the DDGS handling (DDGS Dryers – EU025 and EU026, DDGS Fluid Bed Cooler – EU029, DDGS Storage Silo - EU030, DDGS Silo Bypass – EU031, and DDGS Storage Building – EU032) maximum throughput rate from 26 tons per hour to 29 tons per hour.

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

- (a) One (1) fermentation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 60,000 gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.
 - (2) One (1) fermenter, identified as EU047, approved in 2016 for construction.
 - (3) One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.
 - (4) One (1) beer well, identified as EU018, approved in 2007 for construction.

Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.
- (b) One (1) distillation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum input feed 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:
 - (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
 - (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
 - (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
 - (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.

- (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 for construction.

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

- (c) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2007 for construction and approved in 2016 for modification, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum throughput rate of 78 tons of wetcake per hour, and an output of 29 tons of DDGS produced per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to thermal oxidizer CE009, and exhausting to stack SV009.
- (d) One (1) fluidized DDGS cooler, identified as EU029, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, controlled by baghouse CE010, exhausting to the DDGS Dryers (EU025 and EU026), and equipped with bypass stack SV010, exhausting to atmosphere.
- (e) One (1) DDGS handling and storage operation, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 29 tons/hr of DDGS, and consisting of the following:
- (1) One (1) DDGS storage silo, identified as EU030, approved in 2007 for construction, controlled by baghouse CE011, with emissions exhausted to stack SV011.
- (2) One (1) DDGS silo bypass, identified as EU031, approved in 2007 for construction, controlled by baghouse CE012, with emissions exhausted to stack SV012.
- (3) One (1) DDGS storage building, identified as EU032, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

PTE Change of the Modified Process			
Pollutant	PTE Before Modification (ton/yr)	PTE After Modification (ton/yr)	Increase from Modification (ton/yr)
PM	2556.93	2556.93	0.00E+00
PM ₁₀	2563.74	2563.74	0.00E+00
PM _{2.5}	756.43	756.43	0.00E+00
SO ₂	13.70	14.04	0.34
VOC	7601.31	8020.93	419.62
CO	135.30	135.30	0.00E+00
NO _x	156.69	156.69	0.00E+00

This source modification is subject to 326 IAC 2-7-10.5(g)(4)(D), modifications with a potential to emit greater than or equal to 25 tons of VOC 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 the modification requires a case-by-case determination of an emission limitation or other standard.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strickthrough~~ values. Any control equipment is considered federally enforceable only after issuance of this Part 70 Significant Source Modification and Significant Permit Modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Part 70 Significant Source Modification and Significant Permit Modification (tons/year)								Worst Single HAP methanol
	PM	PM10*	PM2.5**	SO ₂	NO _x	VOC	CO	Total HAPs ³	
Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	23.98	25.22	25.70						
Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	1.76	1.85	7.66						
Hammermill #1 (EU006)	7.23	7.60	7.75						
Hammermill #2 (EU007)	7.23	7.60	7.75						
Hammermill #3 (EU008)	7.23	7.60	7.75						
Hammermill #4 (EU009)	7.23	7.60	7.75						
Hammermill #5 (EU010)	7.23	7.60	7.75						
Fermentation Scrubber / RTO Bypass (EU011-EU023)						20.36 21.05		1.43	0.01
RTO Stack & DDGS Dryers (EU025 & EU026)	116.68	130.09	124.39	10.20 10.63	90.18	163.09	54.11	14.68 16.03	7.67

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Part 70 Significant Source Modification and Significant Permit Modification (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NOx	VOC	CO	Total HAPs ³	Worst Single HAP methanol
DDGS Fluid Bed Cooler (EU029)	8.16	8.16	1.39			0.57		0.22	0.02
DDGS Silo Loading (EU030)	2.47	2.60	10.21						
DDGS Silo Bypass (EU031)	2.64	2.78	11.49						
DDGS Loadout Operations (EU032 - EU035)	5.99	6.31	6.31						
Ethanol Loading Rack (EU036)						2.99 3.09		4.38	
Other Miscellaneous Units (Not Specifically Limited in Permit)									
Boiler #1 (EU027)	1.17	4.67	4.67	0.37	18.42	3.38	12.28	1.16	
Boiler #2 (EU028)	1.17	4.67	4.67	0.37	18.42	3.38	12.28	1.16	
Enclosed Flare ²	4.4E-04	1.8E-03	1.8E-03	1.4E-04	21.09	1.3E-03	53.00	4.38E-04	
Corn Oil Centrifuge						5.1E-03			
Corn Oil Centrifuge						3.0E-03			
Diesel Generator (EU037)	0.46	0.26	0.26	2.67	8.58	0.47	3.63	0.01	
Equipment Leaks								0.42	
Total PTE of Entire Source	200.63	224.61	235.50	13.70 14.04	156.69	200.84 195.64	135.30	23.47 24.80	7.70
Title V Major Source Thresholds	-	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	-	-

negl. = negligible

*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".

** PM_{2.5} listed is direct PM_{2.5}.

***The 100,000 CO₂e threshold represents the Title V and PSD subject-to-regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

1. RTO Stack & DDGS Dryers calculation double counted the SO₂ Process Emissions in excel.

2. The flare calculation incorrectly referenced the wrong cell in excel.

3. RTO combustion HAPs used incorrect conversion factor and formaldehyde emissions increased due to overall increase in throughput. The source also changed the centrifuge EU024 calculations.

The table below summarizes the potential to emit of the entire source after issuance of this Part 70 Significant Source Modification and Significant Permit Modification, reflecting all limits, of the emission units. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted).

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Part 70 Significant Source Modification and Significant Permit Modification (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	23.98	25.22	25.70						
Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	1.76	1.85	7.66						

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Part 70 Significant Source Modification and Significant Permit Modification (tons/year)								
	PM	PM10*	PM2.5**	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Hammermill #1 (EU006)	7.23	7.60	7.75						
Hammermill #2 (EU007)	7.23	7.60	7.75						
Hammermill #3 (EU008)	7.23	7.60	7.75						
Hammermill #4 (EU009)	7.23	7.60	7.75						
Hammermill #5 (EU010)	7.23	7.60	7.75						
Fermentation Scrubber / RTO Bypass (EU011-EU023)						21.05		1.43	0.01
RTO Stack & DDGS Dryers (EU025 & EU026) ¹	116.68	130.09	124.39	10.63	90.18	163.09	54.11	16.03	7.67
DDGS Fluid Bed Cooler (EU029)	8.16	8.16	1.39			0.57		0.22	0.02
DDGS Silo Loading (EU030)	2.47	2.60	10.21						
DDGS Silo Bypass (EU031)	2.64	2.78	11.49						
DDGS Loadout Operations (EU032 - EU035)	5.99	6.31	6.31						
Ethanol Loading Rack (EU036)						3.09		4.38	
Other Miscellaneous Units (Not Specifically Limited in Permit)									
Boiler #1 (EU027)	1.17	4.67	4.67	0.37	18.42	3.38	12.28	1.16	
Boiler #2 (EU028)	1.17	4.67	4.67	0.37	18.42	3.38	12.28	1.16	
Enclosed Flare	4.4E-04	1.8E-03	1.8E-03	1.4E-04	21.09	1.3E-03	53.00	4.38E-04	
Corn Oil Centrifuge						5.1E-03			
Corn Oil Centrifuge						3.0E-03			
Diesel Generator (EU037)	0.46	0.26	0.26	2.67	8.58	0.47	3.63	0.01	
Equipment Leaks								0.42	
Total PTE of Entire Source	200.63	224.61	235.50	14.04	156.69	195.64	135.30	24.80	7.70
Title V Major Source Thresholds	-	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	-	-
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant". ** PM _{2.5} listed is direct PM _{2.5} . ***The 100,000 CO ₂ e threshold represents the Title V and PSD subject-to-regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.									

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 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.
- (b) 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).

The Permittee shall comply with the following emission limits for the RTO system (CE009) and Scrubber (CE008), and the DDGS Cooler (EU029):

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

- (1) VOC emissions shall not exceed 39.49 lbs/hr.
- (2) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
- (3) Methanol emissions shall not exceed 1.75 lbs/hr.
- (4) Acrolein emissions shall not exceed 0.21 lbs/hr.
- (5) Total HAP emissions shall not exceed 3.73 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:

- (1) VOC emissions shall not exceed 39.49 lbs/hr.
- (2) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
- (3) Methanol emissions shall not exceed 1.75 lbs/hr.
- (4) Acrolein emissions shall not exceed 0.21 lbs/hr.
- (5) Total HAP emissions shall not exceed 3.73 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 shall continue to control the VOC emissions for the fermentation

and distillation processes, during the periods when the RTO is down. The RTO downtime shall not exceed more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

- (2) VOC emissions from the scrubber (CE008) shall not exceed 84.21 pounds per hour.
 - (3) Acetaldehyde emissions from the scrubber (CE008) shall not exceed 5.60 lbs/hr.
 - (4) Total HAP emissions from the scrubber (CE008) shall not exceed 5.72 lbs/hr.
- (d) The Permittee shall comply with the following emission limits for the DDGS cooler (EU029):
- (1) VOC emissions from the DDGS cooler (EU029) bypass stack exhaust SV010, shall not exceed 5.685 lbs/hr.
 - (2) Acetaldehyde emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 1.61 lbs/hr.
 - (3) Total HAP emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 2.22 lbs/hr.
 - (4) The DDGS Cooler (EU029) shall not vent to atmosphere more than two hundred (200) hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (e) VOC emissions from the ethanol loading system (EU036) shall not exceed 4.17 lbs/hr.
- (f) The total combined denatured ethanol and E-85 loadout 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.
- (g) The E-85 loadout from the ethanol loading rack EU036 shall not exceed 10,060,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (h) The Permittee shall use flare CE015 to control the emissions from the ethanol loading rack (EU036).
- (i) The ethanol loading rack shall utilize submerged loading method when loading trucks and railcars.
- (j) The railcars and trucks shall not use vapor balance services during ethanol loading.
- (k) The flare CE015 shall be designed as a smokeless flare.
- (l) Hexane emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 0.79 lbs/hr.
- (m) Total HAP emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 1.00 lbs/hr.

Compliance with these limits and the unrestricted VOC emissions from all other emission units shall limit the VOC emissions from the entire source to less than two hundred fifty (250) tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are rendered not applicable.

Compliance with these limits and the unrestricted HAP PTE from all other emission units shall limit the HAP emissions from the entire source to less than ten (10) tons per year of any single

HAP, and less than twenty-five (25) tons per year of total HAP. Therefore, the entire source is rendered an area source of HAP emissions under 40 CFR 63.

Federal Rule Applicability Determination

The following federal rules are applicable to the source and have been evaluated due to the increase in production and loadout of denatured ethanol from 83,150,000 to 86,000,000 gallons per year:

NSPS:

- (a) This source is not subject to the requirements of the New Source Performance Standard for Grain Elevators, 40 CFR 60.300, Subpart DD, because the total storage capacity of the four grain bins (EU003) used in the grain receiving and handling operation is 2,076,800 bushels. Since this is less than the NSPS Subpart DD applicability threshold of 2.5 million bushels, the requirements of 40 CFR 60, Subpart DD are still not included in the permit.
- (b) Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (40 CFR 60, Subpart Kb):
- (1) Tanks EU040 through EU044 have capacities less than 75 cubic meters (19,813 gallons) and will not be used to store volatile organic liquids. Therefore, these tanks are not subject to the requirements of 40 CFR 60, Subpart Kb.
 - (2) Tanks EU045 through EU046 have capacities greater than 75 cubic meters (19,813 gallons) but less than 151 cubic meters and will be used to store volatile organic liquids; however, the maximum true vapor pressure is less than 15.0 kilopascals (kPa). Therefore, these tanks are not subject to the requirements of 40 CFR 60, Subpart Kb.
 - (3) Tanks T001 through T005 have capacities greater than 75 cubic meters (19,813 gallons) and will be used to store volatile organic liquids. Therefore, these tanks are subject to the following requirements of 40 CFR 60, Subpart Kb.

The following units are subject to 40 CFR 60, Subpart Kb:

(A) Storage Tanks:

- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2007 for construction, with a maximum capacity of 250,000 gallons.
- (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of natural gasoline.
- (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
- (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
- (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.

The tanks are subject to the following portions of 40 CFR 60, Subpart Kb:

- (1) 40 CFR 60.110b(a) and (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), (b), (c), (d), and (e)
- (7) 40 CFR 60.117b

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the storage tanks T001 through T005, except when otherwise specified in 40 CFR 60, Subpart Kb.

(c) 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 (40 CFR 60, Subpart VVa):

- (1) Corn oil is not one of the chemicals listed in 40 CFR 60.489. All of the corn oil extracted by the corn oil centrifuges will be a new product for this facility. Separation of the corn oil is not a process step in the production of ethanol nor is corn oil an intermediate step in ethanol production. Therefore, the centrifuges associated with extraction of corn oil (EU038 and EU039) and the process tanks (EU040-EU044) and the storage tanks (EU045 and EU046) are not subject to the requirements of 40 CFR 60, Subpart VVa.
- (2) Ethanol (CAS No. 64–17–5) is one of the chemicals listed in 40 CFR 60.489, and this ethanol plant was constructed after November 7, 2006. Therefore, this ethanol production plant is subject to the requirements of 40 CFR 60, Subpart VVa. Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit (as defined in 40 CFR 60.480a(f)) is an affected facility.
- (3) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry. The group of all equipment (defined in §60.481a) within a process unit is an affected facility. "Equipment means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service..." In VOC Service means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight.
- (4) The set of four (4) centrifuges, identified as EU024, are not considered to be in VOC service because the equipment contains or contacts a process fluid that is less than 10 percent VOC by weight as demonstrated in the testing document performed by Keystone Laboratories, Inc. for the Otter Creek Ethanol, LLC d/b/a POET Biorefining - Ashton on April 21, 2015. Therefore, these four (4) centrifuges are not subject to the requirements of 40 CFR 60, Subpart VVa.

The following units are subject to 40 CFR 60, Subpart VVa:

- (A) One (1) fermentation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum throughput rate of 60,000 gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.

- (2) One (1) fermenter, identified as EU047, approved in 2016 for construction.
 - (3) One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.
 - (4) One (1) beer well, identified as EU018, approved in 2007 for construction.
- (B) One (1) distillation process, approved in 2007 for construction and approved in 2016 for modification, with a maximum input feed 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:
- (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
 - (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
 - (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
 - (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
 - (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 for construction.
- (C) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, 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.
- (D) Storage Tanks:
- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2007 for construction, with a maximum capacity of 250,000 gallons.
 - (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of natural gasoline.
 - (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
 - (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.
 - (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural

gasoline.

The ethanol production plant is subject to the following portions of 40 CFR 60, Subpart VVa.

- (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

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to this source, except when otherwise specified in 40 CFR 60, Subpart VVa.

NESHAP:

- (a) The requirements of the National Emission Standards for Organic Hazardous Air Pollutants From Synthetic Organic Chemical Manufacturing Industry (40 CFR Part 63, Subpart F); National Emission Standards for Organic Hazardous Air Pollutants from Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (40 CFR Part 63, Subpart G); National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks (40 CFR Part 63, Subpart H) are not included in this permit because this source has accepted limits that make it a minor source of hazardous air pollutants.
- (b) The requirements of the National Emission Standards for Industrial Process Cooling Towers (40 CFR 63, Subpart Q) are not included in this permit because this source has accepted limits that make it a minor source of hazardous air pollutants. Therefore, the requirements for 40 CFR 63, Subpart Q, are not included in this permit.
- (c) The requirements of the National Emission Standards for Organic Liquids Distribution (non-gasoline) (40 CFR 63, Subpart EEEE) are not included in this permit because this source has accepted limits that make it a minor source of hazardous air pollutants. Therefore, the requirements of 40 CFR 63, Subpart EEEE, are not included in this permit.
- (d) The requirements of the National Emission Standards for Miscellaneous Organic Chemical Manufacturing (40 CFR 63, Subpart FFFF) are not included in this permit because this source has accepted limits that make it a minor source of hazardous air pollutants. Therefore, the requirements of 40 CFR 63, Subpart FFFF, are not included in this permit.

- (e) The requirements of National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (40 CFR 63, Subpart BBBB) are not included in the permit. EPA has specifically stated that Subpart 6B does not apply to the storage of denatured ethanol because denatured ethanol does not meet the Reid vapor pressure ("RVP") threshold in Subpart BBBB to qualify as gasoline and is not itself a fuel for internal combustion engines. See 76 Fed. Reg. 4156 (Jan. 24, 2011). Therefore, the requirements of 40 CFR 63, Subpart BBBB have been removed from the permit.

The denaturant received, stored, and used to process denatured ethanol is "natural gasoline" and not "refined" gasoline. For the purposes of Subpart BBBB, 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 BBBB are not included in the permit.

- (f) National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities (40 CFR 63, Subpart CCCCC)
- (1) The vapor collection-equipped gasoline cargo tanks are not subject to 40 CFR 63, Subpart CCCCC because these units are not affected facilities as specified in 63.11110. Therefore 40 CFR 63, Subpart CCCCC is not subject to the vapor collection-equipped gasoline cargo tanks. The vapor collection-equipped gasoline cargo tanks were previously considered to be subject to 40 CFR 63, Subpart BBBB and were included in the permit because these units were considered affected facilities as specified in 63.11082. As discussed above in the 40 CFR 63, Subpart BBBB determination, the source is not subject to 40 CFR 63, Subpart BBBB.
- (2) The source is subject to the requirements of 40 CFR 63, Subpart CCCCC because it is an area source and this ethanol plant has a gasoline dispensing operation for plant vehicles. The affected sources include the following and are considered new affected sources pursuant to 40 CFR 63.11112(b) because construction commenced after November 9, 2006, and they are identified as part of the affected source under 40 CFR 63.11111:
- (A) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 2,200 gallons per year.

The gasoline dispensing operation for plant vehicles (T009) and the vapor collection-equipped gasoline cargo tanks are subject to the following requirements of 40 CFR 63, Subpart CCCCC:

- (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)(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 40 CFR 63 Subpart CCCCCC

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.

- (g) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Chemical Manufacturing Area Sources, (40 CFR 63 Subpart VVVVVV)
 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 in 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 as well as test data from numerous ethanol plants in Indiana.

CAM:

- (h) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

- (1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;
- (2) is subject to an emission limitation or standard for that pollutant; and
- (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

CAM Applicability Analysis							
Emission Unit	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (ton/yr)	Controlled PTE (ton/yr)	Part 70 Major Source Threshold (ton/yr)	CAM Applicable (Y/N)	Large Unit (Y/N)
Fermentation (EU011, EU012, EU016-EU018) - VOC	Scrubber CE008 & RTO CE009	Y	4,122	4.71	100	Y	N
Fermentation (EU011, EU012, EU016-EU018) - HAP acetaldehyde	Scrubber CE008 & RTO CE009	Y	24.53	0.70	10	Y	N
Fermentation (EU011, EU012, EU016-EU018) - HAP methanol	Scrubber CE008 & RTO CE009	Y	0.18	0.01	10	N	N
Fermentation (EU011, EU012, EU016-EU018) - Total HAP	Scrubber CE008 & RTO CE009	Y	25.05	0.72	25	Y	N

CAM Applicability Analysis							
Emission Unit	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (ton/yr)	Controlled PTE (ton/yr)	Part 70 Major Source Threshold (ton/yr)	CAM Applicable (Y/N)	Large Unit (Y/N)
Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - VOC	Scrubber CE008 & RTO CE009	Y	2,953	59.07	100	Y	N
Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - HAP acetaldehyde	Scrubber CE008 & RTO CE009	Y	179.37	5.38	10	Y	N
Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - HAP acrolein	Scrubber CE008 & RTO CE009	Y	10.48	0.31	10	Y	N
Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - HAP methanol	Scrubber CE008 & RTO CE009	Y	35.09	1.05	10	Y	N
Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - Total HAP	Scrubber CE008 & RTO CE009	Y	227.30	8.00	25	Y	N
DDGS Cooler (EU029) - VOC	Scrubber CE008 & RTO CE009	Y	24.90	0.57	100	N	N
DDGS Cooler (EU029) - HAP acetaldehyde	Scrubber CE008 & RTO CE009	Y	7.03	0.14	10	N	N
DDGS Cooler (EU029) - HAP acrolein	Scrubber CE008 & RTO CE009	Y	0.79	0.02	10	N	N
DDGS Cooler (EU029) - HAP methanol	Scrubber CE008 & RTO CE009	Y	1.05	0.02	10	N	N
DDGS Cooler (EU029) - Total HAP	Scrubber CE008 & RTO CE009	Y	9.73	0.19	25	N	N
Ethanol Loading (EU036) - VOC	Flare CE015	Y	913.26	18.27	100	Y	N
Ethanol Loading (EU036) - HAP hexane	Flare CE015	Y	87.76	0.40	10	Y	N
Ethanol Loading (EU036) - Total HAP	Flare CE015	Y	91.78	0.42	25	Y	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the following:

- Fermentation (EU011, EU012, EU016-EU018) - VOC
- Fermentation (EU011, EU012, EU016-EU018) - HAP acetaldehyde
- Fermentation (EU011, EU012, EU016-EU018) - Total HAP
- Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - VOC
- Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - HAP acetaldehyde
- Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - HAP acrolein
- Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - HAP methanol

- Distillation RTO Stack & DDGS Dryers (EU025 & EU026) - Total HAP
- Ethanol Loading (EU036) - VOC
- Ethanol Loading (EU036) - HAP hexane
- Ethanol Loading (EU036) - Total HAP

upon issuance of the Title V Renewal. A CAM plan must be submitted as part of the Renewal application.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)

PSD applicability is discussed under the Permit Level Determination – PSD section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The potential to emit acetaldehyde, acrolein, methanol, and hexane from the entire source before control is greater than ten (10) tons/yr, each, and the potential to emit total HAP from the entire source before control is greater than twenty five (25) tons/yr.

In order to render the requirements of 326 IAC 2 4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable:

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

- (1) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
- (2) Methanol emissions shall not exceed 1.75 lbs/hr.
- (3) Acrolein emissions shall not exceed 0.21 lbs/hr.
- (4) Total HAP emissions shall not exceed 3.73 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:

- (1) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
- (2) Methanol emissions shall not exceed 1.75 lbs/hr.
- (3) Acrolein emissions shall not exceed 0.21 lbs/hr.
- (4) Total HAP emissions shall not exceed 3.73 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 shall continue to control the VOC emissions for the fermentation

and distillation processes, during the periods when the RTO is down. The RTO downtime shall not exceed more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

- (2) Acetaldehyde emissions from the scrubber (CE008) shall not exceed 5.60 lbs/hr.
 - (3) Total HAP emissions from the scrubber (CE008) shall not exceed 5.72 lbs/hr.
- (d) The Permittee shall comply with the following emission limits for the DDGS cooler (EU029):
- (1) Acetaldehyde emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 1.61 lbs/hr.
 - (2) Total HAP emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 2.22 lbs/hr.
 - (3) The DDGS Cooler (EU029) shall not vent to atmosphere more than two hundred (200) hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (e) The total combined denatured ethanol and E-85 loadout 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.
- (f) The E-85 loadout from the ethanol loading rack EU036 shall not exceed 10,060,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (g) The Permittee shall use flare CE015 to control the emissions from the ethanol loading rack (EU036).
- (h) The ethanol loading rack shall utilize submerged loading method when loading trucks and railcars.
- (i) The railcars and trucks shall not use vapor balance services during ethanol loading.
- (j) The flare CE015 shall be designed as a smokeless flare.
- (k) Hexane emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 0.79 lbs/hr.
- (l) Total HAP emissions from the ethanol loading rack (EU036), exhausting to stack SV016 shall not exceed 1.00 lbs/hr.

Compliance with these limits and the unrestricted HAP PTE from all other emission units shall limit the HAP emissions from the entire source to less than ten (10) tons per year of any single HAP, and less than twenty-five (25) tons per year of total HAP. Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are rendered not applicable to the source.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3(b)(1), an emission statement must be submitted triennially. The first report is due no later than July 1, 2004, and subsequent reports are due every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-7-6(5) (Annual Compliance Certification)

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 6.5 PM Limitations Except Lake County

This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 PM Limitations for Lake County

This source is not subject to 326 IAC 6.8 because it is not located in Lake County.

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

DDGS Handling

Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2 are applicable to the units in the table below, since it is a manufacturing process not exempted from this rule under 326 IAC 6-3-1(b) and is not subject to a particulate matter limitation that is as stringent as or more stringent than the particulate limitation established in this rule as specified in 326 IAC 6-3-1(c). Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the units in the table below shall not exceed E pounds per hour when operating at a process weight rate of P tons per hour. The pound per hour limitation was calculated with the following equations:

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

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

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

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

Summary of Process Weight Rate Limits		
Process / Emission Unit	P (ton/hr)	E (lb/hr)
Fluidized DDGS Cooler (EU029)	29.0	39.1
DDGS Silo Loading (EU030)	29.0	39.1
DDGS Silo Bypass (EU031)	29.0	39.1
DDGS Dryer (EU025)	78.0	48.8
DDGS Dryer (EU026)	78.0	48.8
DDGS storage building (EU032)	29.0	39.1

According to the emission calculations (see Appendix A), the potential to emit PM after control from the DDGS Silo Loading (EU030), DDGS Silo Bypass (EU031), and DDGS storage building (EU032) is less than the emission limits above. Therefore, these operations can comply with 326 IAC 6-3-2 without the use of a control device.

The baghouse (CE010) shall be in operation at all times the fluidized DDGS Cooler (EU029) is in operation, in order to comply with this limit.

The RTO (CE009) shall be in operation at all times the DDGS dryers (EU025 and EU026) are in operation, in order to comply with this limit.

Cooling Tower

Pursuant to 326 IAC 6-3-1(b)(11), particulate emissions from the cooling tower are exempt from the requirements of 326 IAC 6-3.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

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

The source is subject to the requirements of 326 IAC 6-5, because the uncaptured grain receiving, uncaptured DDGS handling, truck traffic, and cooling towers have potential fugitive particulate emissions greater than 25 tons per year. Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

- (a) The fermentation process, distillation process (RTO system (CE009) and scrubber (CE008)), DDGS dryers (EU025 and EU026), and ethanol load-out operation (EU036) are subject to the requirements in 326 IAC 8-5-6. Therefore, these operations are not subject to the requirements of 326 IAC 8-1-6 (BACT).
- (b) The DDGS cooler (EU029) was constructed after January 1, 1980, but does not have potential VOC emissions greater than 25 tons per year. The source has chosen a 5.685 lb/hr limit as a safety factor for demonstrating potential emissions will remain below twenty-five (25) tons/yr. The source verified from a stack test conducted at N. Manchester on 3/5/2009 that the DDGS Cooler (EU029) is below the limit of 5.685 lb/hr. Therefore, the DDGS cooler (EU029) is not subject to 326 IAC 8-1-6 when exhausted to the atmosphere.

326 8-4-3 (Petroleum Liquid Storage Facilities)

- (a) Pursuant to 326 IAC 8-4-3(a), storage tanks T001, T003, and T004 are not petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons) containing volatile organic compounds whose true vapor pressure is greater than 10.5 kPa (1.52 psi). These tanks will store denatured ethanol. Therefore, these tanks are not subject to the requirements of 326 IAC 8-4-3.
- (b) The denaturant storage tanks T002 and T005 are not petroleum liquid storage vessels. They store natural gasoline which is not a petroleum liquid. Natural gasoline is derived from natural gas, whereas refined gasoline is derived from crude oil (petroleum). Therefore, tanks T002 and T005 are not subject to the requirements of 326 IAC 8-4-3.
- (c) Tank T009 and all other tanks either have a capacity of less than 39,000 gallons or they are not considered petroleum liquid storage vessels; therefore, they are not subject to the requirements of 326 IAC 8-4-3.

326 IAC 8-4-4 (Bulk Gasoline Terminals)

The source does not operate a bulk gasoline terminal, as defined in 326 IAC 1-2-8, because it does not deliver gasoline to bulk gasoline plants or to commercial or retail accounts primarily by transport. Therefore, the requirements of 326 IAC 8-4-4 are not applicable.

326 IAC 8-4-5 (Bulk Gasoline Plants)

The source does not operate a bulk gasoline plant, as defined in 326 IAC 1-2-7, because it does not dispense gasoline via account trucks to local farms, businesses and service stations. Therefore, the requirements of 326 IAC 8-4-5 are not applicable.

326 8-4-6 (Gasoline Dispensing Facilities)

The source is not subject to 326 8-4-6 (Gasoline Dispensing Facilities) because the one (1) gasoline dispensing operation for plant vehicles, identified as T009, is not a gasoline storage tank at a gasoline dispensing facility with a monthly gasoline throughput of ten thousand (10,000) gallons per month or greater. Therefore, 326 8-4-6 (Gasoline Dispensing Facilities) does not apply to the source.

326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills)

The source is still subject to the requirements in 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills).

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

The source is not located in Clark, Floyd, Lake, or Porter County. Therefore, the requirements of 326 IAC 8-9-1 are not applicable to the tanks at this source.

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.

There are no new Compliance Determination and Compliance Monitoring Requirements applicable to this source after issuance of this modification. IDEM, OAQ has determined that the prior stack testing performed at the source for the standard operating permit condition in D.2.1(a), Alternative Operating Scenario No. 1 (AOS1) in permit condition in D.2.1(b), Alternative Operating Scenario No.2 (AOS2) in permit condition in D.2.1(c), DDGS cooler (EU029) bypass stack exhaust in permit condition in D.2.1(d), and for the ethanol loading system in permit section D.4 is sufficiently low such that the 3.42% increase in throughput with the addition of the 6th fermenter provides confidence that the emission units and the source will continue to operate below the existing emission unit and source wide PSD limits. Therefore, adjustments to the current compliance demonstration requirements were deemed not necessary by IDEM, OAQ Compliance and Enforcement Branch.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 169-33491-00068. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Proposed Changes

- (a) Condition A.2 - Emission Units and Pollution Control Equipment Summary, Section D.2 Emissions Unit Description Box, and Section E.1 Emissions Unit Description Box have been revised to include the new 6th fermenter that is associated with this modification.
- (b) Condition A.2 - Emission Units and Pollution Control Equipment Summary, Section D.2 Emissions Unit Description Box, and Section E.1 Emissions Unit Description Box have been revised. The fermentation and distillation processes have increased throughput from a maximum throughput rate of 58,500 and 57,000, respectively, to 60,000 gallons of beer per hour that is associated with this modification. The distillation process has a maximum production rate of 12,000 gallons of ethanol per hour.
- (c) Condition A.2 - Emission Units and Pollution Control Equipment Summary, Condition A.3 Specifically Regulated Insignificant Activities, and Section D.2 Emissions Unit Description Box have been revised to add "DDGS is not being produced" that replaces "during wetcake production" for clarity to the set of four (4) centrifuges, identified as EU024, and two (2) centrifuges, identified as EU038 and EU039.
- (d) Condition A.2 - Emission Units and Pollution Control Equipment Summary, Section D.2 Emissions Unit Description Box, and Section E.1 have been revised. The set of four (4) centrifuges, identified as EU024, are not considered to be in VOC service because the equipment contains or contacts a process fluid that is less than 10 percent VOC by weight as demonstrated in the testing document performed by Keystone Laboratories, Inc. for the Otter Creek Ethanol, LLC d/b/a POET Biorefining - Ashton on April 21, 2015. Therefore, these four (4) centrifuges are not subject to the requirements of 40 CFR 60, Subpart VVa.
- (e) Condition A.2 - Emission Units and Pollution Control Equipment Summary, Section D.1, and Section D.2 have been revised to increase the throughput of the DDGS handling (DDGS Dryers – EU025 and EU026, DDGS Fluid Bed Cooler – EU029, DDGS Storage Silo - EU030, DDGS Silo Bypass – EU031, and DDGS Storage Building – EU032) maximum throughput rate from 26 tons per hour to 29 tons per hour that is associated with this modification. The DDGS Dryers – EU025 and EU026 have a total maximum throughput rate of 78 tons of wetcake per hour and this has been specified in the permit. The DDGS handling and storage operation has an input rate into the storage operation of 29 tons/hr of DDGS and a loadout into truck or rail of 220 tons/hr of DDGS. 326 IAC 6-3-2 has been updated in the permit for the DDGS handling.
- (f) Condition A.2 - Emission Units and Pollution Control Equipment Summary and Condition A.3 Specifically Regulated Insignificant Activities have been revised and Section E.6 has been removed from the permit. The requirements of 40 CFR 63, Subpart BBBB are not included in the permit. EPA has specifically stated that Subpart 6B does not apply to the storage of denatured ethanol because denatured ethanol does not meet the Reid vapor pressure ("RVP") threshold in Subpart BBBB 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. Therefore, the requirements of 40 CFR 63, Subpart BBBB have been removed from the permit.
- (g) Condition A.3 Specifically Regulated Insignificant Activities and Section E.1 have been revised. The two (2) centrifuges, identified as EU038 and EU039, are not subject to 40 CFR 60, Subpart VVa. Corn oil is not one of the chemicals listed in 40 CFR 60.489. All of the corn oil extracted by the corn oil centrifuges will be a new product for this facility. Separation of the corn oil is not a process step in the production of ethanol nor is corn oil an intermediate step in ethanol production. Therefore, the centrifuges associated with extraction of corn oil (EU038 and EU039) and the process tanks (EU040-EU044) and the storage tanks (EU045 and EU046) are not subject to the requirements of 40 CFR 60, Subpart VVa.

- (h) Condition A.3 Specifically Regulated Insignificant Activities and Section E.1 have been revised. IDEM specified the affected facilities subject to 40 CFR 60, Subpart VVa. Tanks 001 through 005 are considered process units as defined in 60.481a and clarified in 72 FR 64860.
- (i) Condition A.3 Specifically Regulated Insignificant Activities has been revised and Sections D.5.3, D.5.7, and Part 70 Quarterly Report form have been removed. The source is not subject to 326 8-4-6 (Gasoline Dispensing Facilities) because the one (1) gasoline dispensing operation for plant vehicles, identified as T009, is not a gasoline storage tank at a gasoline dispensing facility with a monthly gasoline throughput of ten thousand (10,000) gallons per month or greater. Therefore, 326 8-4-6 (Gasoline Dispensing Facilities) does not apply to the source.
- (j) Condition A.3 Specifically Regulated Insignificant Activities and Section E.6 have been revised. The vapor collection-equipped gasoline cargo tanks are not subject to 40 CFR 63, Subpart CCCCCC because these units are not affected facilities as specified in 63.11110.
- (k) Condition A.4 Insignificant Activities has been revised. The cooling tower has a maximum throughput of 30,000 gallons per minute.
- (l) Condition D.2.1 PSD and HAP Minor Limits has been revised to change the Total HAP emissions limit from 3.70 to 3.73 lbs/hr in D.2.1(a) and D.2.1(b). This is because of the incorrect RTO HAP calcs and also the overall throughput increase with the addition of the new 6th fermenter for formaldehyde, which is unlimited. The source also changed the centrifuge EU024 calculations.
- (m) Condition D.2.1 PSD and HAP Minor Limits has been revised to change the VOC emissions limit from 81.43 to 84.21 lbs/hr in D.2.1(c). This is because of the overall throughput increase with the addition of the new 6th fermenter.
- (n) Conditions D.2.4 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, D.2.8(d) Testing Requirements, D.5.2 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, and D.5.5 Testing Requirements have been removed from the permit. 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 in 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 as well as test data from numerous ethanol plants in Indiana.
- (o) Condition D.2.5 VOC and HAP Control has been revised.
 - (1) Condition D.2.1(a) says 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 DDGS is being produced, the set of four centrifuges. Therefore, D.2.5(a) has been revised.
 - (2) Condition D.2.1(b) specifies 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 DDGS is being produced, the set of four centrifuges. Therefore, D.2.5(b) has been revised.
 - (3) Condition D.2.1(c) does not specify that when the RTO is down, the DDGS dryers shall not be in operation. Therefore, D.2.5(c) has been revised.

- (4) Condition D.2.5(d) has been added to the permit to assure compliance with Condition D.2.1(d) because the DDGS cooler (EU029) vents to the RTO (CE009) except for the two hundred (200) hours per twelve (12) consecutive month period when the DDGS Cooler (EU029) vents to the atmosphere.
- (5) Condition D.2.5(e) has been added to the permit to assure compliance with Condition D.2.2.
- (p) Conditions D.2.9 Regenerative Thermal Oxidizer Temperature, D.2.10 Parametric Monitoring, and D.2.11 Scrubber Pressure Drop and Flow Rate have been revised to specify compliance for the appropriate operating scenario.
- (q) Condition D.2.14(e) Record Keeping has been revised. The source is only required to maintain quarterly summaries for the hours of operation for the DDGS cooler (EU029) and not VOC or HAP limits.
- (r) Condition D.2.15 Reporting Requirements has been revised. The source is only required to record keep quarterly summaries for the hours of operation for the scrubber under Alternative Operating Scenario No.2 (AOS2) and quarterly summaries for the hours of operation for the DDGS cooler (EU029) and not VOC or HAP limits.
- (s) Condition D.4.2 HAP Minor Limits and Part 70 Quarterly Report Form have been revised to change the total combined denatured ethanol and E-85 loadout from loading rack EU036 from 83,150,000 to 86,000,000 gallons because of the addition of the new 6th fermenter.
- (t) Section D.5 has been removed. Pursuant to 326 IAC 8-4-3(a), storage tanks T001, T003, and T004 are not petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (thirty-nine thousand (39,000) gallons) containing volatile organic compounds whose true vapor pressure is greater than 10.5 kPa (1.52 psi). The denaturant storage tanks T002 and T005 are not petroleum liquid storage vessels. Tank T009 and all other tanks either have a capacity of less than 39,000 gallons or they are not considered petroleum liquid storage vessels. Therefore, these tanks are not subject to the requirements of 326 IAC 8-4-3.

Additional Changes

- (a) Typographical errors have been corrected throughout. Conditions have been renumbered throughout.
- (b) Condition A.1 - General Information has been revised to include the change in phone number for the source contact and to specify the SIC Code description.
- (c) Condition A.1 - General Information has been revised to remove GHGs because this source is not an anyway source. Therefore GHG emissions are not reviewed.
- (d) Condition A.3 Specifically Regulated Insignificant Activities has been revised to remove the Indiana Administrative Code citations per IDEM model updates for the paved roads.
- (e) On October 27, 2010, the Indiana Air Pollution Control Board issued revisions to 326 IAC 2. These revisions resulted in changes to the rule citations listed in the permit. These changes are not changes to the underlining provisions. The change is only to cite of these rules in Section B - Permit Renewal, Section B - Operational Flexibility, Section C - Risk Management Plan, and Section C - Emission Statement.
- (f) Condition B.11 Emergency Provisions has been revised to remove the Northwest Regional Office phone because the source is located in Wabash County and Wabash County is located in the Indianapolis Central Office Regional Area.

- (g) D and E Section Emission Unit Description boxes have been revised to match the units in the A section of the permit.
- (h) After discussions with EPA, OAQ decided to add a rule cite for the Compliance Determination Requirements subsection title in the D Sections. The addition of this rule cite is to satisfy EPA's concerns. The rule citation has been changed throughout the permit as follows:

Compliance Determination Requirements **[326 IAC 2-7-5(1)]**
- (i) Condition D.1.4 Particulate Control has been revised to update the correct citations to ensure compliance with the particulate emission limitations in conditions D.1.1 and D.1.2.
- (j) Conditions D.1.7 and D.2.14 Parametric Monitoring have been removed. IDEM, OAQ's current policy is to only include one compliance monitoring requirement for this type of control. Therefore, IDEM has removed Conditions D.1.7 and D.2.14 Parametric Monitoring since the permit also contains a Visible Emissions Notations requirement for the baghouse exhaust stack. The associated Record Keeping Requirements for Conditions D.1.7 and D.2.14 Parametric Monitoring have also been removed.
- (k) Conditions D.2.1, D.2.2, D.2.6, D.2.7, D.2.12, and D.2.15 have been updated to current IDEM, OAQ model language and for clarity for permittee requirements. POET Alexandria has similar model language.
- (l) IDEM, OAQ has updated the E sections of the permit for clarity.

The permit has been revised as follows:

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.34 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:	868 East 800 North, North Manchester, Indiana 46962
General Source Phone Number:	(260) 774- 3604 3532
SIC Code:	2869 and 2048
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:	Wabash
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD and Emission Offset Rules
<hr/>	
Greenhouse Gas (GHG) potential to emit (PTE) is equal to or more than one hundred thousand (100,000) tons of CO ₂ equivalent emissions (CO ₂ e) per year	
<hr/>	
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, approved in 2007 for construction, controlled by baghouse CE001, exhausting through stack SV001, and consisting of the following:
 - (1) Two (2) truck dump pits and one (1) rail dump pit, identified as EU001, approved in 2007 for construction, with a maximum throughput rate of 840 tons of corn per hour.
 - (2) Two (2) grain legs and conveying system, identified as EU002, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour.
 - (3) Four (4) grain bins, identified as EU003, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour. Three (3) of these grain bins have the capacity to store up to 674,600 bushels each. The fourth bin has a capacity of 53,000 bushels for a total storage capacity of 2,076,800 bushels.
- (b) One (1) corn transfer conveyor system, identified as EU004, approved in 2007 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 2007 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 2007 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 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~58,500~~ **60,000** gallons per hour, controlled by scrubber CE008 and regenerative thermal oxidizer (RTO) CE009, with emissions exhausted through 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, approved in 2007 for construction.
 - (2) One (1) **fermenter, identified as EU047, approved in 2016 for construction.**
 - (3) **One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.**
 - (34) One (1) beer well, identified as EU018, approved in 2007 for construction.

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 2007 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 2007 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **input feed rate of 5760,000 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008. This process consists of the following:
- (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
 - (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
 - (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
 - (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
 - (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 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) centrifuges, identified as EU024, approved in 2007 for construction, controlled by regenerative thermal oxidizer (RTO) CE009 ~~during normal operation~~, with emissions exhausted through stack SV009. ~~During wetcake production~~ **When DDGS is not being produced**, 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 2007 for construction **and approved in 2016 for modification**, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum throughput rate of ~~2678 tons of wetcake per hour, and an output of 29~~ **tons of DDGS produced** per hour, controlled by multiclones CE013 and CE014, respectively, with emissions venting to thermal oxidizer CE009, and exhausting to stack SV009.
- (j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2007 for construction, each with a maximum heat input rate of 143 MMBtu/hr each, with emissions exhausting to stacks SV013 and SV014, respectively.

Under 40 CFR, Subpart Db, the two (2) boilers are new steam generating units.

- (k) One (1) fluidized DDGS cooler, identified as EU029, approved in 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~2629~~ **tons/hr** of DDGS, controlled by baghouse CE010, exhausting to the DDGS Dryers (EU025 and EU026), and equipped with bypass stack SV010, exhausting to atmosphere.
- (l) One (1) DDGS handling and storage operation, approved in 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~22029~~ **tons/hr** of DDGS, and consisting of the following:

- (1) One (1) DDGS storage silo, identified as EU030, approved in 2007 for construction, controlled by baghouse CE011, with emissions exhausted to stack SV011.
 - (2) One (1) DDGS silo bypass, identified as EU031, approved in 2007 for construction, controlled by baghouse CE012, with emissions exhausted to stack SV012.
 - (3) One (1) DDGS storage building, identified as EU032, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
- (m) One (1) DDGS loadout operation, approved in 2007 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 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
 - (2) One (1) DDGS truck loadout spout, identified as EU034, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
 - (3) One (1) DDGS rail loadout spout, identified as EU035, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
- (n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, 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.
- (o) One (1) diesel generator, identified as EU037, approved in 2007 for construction, with a maximum power output rate of 2,640 HP, and exhausting to stack SV015.

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.~~

Under NSPS, Subpart IIII, this unit is an affected source.
Under NESHAP, Subpart ZZZZ, 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, used in series to separate corn oil from the syrup system, exhausted to the thermal oxidizer CE009 and stack SV009. During wetcake production, emissions from EU038 and EU039 are exhausted through a pressure relief vent. ~~[40 CFR 60, Subpart VVa]~~
- (c) Storage Tanks:

- (1) One (1) off spec tank for 190-proof ethanol, identified as T001, approved in 2007 for construction, with a maximum capacity of 250,000 gallons. ~~[40 CFR 60, Subpart Kb]~~
- (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of denaturant. ~~[40 CFR 60, Subpart Kb]~~**[40 CFR 63, Subpart BBBBBB]natural gasoline.**
- (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol. ~~[40 CFR 60, Subpart Kb]~~
- (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol. ~~[40 CFR 60, Subpart Kb]~~
- (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline. ~~[326 IAC 8-9]~~**[40 CFR 63, Subpart BBBBBB]**

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

- (d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 2,200 gallons per year. ~~[326 IAC 8-4-6]~~**[40 CFR 63, Subpart CCCCCC]**

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

- (e) Vapor collection-equipped gasoline cargo tanks. ~~[326 IAC 8-4-6]~~**[40 CFR 63, Subpart BBBBBB]**~~[40 CFR 63, Subpart CCCCCC]~~

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) Forced and induced draft cooling tower system not regulated under a NESHAP. **The cooling tower has a maximum throughput of 30,000 gallons per minute.**

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
~~Northwest Regional Office phone: (219) 464-0233; fax: (219) 464-0553.~~

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(4042). 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).

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(~~3637~~)) 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:

C.14 Risk Management Plan [326 IAC 2-7-5(~~4211~~)] [40 CFR 68]

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]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 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(~~3233~~) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

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

Emissions Unit Description:

~~Grain and DDGS Handling Processes~~

- (a) One (1) grain receiving and handling operation, approved in 2007 for construction, controlled by baghouse CE001, exhausting through stack SV001, and consisting of the following:
 - (1) ~~Four (4)~~ **Two (2)** truck dump pits and one (1) rail dump pit, identified as EU001, approved in 2007 for construction, with a maximum throughput rate of 840 tons of corn per hour.
 - (2) Two (2) grain legs and conveying system, identified as EU002, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour.
 - (3) Four (4) grain bins, identified as EU003, approved in 2007 for construction, with a maximum throughput rate of 840 tons per hour. Three (3) of these grain bins have the capacity to store up to 674,600 bushels each. The fourth bin has a capacity of 53,000 bushels for a total storage capacity of 2,076,800 bushels.

- (b) One (1) corn transfer conveyor system, identified as EU004, approved in 2007 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 2007 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 2007 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 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~220~~**29** tons/hr of DDGS, and consisting of the following:
 - (1) One (1) DDGS storage silo, identified as EU030, approved in 2007 for construction, controlled by baghouse CE011, with emissions exhausted to stack SV011.
 - (2) One (1) DDGS silo bypass, identified as EU031, approved in 2007 for construction, controlled by baghouse CE012, with emissions exhausted to stack SV012.
 - (3) One (1) DDGS storage building, identified as EU032, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack ~~SV004~~**SV018**.
- (m) One (1) DDGS loadout operation, approved in 2007 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 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
 - (2) One (1) DDGS truck loadout spout, identified as EU034, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.
 - (3) One (1) DDGS rail loadout spout, identified as EU035, approved in 2007 for construction, controlled by baghouse CE016, with emissions exhausted to stack SV018.

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

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

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the PM, PM₁₀, and PM_{2.5}, emissions shall not exceed the following:

Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM ₁₀ Emission Limit (lbs/hr)	PM _{2.5} Emission Limit (lbs/hr)
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Unit ID	Unit Description	Baghouse ID	PM Emission Limit (lbs/hr)	PM ₁₀ Emission Limit (lbs/hr)	PM _{2.5} Emission Limit (lbs/hr)
EU001, EU002, EU003	Grain Receiving, Conveyors, and Storage Bins	CE001	5.47 (combined)	5.76 (combined)	5.87 (combined)
EU004, EU005	Corn Scalper, Surge Bin	CE002	0.40 (combined)	0.42 (combined)	--
EU006	Hammermill #1	CE003	1.65	1.74	1.77
EU007	Hammermill #2	CE004	1.65	1.74	1.77
EU008	Hammermill #3	CE005	1.65	1.74	1.77
EU009	Hammermill #4	CE006	1.65	1.74	1.77
EU010	Hammermill #5	CE007	1.65	1.74	1.77
EU030	DDGS Silo Loading	CE011	0.56	0.59	--
EU031	DDGS Silo Bypass	CE012	0.60	0.63	--
EU032, EU033, EU035	DDGS conveying, storage, and loadout	CE016	1.37 (combined)	1.44 (combined)	1.44 (combined)

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 following operations shall not exceed the pound per hour limits listed in the table below:

Unit ID	Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
EU001, EU002, EU003	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	2629	36.439.1
EU031	DDGS Silo Bypass	2629	36.439.1
EU032	DDGS Storage Building	22029	59.539.1
EU033	DDGS Conveyor	220	59.5
EU034	DDGS Truck Loadout Spout	220	59.5
EU035	DDGS Rail Loadout Spout	220	59.5

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

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

D.1.4 Particulate Control

In order to ensure compliance with Conditions D.1.4(a)~~1~~ and D.1.52, 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, EU002, EU003	Grain Receiving, Conveyors, and Storage Bins	CE001
EU004, EU005	Corn Scalper, Surge Bin	CE002
EU006	Hammermill #1	CE003
EU007	Hammermill #2	CE004
EU008	Hammermill #3	CE005

Unit ID	Unit Description	Baghouse ID
EU009	Hammermill #4	CE006
EU010	Hammermill #5	CE007
EU030	DDGS Silo Loading	CE011
EU031	DDGS Silo Bypass	CE012
EU032, EU033, EU035	DDGS conveying, storage, and loadout	CE016

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]

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

D.1.6 Visible Emissions Notations

D.1.7 Parametric Monitoring

- (a) ~~The Permittee shall record the pressure drop across the baghouses used in conjunction with the grain receiving and handling operations (baghouses CE001 and CE002), the hammermills (baghouses CE003 through CE007), and the DDGS handling and loadout operations (baghouses CE011, CE012, and CE016), at least once per day when these units are in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 and 6.0 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. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.~~
- (b) ~~The instrument used for determining the pressure shall comply with Section C– Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.~~

D.1.8 Broken or Failed Bag Detection - Single Compartment Baghouses

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

D.1.98 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.6, the Permittee shall maintain a daily record of 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) ~~To document the compliance status with Condition D.1.7, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the process. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).~~

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

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

Emissions Unit Description: ~~Fermentation/Distillation and DDGS Drying~~

- (e) One (1) fermentation process, approved in 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~58,500~~**60,000** gallons per hour, controlled by scrubber CE008 and **regenerative** thermal oxidizer (RTO) CE009, 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, approved in 2007 for construction.
- (2) One (1) **fermenter, identified as EU047, approved in 2016 for construction.**
- (3) **One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.**
- (34) One (1) beer well, identified as EU018, approved in 2007 for construction.

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 2007 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 2007 for construction **and approved in 2016 for modification**, with a maximum throughput ~~input feed~~ rate of ~~57~~**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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008.** This process consists of the following:

- (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
- (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
- (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
- (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
- (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 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) centrifuges, identified as EU024, approved in 2007 for construction, controlled by **regenerative thermal oxidizer (RTO) CE009** during normal operation, with emissions exhausted through stack SV009. ~~During wetcake production~~ **When DDGS is not being produced**, emissions from EU024 are exhausted through bypass stack SV017.
- (i) Two (2) natural gas fired DDGS dryers, identified as EU025 and EU026, approved in 2007 for construction **and approved in 2016 for modification**, each with a maximum heat input rate of 60 MMBtu/hr, with a total maximum throughput rate of ~~2678 tons of wetcake per hour~~, **and an output of 29 tons of DDGS produced per hour**, controlled by multiclones CE013 and CE014, respectively, with emissions venting to thermal oxidizer CE009, and exhausting to stack SV009.
- (k) One (1) fluidized DDGS cooler, identified as EU029, approved in 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~2629~~ tons/hr of DDGS, controlled by baghouse CE010, exhausting to the DDGS Dryers (EU025 and EU026), and equipped with bypass stack SV010, exhausting to atmosphere.

Insignificant Activities:

- (b) Two (2) centrifuges, identified as EU038 and EU039, approved in 2012 for construction, ~~each with a maximum throughput of 85 gallons per minute (GPM), used in series~~ to separate corn oil from the syrup system, exhausted to the thermal oxidizer CE009 and stack SV009. During wetcake production, emissions from ~~EU024~~ **EU038 and EU039** are exhausted through ~~bypass stack SV017. [40 CFR 60, Subpart VVa]~~ **a pressure relief vent.**

(The information describing the process contained in this ~~facility~~ **emissions unit** 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][40 CFR 63]

The Permittee shall comply with the following emission limits for the RTO system (CE009) and Scrubber (CE008), and the DDGS Cooler (EU029):

- (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~~ **DDGS is being produced**, the set of four centrifuges. The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:
- (1) PM emissions shall not exceed 26.64 lbs/hr.
 - (2) PM₁₀ emissions shall not exceed 29.70 lbs/hr.
 - (3) PM_{2.5} emissions shall not exceed 28.40 lbs/hr.
 - (4) VOC emissions shall not exceed 39.49 lbs/hr.
 - (5) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
 - (6) Methanol emissions shall not exceed 1.75 lbs/hr.
 - (7) Acrolein emissions shall not exceed 0.21 lbs/hr.

(8) Total HAP emissions shall not exceed ~~3.70~~**3** 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 wet cake~~**DDGS is being produced**, the set of four centrifuges. The emissions from the RTO (CE009) stack exhaust (SV009) shall be limited as follows:

- (1) PM emissions shall not exceed 26.64 lbs/hr.
- (2) PM₁₀ emissions shall not exceed 29.70 lbs/hr.
- (3) PM_{2.5} emissions shall not exceed 28.40 lbs/hr.
- (4) VOC emissions shall not exceed 39.49 lbs/hr.
- (5) Acetaldehyde emissions shall not exceed 1.23 lbs/hr.
- (6) Methanol emissions shall not exceed 1.75 lbs/hr.
- (7) Acrolein emissions shall not exceed 0.21 lbs/hr.
- (8) Total HAP emissions shall not exceed ~~3.70~~**3** 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 shall continue to control the VOC emissions for the fermentation and distillation processes, during the periods when the RTO is down. The RTO downtime shall not exceed more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) VOC emissions from the scrubber (CE008) shall not exceed ~~84.43~~**84.21** pounds per hour.
- (3) Acetaldehyde emissions from the scrubber (CE008) shall not exceed 5.60 lbs/hr.
- (4) Total HAP emissions from the scrubber (CE008) shall not exceed 5.72 lbs/hr.

(d) The Permittee shall comply with the following emission limits for the DDGS cooler (EU029):

- (1) VOC emissions from the DDGS cooler (EU029) bypass stack exhaust SV010, shall not exceed 5.685 lbs/hr.
- (2) Acetaldehyde emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 1.61 lbs/hr.
- (3) Total HAP emissions from the DDGS cooler (EU029) bypass stack exhaust SV01, shall not exceed 2.22 lbs/hr.
- (4) The DDGS Cooler (EU029) shall not vent to atmosphere more than two hundred (200) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits, **combined with** the limits in Conditions D.1.1, D.4.2(a), D.4.2(b),

~~and D.4.3, and the unrestricted~~ **potential to emit** PM, PM₁₀, PM_{2.5}, and VOC emissions from all other emission units **at the source**, shall limit the **source-wide potential to emit** of PM, PM₁₀, PM_{2.5}, and VOC emissions from the entire source to less than two hundred fifty (250) tons per year, each. ~~Therefore,~~ **and shall render** the requirements of 326 IAC 2-2 (PSD) are ~~rendered~~ not applicable.

Compliance with these limits, ~~the limits in Condition D.4.2, and the unrestricted~~ **combined with the potential to emit** HAP PTE from all other emission units **at the source**, shall limit the HAP emissions from the entire source to less than ten (10) tons per year of any single HAP, and less than twenty-five (25) tons per year of total HAP. Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are rendered not applicable to the fermentation and distillation processes and the DDGS dryers (EU025 and EU026), ~~and the entire~~ **this source is rendered** an area source of HAP emissions under ~~40 CFR 63.333~~ **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~~ **comply with** the VOC emissions from the following:

- (a) Fermentation and Distillation ~~processes and the DDGS dryers (EU025 and EU026) using the following controls:~~ **Process**
 - (a1) The VOC emissions from the fermentation and distillation process shall be controlled by either the scrubber CE008 or the regenerative thermal oxidizer CE009 or a combination of both the scrubber CE008 and RTO system CE009, ~~as specified in D.2.1.~~
 - (b2) The overall efficiency for the scrubber CE008 and **regenerative** thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) ~~shall be at least~~ **of not less than 98%**, or the VOC outlet ~~resulting in a volatile organic compound concentration shall~~ **of not exceed more than 10 ppmv.**
 - (e3) The overall efficiency for the scrubber CE008 (including the capture efficiency and the destruction efficiency) ~~shall be at least~~ **of not less than 98%**, or the VOC outlet ~~resulting in a volatile organic compound concentration shall~~ **of not exceed more than 20 ppmv.**
 - ~~(d)~~ **(4) The overall efficiency for the regenerative thermal oxidizer CE009 (including the capture efficiency and destruction efficiency) of not less than 98%, or resulting in a volatile organic compound concentration of not more than 10 ppmv.**
- (b) **DDGS dryers**
 - (1) The VOC emissions from the DDGS dryers (EU025 and EU026) shall be controlled by regenerative thermal oxidizer CE009.
 - (e2) The overall efficiency for the regenerative thermal oxidizer CE009 ~~controlling the DDGS dryers (EU025 and EU026) (including the capture efficiency and destruction efficiency) shall be at least~~ **of not less than 98%**, or the VOC outlet ~~resulting in a volatile organic compound concentration shall~~ **of not exceed more than 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	2678.0	36.448.8
EU026	DDGS Dryer	2678.0	36.448.8
EU029	DDGS Cooler	2629.0	36.439.1

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

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

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

~~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.5.2 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.~~
Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

D.2.45 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

D.2.65 VOC and HAP Control [326 IAC 8-5-6]

- (a) Unless operating under AOS1 or AOS2:
 In order to ~~comply~~**assure compliance** with Condition D.2.1(a),
 - (i) the **regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from the DDGS dryers (EU025 and EU026) at all times that the dryers are in operation, and, when DDGS is being produced, the set of four centrifuges.**
 - (ii) the regenerative thermal oxidizer (RTO) CE009 and the scrubber CE008 shall be in operation and control emissions from :
~~DDGS dryers (EU025 and EU026) at all times that the dryers are in operation, and~~
 the fermentation and distillation processes at all times that these units are in operation.
- (b) When operating under AOS1:
 In order to ~~comply~~**assure compliance** with D.2.1(b), when the scrubber CE008 is down, emissions from the fermentation and distillation processes ~~and, the DDGS dryers (EU025 and EU026), and, when DDGS is being produced, the set of four centrifuges~~ shall be

controlled by the RTO CE009 ~~only~~ **at all times that these processes are in operation.**

- (c) When operating under AOS2:
In order to ~~comply~~ **assure compliance** with D.2.1(c), when the regenerative thermal oxidizer (RTO) CE009 is down, emissions from the fermentation and distillation processes shall be controlled by the scrubber CE008 ~~only~~. ~~When the RTO is down, the DDGS dryers shall not be~~ **at all times that these processes are in operation.**
- (d) **In order to assure compliance with Condition D.2.1(d), the regenerative thermal oxidizer (RTO) CE009 shall be in operation and control emissions from the DDGS Cooler (EU029) at all times that the cooler is in operation, except for the two hundred (200) hours per twelve (12) consecutive month period when the DDGS Cooler (EU029) vents to the atmosphere.**
- (e) **In order to assure compliance with Condition D.2.2 the regenerative thermal oxidizer (RTO) CE009 and/or the scrubber CE008 shall be in operation and control emissions from the fermentation and distillation processes, and the DDGS dryers at all times these processes are in operation.**

~~D.2.D.2.7 Particulate Control~~

~~In order to ensure~~ **6 Particulate Control**

In order to assure compliance with Condition D.2.3, Baghouse CE010 shall be in operation and control emissions from the DDGS cooler (EU029) at all times that this unit is in operation.

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

~~D.2.87 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]~~

-
- (a) In order to demonstrate compliance with Conditions D.2.1(a), D.2.2, and D.2.3, when both the RTO (CE009) and scrubber (CE008) control emissions from the fermentation and distillation processes ~~and, DDGS dryers,~~ **and four (4) centrifuges (EU024),** the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), and Acetaldehyde testing for the RTO system stack (SV009). ~~The testing shall utilize), utilizing methods as approved by the Commissioner, be conducted no later than 180 days after issuance of Permit No. T169-34491-00068,~~ **and. These tests shall** be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 includes filterable and condensable 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. **Note: During the test, the DDGS cooler shall be venting to the DDGS dryers.**
- (b) In order to demonstrate compliance with Conditions D.2.1(b), D.2.2, and D.2.3, the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), and Acetaldehyde testing for the RTO system (CE009) with the fermentation and distillation processes ~~and, DDGS dryers,~~ **and four (4) centrifuges (EU024)** all exhausting to the RTO without the scrubber (CE008) operating. ~~The testing shall utilize, utilizing methods as approved by the Commissioner, be conducted no later than 180 days after issuance of Permit No. T169-33491-00068, and.~~ **These tests shall** be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 includes filterable and condensable 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.

Note: During the test, the DDGS cooler shall be venting to the DDGS dryers.

- (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 Scrubber stack (SV008)~~, utilizing methods approved by the Commissioner. These tests shall be performed without the RTO operating and 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 the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
- ~~(d) In order to demonstrate compliance with Condition D.2.4, 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), utilizing methods as approved by the Commissioner. 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)~~(d) In order to demonstrate compliance with Condition D.2.1(d), the Permittee shall perform VOC, and Acetaldehyde testing for the DDGS cooler (EU029) baghouse bypass stack (SV010), utilizing methods as approved by the Commissioner. 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.

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

D.2.98 Visible Emissions Notations

D.2.409 Regenerative 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~~**most recent** valid stack test that demonstrates compliance with limits in Conditions D.2.1, ~~D.2.2, D.2.3,~~ and D.2.42.
- 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 **regenerative** thermal oxidizers at or above the 3-hour average temperature as observed during the ~~latest~~-compliant stack test.
- (d) ~~for the appropriate operating scenario.~~If the 3-hour average temperature falls below the ~~level observed during the latest compliant stack test~~**above mentioned 3-hour average temperature**, 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.2.4110 Parametric Monitoring [326 IAC 8-5-6]

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the RTO system (CE009) for measuring **the** duct pressure or fan amperage. For the purpose of this condition, continuous means no less **often** 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 **appropriate 3-hour average 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 3-hour average duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, ~~D.2.2, D.2.3,~~ and D.2.42.
- (c) ~~The 3-hour average duct pressure or fan amperage shall be observed at least once per day when the RTOs are in operation. On and after the date the stack test results are available, the 3-hour average duct pressure or fan amperage shall be maintained within the 3-hour average normal range as established in the latest compliant stack test.~~
- (d) ~~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.~~
- (e) ~~When, for any one reading, the 3-hour average temperature, the duct pressure or fan amperage falls outside of the appropriate range~~ **the above mention 3-hour average ranges**, 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. Failure to take response steps shall be considered a deviation from this permit.

D.2.4211 Scrubber Pressure Drop and **Water** 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~~ **associated processes are** in operation.
- (1) **(b) 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 and **D.2.2.**
~~D.2.2.~~
- (2) **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 and D.2.2.
- (c) 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 ~~for the appropriate operating scenario. If the flow rate falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.~~

- (d) **When for any one reading, the water flow rate is below the above mentioned minimum, 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.
- ~~(de)~~ The Permittee shall monitor and record the pressure drop across the scrubber (CE008) at least once per day when the associated processes are 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 1.0 and 12.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.
- ~~(ef)~~ 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)~~ D.2.1312 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

- ~~Failed units~~ **(a) For a scrubber controlling emissions from a process operated continuously, a failed unit** and the associated process will be shut down immediately until the failed ~~units~~ **unit has** 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~~
- (b) For a scrubber controlling emissions from a batch process, the feed to the reasonable response steps required by this condition. Failure to take response steps** ~~process~~ shall be considered a deviation from this permit. **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).**

~~D.2.14~~ Baghouse Parametric Monitoring

- ~~(a)~~ The Permittee shall record the pressure drop across the baghouse used in conjunction with the DDGS cooler (EU029) at least once per day when this unit is in operation. When, for any one reading, the pressure drop across the baghouse is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 and 6.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. ~~Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit.~~ **D.2.13b)** The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

~~D.2.1513~~ Broken or Failed Bag Detection - Single Compartment Baghouses

D.2.4614 Record Keeping Requirements

- (a) To document the compliance status with ~~Conditions~~**Condition D.2.1(c)(1)**, 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.2.98~~, the Permittee shall maintain a daily record of visible emission notations of the RTO system stack (SV009) and the DDGS Cooler baghouse stack exhaust (stack SV010). 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.2.409~~, the Permittee shall maintain continuous temperature records for the thermal oxidizer and the 3-hour average temperature used to demonstrate compliance during the ~~latest valid~~**most recent compliant** stack test.
- (d) To document the compliance status with ~~Condition D.2.4410~~, the Permittee shall maintain continuous duct pressure or fan amperage records for the RTO system (CE009) and the 3-hour average duct pressure or fan amperage used to demonstrate compliance during the ~~latest valid~~**most recent compliant** stack test.
- (e) To document the compliance status with ~~Conditions D.2.1(d)(1) and D.2.1(d)(34)~~, the Permittee shall maintain monthly records of the number of hours the fluidized DDGS cooler (EU029) exhausts to the atmosphere.
- (f) To document the compliance status with ~~Condition D.2.4311~~, the Permittee shall maintain a daily record of pressure drop and **water** flow rate for scrubber CE008. The Permittee shall include in its daily record whether the system is operating under AOS2. The Permittee shall include in its daily record when ~~pressure drop and flow rate~~**the readings** are not taken and the reason for the lack of the readings (e.g., the process did not operate that day).
- ~~(g) To document the compliance status with Condition D.2.14, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the DDGS cooler (EU029). The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).~~
- ~~(h)(g)~~ Documentation of the dates, including the time, the system is operating under AOS1 or AOS2.
- ~~(ih)~~ Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the ~~recordkeeping requirements of~~**records required by this requirementcondition**.

D.2.4715 Reporting Requirements

A quarterly summary of the information to document the compliance status with ~~Conditions D.2.1(c)(1), D.2.1(c)(2), D.2.1(d)(1),~~ and D.2.1(d)(34), shall be submitted not later than thirty (30) days ~~following~~**after** the end of the calendar quarter. ~~being reported.~~ **Section C - General Reporting Requirements contains the Permittee's obligations 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 C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.~~**35).**

Emissions Unit Description: ~~Boilers~~

- (j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2007 for construction, each with a maximum heat input rate of 143 MMBtu/hr **each**, with emissions exhausting to stacks SV013 and SV014, respectively.

Under 40 CFR, Subpart Db, the two (2) boilers are new steam generating units.

(The information describing the process contained in this ~~facility~~ **emissions unit** 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]

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

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

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.3.3~~1~~, the Permittee shall maintain records of all NO_x and O₂ or CO₂ 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.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS — ~~Ethanol Loading Racks~~

Emissions Unit Description: ~~Ethanol Loading Racks~~

- (n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, 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~~ **exhausts** through stack SV016.

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

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

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

D.4.1 VOC Emissions [326 IAC 8-5-6]

D.4.2 HAP Minor Limits [326 IAC 2-4.1][40 CFR 63]

- (a) The total combined denatured ethanol and E-85 loadout from loading rack EU036 shall not exceed ~~83,150~~**86,000**,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.

D.4.3 PSD Minor Limit [326 IAC 2-2]

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

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

SECTION D.5 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 2007 for construction, with a maximum capacity of 250,000 gallons.~~
- ~~(2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of denaturant.~~
- ~~(3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.~~
- ~~(4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.~~
- ~~(5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.~~
- ~~(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 1,200 gallons per year.~~

~~(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 Volatile Organic Compounds (VOC) [326 IAC 8-4-3]~~

- ~~(a) Pursuant to 326 IAC 8-4-3(b)(1)(B), storage tanks T001, T002, T003, T004, 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 position 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.5.2 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 either T003 and 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.2.5 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.5.3 Volatile Organic Compounds (VOC) [326 IAC 8-4-6]~~

~~In order to render the requirements of 326 IAC 8-4-6 not applicable for the 300-gallon gasoline dispensing operation storage tank, the Permittee shall comply with the following:~~

~~The monthly gasoline throughput from the gallon gasoline dispensing operation storage tank shall be less than 10,000 gallons per month, with compliance determined at the end of each month.~~

~~Compliance with this limit shall render the requirements of 326 IAC 8-4-6 (Gasoline Dispensing Facilities) not applicable.~~

~~D.5.4 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

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

~~In order to demonstrate compliance with Condition D.5.2, 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 process fluid from one of the 200-Proof ethanol tanks, identified as T003 or T004, not later than 180 days after the issuance date of Permit No. T169-31191-00068, 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 Permittee shall alternate the tank to be tested every five (5) years. 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 Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.5.6 Record Keeping Requirements

- ~~(a) To document the compliance status with Condition D.5.1, the Permittee shall maintain the following records for tanks T001, T002, T003, T004, 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.5.3, the Permittee shall maintain monthly records of the gasoline throughput for the 300-gallon gasoline dispensing operation storage tank.~~
- ~~(c) Section C – General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.~~

D.5.7 Reporting Requirements

~~A quarterly summary of the information to document the compliance status with Condition D.5.3 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 Standard of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction Commenced After November 7, 2006 [40 CFR Part 60, Subpart VVa][326 IAC 12]

SECTION E.1

NSPS

Emissions Unit Description: ~~Equipment Leaks~~

- (e) One (1) fermentation process, approved in 2007 for construction **and approved in 2016 for modification**, with a maximum throughput rate of ~~58,500~~**60,000** gallons per hour, controlled by scrubber CE008 and **regenerative** thermal oxidizer (RTO) CE009, 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, approved in 2007 for construction.
 - (2) One (1) **fermenter, identified as EU047, approved in 2016 for construction.**
 - (3) **One (1) yeast propagation tank, identified as EU017, approved in 2007 for construction.**
 - ~~(34)~~ One (1) beer well, identified as EU018, approved in 2007 for construction.

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

(g) One (1) distillation process, approved in 2007 for construction **and approved in 2016 for modification**, with a maximum ~~throughput~~ **input feed rate of 5760,000 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 RTO downtime, emissions from the fermentation process are exhausted through RTO bypass stack SV008.** This process consists of the following:

- (1) One (1) beer stripper, identified as EU019, approved in 2007 for construction.
- (2) One (1) rectifier column, identified as EU020, approved in 2007 for construction.
- (3) One (1) side stripper, identified as EU021, approved in 2007 for construction.
- (4) One (1) set of three (3) molecular sieves, identified as EU022, approved in 2007 for construction.
- (5) One (1) set of four (4) evaporators, identified as EU023, approved in 2007 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) centrifuges, identified as EU024, approved in 2007 for construction, controlled by thermal oxidizer CE009 during normal operation, with emissions exhausted through stack SV009. During wetcake production, emissions from EU024 are exhausted through bypass stack SV017.~~

(n) One (1) ethanol loading system, identified as EU036, consisting of two (2) racks for trucks and one (1) rack for railcars, approved in 2007 for construction, 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.

Significant Activities:

~~(g) Two (2) centrifuges~~
(c) Storage Tanks:

- (1) **One (1) off spec tank for 190-proof ethanol**, identified as ~~EU038 and EU039~~ **T001**, approved in ~~2012~~ **2007** for construction, each with a maximum throughput capacity of ~~85250,000 gallons per minute (GPM), used to separate corn oil from the syrup system, exhausted to the thermal oxidizer CE009 and stack SV009. During wetcake production, emissions from EU024 are exhausted through bypass stack SV017.~~ **250,000 gallons per minute (GPM), used to separate corn oil from the syrup system, exhausted to the thermal oxidizer CE009 and stack SV009.**
- (2) **One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of natural gasoline.**
- (3) **One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.**
- (4) **One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for**

construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol.

- (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline.**

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under NSPS, Subpart VVa], equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.

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

New Source Performance ~~Standard~~**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~~**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 **[NSPS [326 IAC 12]]**[40 CFR Part 60, Subpart VVa][~~326 IAC 12]~~

~~Pursuant to 40 CFR Part 60, Subpart VVa,~~ The Permittee shall comply with the **following** provisions of ~~Standard of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction Commenced After November 7, 2006~~**40 CFR Part 60, Subpart VVa** (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 12, ~~as specified as follows~~**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 – Standard of Performance for Industrial-Commercial-Institutional Steam Generating Units Requirements [40 CFR Part 60, Subpart Db][326 IAC 12]~~

SECTION E.2

NSPS

Emissions Unit Description: ~~Boilers~~

- (j) Two (2) natural gas fired boilers, identified as EU027 and EU028, approved in 2007 for construction, each with a maximum heat input rate of 143 MMBtu/hr each, with emissions exhausting to stacks SV013 and SV014, respectively.

Under 40 CFR, Subpart Db, the two (2) boilers are new steam generating units.

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

New Source Performance ~~Standard~~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 ~~boilers EU027 and EU028~~the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart Db.

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

- (b) Pursuant to 40 CFR Part ~~60, Subpart Db~~4, the Permittee shall ~~comply with the provisions of Standard of Performance for~~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 **Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units 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 C to the operating permit), which are incorporated by reference as 326 IAC 12, for ~~boilers EU027 and EU028 as specified as follows~~the emission unit(s) listed above:

- (1) 40 CFR 60.40b(a), (g), and (j)
- (2) 40 CFR 60.41b
- (3) 40 CFR 60.44b(a), (h), (i), (l)(2), and (l)(3)
- (4) 40 CFR 60.46b(a), (c), (e), (e)(1), (e)(4), and (g)
- (5) 40 CFR 60.48b(b), (b)(1), (c), (d), (e)(2)(i), (f), and (g)
- (6) 40 CFR 60.49(a)(1), (a)(3), (b), (c), (d), (g), (h), (h)(2)(ii), (h)(4), (i), (o), (v), and (w)

~~SECTION E.3 Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) [40 CFR Part 60, Subpart Kb][326 IAC 12]~~

SECTION E.3

NSPS

Emissions Unit Description:

Significant Activities:

(c) Storage Tanks:

~~(g) Other emission units, not regulated by a NESHAP, with PM₁₀, NO_x, and SO₂ 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 2007 for construction, with a maximum capacity of 250,000 gallons. ~~[40 CFR 60, Subpart Kb]~~
- (2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of denaturant. ~~[40 CFR 60, Subpart Kb]~~ **natural gasoline.**
- (3) One (1) 200-proof ethanol tank, identified as T003, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol. ~~[40 CFR 60, Subpart Kb]~~
- (4) One (1) 200-proof ethanol tank, identified as T004, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 2,000,000 gallons of 200-proof ethanol. ~~[40 CFR 60, Subpart Kb]~~
- (5) One (1) denaturant tank, identified as T005, approved in 2007 for construction, with a maximum capacity of 126,900 gallons of natural gasoline. ~~[326 IAC 8-9][40 CFR 60, Subpart Kb]~~

~~Under 40 CFR 60, Subpart Kb, storage tanks T001 through T005~~ **these units are new volatile organic liquid storage tanks affected facilities. Under NSPS, Subpart VVa, equipment (as defined in 40 CFR 60.481a) within a process unit is an affected facility.**

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

New Source Performance ~~Standard~~ 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 tanks T001, T002, T003, T004, and T005 **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) ~~for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 NSPS [326 IAC 12]~~~~[40 CFR Part 60, Subpart Kb]~~~~[326 IAC 12]~~
~~Pursuant to 40 CFR Part 60, Subpart Kb,~~ The Permittee shall comply with the **following** provisions of ~~Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)~~**40 CFR Part 60, Subpart Kb** (included as Attachment D to the operating permit), which are incorporated by reference as 326 IAC 12, for ~~tanks T001, T002, T003, T004, and T005 as follows~~**the emission unit(s) listed above:**

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

~~SECTION E.4 Standards of Performance for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart III]~~~~[326 IAC 12]~~

SECTION E.4 NSPS

Emissions Unit Description: ~~Diesel Generator~~

- (o) One (1) diesel generator, identified as EU037, approved in 2007 for construction, with a maximum power output rate of 2,640 HP, and exhausting to stack SV015.

Under NSPS, Subpart III, this unit is an affected source.

Under NESHAP, Subpart ZZZZ, this unit is an affected source.

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

New Source Performance ~~Standard~~**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 ~~emergency generator EU037~~**the emission unit(s) listed above**, except as otherwise specified in 40 CFR Part 60, Subpart III.

- (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 III]~~[[326 IAC 12]~~

Pursuant to ~~40 CFR Part 60, Subpart III~~, The Permittee shall comply with the **following** provisions of ~~Standards of Performance for Stationary Compression Ignition Internal Combustion Engines~~**40 CFR Part 60, Subpart III** (included as Attachment E **to the operating permit**), which are incorporated by reference as 326 IAC 12, for ~~emergency generator EU037 as follows~~**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 III
- (13) Table 8 to 40 CFR 60, Subpart III

~~**SECTION E.5 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]**~~

SECTION E.5

NESHAP

Emissions Unit Description: ~~Diesel Generator~~

- (o) One (1) diesel generator, identified as EU037, approved in 2007 for construction, with a maximum power output rate of 2,640 ~~horsepower~~**HP**, and exhausting to stack SV015.

Under NSPS, Subpart III, this unit is an affected source.

Under NESHAP, Subpart ZZZZ, this unit is an affected source.

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

National ~~Emissions~~**Emission** Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.5.1 General Provisions Relating to National ~~Emissions~~**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.~~340(b),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 20-821, for the ~~reciprocating internal combustion engines~~**emission unit(s) listed above, except as otherwise** specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ in accordance with the schedule in 40 CFR 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 Emissions 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 F **to the operating permit**), which are incorporated by reference as 326 IAC 20-82, for the ~~reciprocating internal combustion engine~~ **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 636.6670
- (7) 40 CFR 63.6675

SECTION E.6 ~~National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities [40 CFR Part 63, Subpart BBBBBB]~~

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

~~(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 for construction in 2006 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.~~

Insignificant Activities

~~(c)(2) One (1) denaturant tank, identified as T002, approved in 2007 for construction, approved in 2009 for modification, with a maximum capacity of 250,000 gallons of denaturant.~~

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

~~(d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 1,200 gallons per year.~~

~~(e) Vapor collection-equipped gasoline cargo tanks.~~

~~Under the NESHAP for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (Area Sources) (40 CFR 63, Subpart BBBBBB) the ethanol loading system (EU036), the denaturant tanks (T002 and T005), and the associated vapor collection-equipped gasoline cargo tanks are affected facilities.~~

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

National Emissions Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

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

~~Pursuant to 40 CFR 63.11098, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A — General Provisions, as specified in Table 3 to 40 CFR 63, Subpart BBBBBB, in accordance with schedule in 40 CFR 63, Subpart BBBBBB, for the ethanol loading system (EU036), the denaturant tanks (T002 and T005), and the associated vapor collection-equipped gasoline cargo tanks.~~

~~E.6.2 National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (Area Sources) [40 CFR Part, Subpart BBBBBB]~~

~~The Permittee shall comply with the following provisions of 40 CFR 63, Subpart BBBBBB (National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (Area Sources)), which are included as Attachment G:~~

~~(a) for the ethanol loading system (EU036), the denaturant tanks (T002 and T005), and the associated vapor collection-equipped gasoline cargo tanks, 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 National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities [40 CFR Part 63, Subpart CCCCCC]~~

SECTION E.6

NESHAP

EmissionEmissions Unit Description ~~[326 IAC 2-7-5(14)]~~:

Insignificant Activities:

- (d) One (1) gasoline dispensing operation for plant vehicles, identified as T009, installed in 2008, with a 265 gallon capacity storage tank and an estimated annual throughput of 42,200 gallons per year.

~~(e) Vapor collection-equipped gasoline cargo tanks.~~

~~Under 40 CFR 63, Subpart CCCCCC the gasoline fuel tank (T009) and the associated vapor collection-equipped gasoline cargo tanks are the, this is an affected facility unit.~~

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

National ~~Emissions~~**Emission** Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.76.1 General Provisions Relating to National ~~Emissions~~**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 63.44130,1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, **as which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in Table 3 to 40 CFR Part 63, Subpart CCCCCC, in accordance with schedule in.**
- (b) Pursuant to 40 CFR 63, Subpart CCCCCC, for 10, the gasoline fuel tank (T009) **Permittee shall submit all required notifications and the associated vapor collection-equipped gasoline cargo tanks 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.76.2 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** (~~National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities~~), which are included as Attachment H, **for to the gasoline fuel tank (T009) and operating permit), for the associated vapor collection-equipped gasoline cargo tanks, no later than January 10, 2008 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 **40 CFR 63** Subpart CCCCCC

of Part 63

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

Part 70 Quarterly Report

Source Name: POET Biorefining - North Manchester
Source Address: 868 East 800 North, North Manchester, Indiana 46962
Part 70 Permit No.: T169-31191-00068
Facility: Ethanol Loading Rack EU036
Parameter: Denatured Ethanol Loadout
Limit: Less than ~~83-1586.00~~ MMgal per twelve (12) consecutive month period with compliance determined at the end of each month.

**OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: ~~POET Biorefining - North Manchester~~
Source Address: ~~868 East 800 North, North Manchester, Indiana 46962~~
Part 70 Permit No.: ~~T169-31191-00068~~
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.
Deviations has been reported on: _____
Submitted By: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 169-37113-00068 and Significant Permit Modification No. 169-37123-00068. 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 Thomas Olmstead 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) 233-9664 or toll free at 1-800-451-6027 extension 3-9664.
- (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
PTE Summary**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Potential to Emit after Issuance (tons/yr)									
Emission Point	Description	PM ton/yr	PM ₁₀ ton/yr	PM _{2.5} ton/yr	NO _x ton/yr	SO ₂ ton/yr	VOC ton/yr	CO ton/yr	GHG (CO ₂ e) ton/yr
Point Source Emissions									
SV001	Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	23.98	25.22	25.70					
SV002	Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	1.76	1.85	7.66					
SV003	Hammermill #1 (EU006)	7.23	7.60	7.75					
SV004	Hammermill #2 (EU007)	7.23	7.60	7.75					
SV005	Hammermill #3 (EU008)	7.23	7.60	7.75					
SV006	Hammermill #4 (EU009)	7.23	7.60	7.75					
SV007	Hammermill #5 (EU010)	7.23	7.60	7.75					
SV008	Fermentation Scrubber / RTO Bypass (EU011-EU023)						21.05		
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	116.68	130.09	124.39	90.18	10.63	163.09	54.11	77,702
SV010	DDGS Fluid Bed Cooler (EU029)	8.16	8.16	1.39			0.57		
SV011	DDGS Silo Loading (EU030)	2.47	2.60	10.21					
SV012	DDGS Silo Bypass (EU031)	2.64	2.78	11.49					
SV018	DDGS Loadout Operations (EU032 - EU035)	5.99	6.31	6.31					
SV016	Ethanol Loading Rack (EU036)						3.09		
Other Miscellaneous Units (Not Specifically Limited in Permit)									
SV013	Boiler #1 (EU027)	1.17	4.67	4.67	18.42	0.37	3.38	12.28	73,839
SV014	Boiler #2 (EU028)	1.17	4.67	4.67	18.42	0.37	3.38	12.28	73,839
CE015	Enclosed Flare	4.4E-04	1.8E-03	1.8E-03	21.09	1.4E-04	1.3E-03	53.00	28.51
EU024	Set of four (4) Centrifuges***						0.60		
EU038	Corn Oil Centrifuge						5.1E-03		
EU039	Corn Oil Centrifuge						3.0E-03		
SV015	Diesel Generator (EU037)	0.46	0.26	0.26	8.58	2.67	0.47	3.63	159.51
Total Emissions for PSD & Part 70		200.63	224.61	235.50	156.69	14.04	195.64	135.30	225,567

***The centrifuges are normally controlled by the RTO. Emissions are included in the RTO Stack. During RTO downtime, emissions are uncontrolled and shown here.

Fugitive Emissions									
F001	Uncaptured Grain Receiving (Fugitive)	29.25	8.46	1.44					
F002	DDGS Loadout Spout (Fugitive)	11.65	3.93	0.67					
F003	Truck Traffic	6.71	1.34	0.33					
F004	Equipment Leaks						7.07		
F005	Cooling Tower	8.22	8.22	8.22					
T001	190 Proof Ethanol Shift Tank						0.35		
T002	Denaturant Storage Tank						1.41		
T003	200 Proof Ethanol Storage Tank						0.31		
T004	200 Proof Ethanol Storage Tank						0.31		
T005	Denaturant Storage Tank						0.84		
T006	Diesel Storage Tank						0.17		
T009	Vehicle Refueling Operations (Gasoline)						0.17		
EU040	Corn Oil / Defatted Syrup Process Tank						0.0051		
EU041	Corn Oil / Defatted Syrup Process Tank						0.0030		
EU042	Corn Oil / Defatted Syrup Process Tank						0.0019		
EU043	Corn Oil / Defatted Syrup Process Tank						0.0013		
EU044	Corn Oil / Defatted Syrup Process Tank						0.00057		
EU045	Corn Oil / Defatted Syrup Storage Tank						0.00017		
EU046	Corn Oil / Defatted Syrup Storage Tank						0.00017		
Total Fugitive Emissions		55.84	21.95	10.66	0.00	0.00	10.65	0.00	0.00

Total Emissions	256.47	246.56	246.16	156.69	14.04	206.29	135.30	225567.34
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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.

Note: The shaded cells indicate where limits are included.

**Appendix A: Emission Calculations
PTE Limited**

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

Potential to Emit after Issuance (tons/yr)																	
Emission Point	Description	PM		PM ₁₀		PM _{2.5}		NO _x		SO ₂		VOC		CO		GHG (CO ₂ e)	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Point Source Emissions																	
SV001	Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	5.47	23.98	5.76	25.22	5.87	25.70										
SV002	Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	0.40	1.76	0.42	1.85	1.75	7.66										
SV003	Hammermill #1 (EU006)	1.65	7.23	1.74	7.60	1.77	7.75										
SV004	Hammermill #2 (EU007)	1.65	7.23	1.74	7.60	1.77	7.75										
SV005	Hammermill #3 (EU008)	1.65	7.23	1.74	7.60	1.77	7.75										
SV006	Hammermill #4 (EU009)	1.65	7.23	1.74	7.60	1.77	7.75										
SV007	Hammermill #5 (EU010)	1.65	7.23	1.74	7.60	1.77	7.75										
SV008	Fermentation Scrubber / RTO Bypass (EU011-EU023)											84.21	21.05				
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	26.64	116.68	29.70	130.09	28.40	124.39	20.59	90.18	2.43	10.63	39.49	163.09	12.35	54.11	17,740	77,702
SV010	DDGS Fluid Bed Cooler (EU029)	81.60	8.16	81.60	8.16	13.87	1.39					5.69	0.57				
SV011	DDGS Silo Loading (EU030)	0.56	2.47	0.59	2.60	2.33	10.21										
SV012	DDGS Silo Bypass (EU031)	0.60	2.64	0.63	2.78	2.62	11.49										
SV018	DDGS Loadout Operations (EU032 - EU035)	1.37	5.99	1.44	6.31	1.44	6.31										
SV016	Ethanol Loading Rack (EU036)											4.17	3.09				
Other Miscellaneous Units (Not Specifically Limited in Permit)																	
SV013	Boiler #1 (EU027)	0.27	1.17	1.07	4.67	1.07	4.67	4.21	18.42	0.08	0.37	0.77	3.38	2.80	12.28	16,858	73,839
SV014	Boiler #2 (EU028)	0.27	1.17	1.07	4.67	1.07	4.67	4.21	18.42	0.08	0.37	0.77	3.38	2.80	12.28	16,858	73,839
CE015	Enclosed Flare	1.0E-04	4.4E-04	4.0E-04	1.8E-03	4.0E-04	1.8E-03	4.81	21.09	3.2E-05	1.4E-04	2.9E-04	1.3E-03	12.10	53.00	6.51	28.51
EU024	Set of four (4) Centrifuges***												0.60				
EU038	Corn Oil Centrifuge												5.1E-03				
EU039	Corn Oil Centrifuge												3.0E-03				
SV015	Diesel Generator (EU037)	0.11	0.46	0.06	0.26	0.06	0.26	1.96	8.58	0.61	2.67	0.11	0.47	0.83	3.63	36.42	159.51
Total Emissions for PSD & Part 70			200.63		224.61		235.50		156.69		14.04		195.64		135.30		225,567

***The centrifuges are normally controlled by the RTO. Emissions are included in the RTO Stack. During RTO downtime, emissions are uncontrolled and shown here.

Fugitive Emissions																	
F001	Uncaptured Grain Receiving (Fugitive)	6.68	29.25	1.93	8.46	0.33	1.44										
F002	DDGS Loadout Spout (Fugitive)	2.66	11.65	0.90	3.93	0.15	0.67										
F003	Truck Traffic	1.53	6.71	0.31	1.34	0.08	0.33										
F004	Equipment Leaks											1.61	7.07				
F005	Cooling Tower	1.88	8.22	1.88	8.22	1.88	8.22										
T001	190 Proof Ethanol Shift Tank											0.08	0.35				
T002	Denaturant Storage Tank											0.32	1.41				
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				
T006	Diesel Storage Tank											0.04	0.17				
T009	Vehicle Refueling Operations (Gasoline)											0.04	0.17				
EU040	Corn Oil / Defatted Syrup Process Tank											1.2E-03	0.0051				
EU041	Corn Oil / Defatted Syrup Process Tank											6.9E-04	0.0030				
EU042	Corn Oil / Defatted Syrup Process Tank											4.3E-04	0.0019				
EU043	Corn Oil / Defatted Syrup Process Tank											3.0E-04	0.0013				
EU044	Corn Oil / Defatted Syrup Process Tank											1.3E-04	0.00057				
EU045	Corn Oil / Defatted Syrup Storage Tank											3.9E-05	0.00017				
EU046	Corn Oil / Defatted Syrup Storage Tank											3.9E-05	0.00017				
Total Fugitive Emissions			55.84	5.01	21.95	2.43	10.66	0.00	0.00	0.00	0.00	2.43	10.65	0.00	0.00	0.00	0.00
Total Emissions			256.47	5.01	246.56	2.43	246.16	0.00	156.69	0.00	14.04	2.43	206.29	0.00	135.30	0.00	225,567.34

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.

Note: The shaded cells indicate where limits are included.

**Appendix A: Emission Calculations
 PTE Summary**

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

Uncontrolled Potential to Emit (tons/yr)																	
Emission Point	Description	PM		PM ₁₀		PM _{2.5}		NO _x		SO ₂		VOC		CO		GHG (CO ₂ e)	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Point Source Emissions																	
SV001	Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	136.11	596.18	136.11	596.18	23.14	101.35										
SV002	Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	10.29	45.05	10.29	45.05	1.75	7.66										
SV003	Hammermill #1 (EU006)	41.14	180.21	41.14	180.21	6.99	30.63										
SV004	Hammermill #2 (EU007)	41.14	180.21	41.14	180.21	6.99	30.63										
SV005	Hammermill #3 (EU008)	41.14	180.21	41.14	180.21	6.99	30.63										
SV006	Hammermill #4 (EU009)	41.14	180.21	41.14	180.21	6.99	30.63										
SV007	Hammermill #5 (EU010)	41.14	180.21	41.14	180.21	6.99	30.63										
SV008	Fermentation Scrubber / RTO Bypass (EU011-EU023)											941.11	4,122				
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	85.99	376.65	85.99	376.65	85.99	376.65	20.59	90.18	4.77	10.63	674.31	2,953	12.35	54.11	17,740	77,702
SV010	DDGS Fluid Bed Cooler (EU029)	81.60	357.41	81.60	357.41	13.87	60.76					5.69	24.90				
SV011	DDGS Silo Loading (EU030)	13.71	60.07	13.71	60.07	2.33	10.21										
SV012	DDGS Silo Bypass (EU031)	15.43	67.58	15.43	67.58	2.62	11.49										
SV018	DDGS Loadout Operations (EU032 - EU035)	34.29	150.17	34.29	150.17	5.83	25.53										
SV016	Ethanol Loading Rack (EU036)											208.51	913.26				
CE015	Enclosed Flare	1.01E-04	4.4E-04	4.0E-04	1.8E-03	4.0E-04	1.8E-03	4.81	21.09	3.18E-05	1.4E-04	2.91E-04	1.28E-03	12.10	53.00	6.51	28.51
SV013	Boiler #1 (EU027)	0.27	1.17	1.07	4.67	1.07	4.67	4.21	18.42	0.08	0.37	0.77	3.38	2.80	12.28	16,858	73,839
SV014	Boiler #2 (EU028)	0.27	1.17	1.07	4.67	1.07	4.67	4.21	18.42	0.08	0.37	0.77	3.38	2.80	12.28	16,858	73,839
Other Miscellaneous Units (Not Specifically Limited in Permit)																	
EU038	Corn Oil Centrifuge											1.16E-03	5.1E-03				
EU039	Corn Oil Centrifuge											6.87E-04	3.0E-03				
SV015	Diesel Generator (EU037)	0.11	0.46	0.06	0.26	0.06	0.26	1.96	8.58	0.61	2.67	0.11	0.47	0.83	3.63	3,190	159.51
Total Point Sources (Sub-Total; non-fugitive)			2,557		2,564		756.43		156.69		14.04		8,021		135.30		225,567
Fugitive Emissions																	
F001	Uncaptured Grain Receiving (Fugitive)	6.68	29.25	1.93	8.46	0.33	1.44										
F002	DDGS Loadout Spout (Fugitive)	2.66	11.65	0.90	3.93	0.15	0.67										
F003	Truck Traffic	1.53	6.71	0.31	1.34	0.08	0.33										
F004	Equipment Leaks											20.50	89.81				
F005	Cooling Tower	1.88	8.22	1.88	8.22	1.88	8.22										
T001	190 Proof Ethanol Shift Tank											0.08	0.35				
T002	Denaturant Storage Tank											0.32	1.41				
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				
T006	Diesel Storage Tank											3.94E-02	0.17				
T009	Vehicle Refueling Operations (Gasoline)											3.94E-02	0.17				
EU040	Corn Oil / Defatted Syrup Process Tank											1.16E-03	5.1E-03				
EU041	Corn Oil / Defatted Syrup Process Tank											6.91E-04	3.0E-03				
EU042	Corn Oil / Defatted Syrup Process Tank											4.32E-04	1.9E-03				
EU043	Corn Oil / Defatted Syrup Process Tank											2.96E-04	1.3E-03				
EU044	Corn Oil / Defatted Syrup Process Tank											1.29E-04	5.7E-04				
EU045	Corn Oil / Defatted Syrup Storage Tank											3.88E-05	1.7E-04				
EU046	Corn Oil / Defatted Syrup Storage Tank											3.88E-05	1.7E-04				
Total Fugitive Emissions			55.84		21.95		10.66						93.39				
Total Emissions			2,613		2,586		767.08		156.69		14.04		8,114		135.30		225,567

**Appendix A: Emission Calculations
 PTE Summary**

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

Potential to Emit after Control (tons/yr)																	
Emission Point	Description	PM		PM ₁₀		PM _{2.5}		NO _x		SO ₂		VOC		CO		GHG (CO ₂ e)	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Point Source Emissions																	
SV001	Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	1.36	5.96	1.36	5.96	0.23	1.01										
SV002	Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	0.10	0.45	0.10	0.45	0.02	0.08										
SV003	Hammermill #1 (EU006)	0.41	1.80	0.41	1.80	0.07	0.31										
SV004	Hammermill #2 (EU007)	0.41	1.80	0.41	1.80	0.07	0.31										
SV005	Hammermill #3 (EU008)	0.41	1.80	0.41	1.80	0.07	0.31										
SV006	Hammermill #4 (EU009)	0.41	1.80	0.41	1.80	0.07	0.31										
SV007	Hammermill #5 (EU010)	0.41	1.80	0.41	1.80	0.07	0.31										
SV008	Fermentation Scrubber / RTO Bypass (EU011-EU023)											18.82	4.71				
SV009	RTO Stack & DDGS Dryers (EU025 & EU026)	8.60	37.67	8.68	38.03	8.68	38.03	20.59	90.18	2.43	10.63	13.49	59.07	1.24	5.41	17.740	77.702
SV010	DDGS Fluid Bed Cooler (EU029)	0.82	8.16	0.82	8.16	0.14	1.39					5.69	0.57				
SV011	DDGS Silo Loading (EU030)	0.14	0.60	0.14	0.60	0.02	0.10										
SV012	DDGS Silo Bypass (EU031)	0.15	0.68	0.15	0.68	0.03	0.11										
SV018	DDGS Loadout Operations (EU032 - EU035)	0.34	1.50	0.34	1.50	0.06	0.26										
SV016	Ethanol Loading Rack (EU036)											4.17	18.27				
CE015	Enclosed Flare	1.01E-04	4.4E-04	4.0E-04	1.8E-03	4.0E-04	1.8E-03	0.33	1.44	3.18E-05	1.4E-04	2.91E-04	1.28E-03	0.82	3.61	6.51	28.51
SV013	Boiler #1 (EU027)	0.27	1.17	1.07	4.67	1.07	4.67	4.21	18.42	0.08	0.37	0.77	3.38	2.80	12.28	16,858	73,839
SV014	Boiler #2 (EU028)	0.27	1.17	1.07	4.67	1.07	4.67			0.08	0.37	0.77	3.38	2.80	12.28	16,858	73,839
Other Miscellaneous Units (Not Specifically Limited in Permit)																	
EU038	Corn Oil Centrifuge											1.16E-03	5.1E-03				
EU039	Corn Oil Centrifuge											6.87E-04	3.0E-03				
SV015	Diesel Generator (EU037)	0.11	0.46	0.06	0.26	0.06	0.26	1.96	8.58	0.61	2.67	0.11	0.47	0.83	3.63	3,190	159.51
Total Point Sources (Sub-Total; non-fugitive)			66.82		73.99		52.11		118.61		14.04		89.84		37.21		225,567
Fugitive Emissions																	
F001	Uncaptured Grain Receiving (Fugitive)	6.68	29.25	1.93	8.46	0.33	1.44										
F002	DDGS Loadout Spout (Fugitive)	2.66	11.65	0.90	3.93	0.15	0.67										
F003	Truck Traffic	1.53	6.71	0.31	1.34	0.08	0.33										
F004	Equipment Leaks											1.61	7.07				
F005	Cooling Tower	1.88	8.22	1.88	8.22	1.88	8.22										
T001	190 Proof Ethanol Shift Tank											0.08	0.35				
T002	Denaturant Storage Tank											0.32	1.41				
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				
T006	Diesel Storage Tank											3.94E-02	0.17				
T009	Vehicle Refueling Operations (Gasoline)											3.94E-02	0.17				
EU040	Corn Oil / Defatted Syrup Process Tank											1.16E-03	5.1E-03				
EU041	Corn Oil / Defatted Syrup Process Tank											6.91E-04	3.0E-03				
EU042	Corn Oil / Defatted Syrup Process Tank											4.32E-04	1.9E-03				
EU043	Corn Oil / Defatted Syrup Process Tank											2.96E-04	1.3E-03				
EU044	Corn Oil / Defatted Syrup Process Tank											1.29E-04	5.7E-04				
EU045	Corn Oil / Defatted Syrup Storage Tank											3.88E-05	1.7E-04				
EU046	Corn Oil / Defatted Syrup Storage Tank											3.88E-05	1.7E-04				
Total Fugitive Emissions			55.84		21.95		10.66						10.65				
Total Emissions			122.66		95.95		62.77		118.61		14.04		100.49		37.21		225,567

**Appendix A: Emission Calculations
 HAP Summary**

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

Uncontrolled Potential to Emit (tons/yr)																			
HAP Pollutant	CAS	DDGS Cooler		Scrubber/ RTO Bypass		RTO Stack - Processing		NG Boilers		E85 Loadout		Flare Pilot Flame		Diesel Generator		Equipment Leaks		Total	
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Organic HAP																			
Acetaldehyde	75-07-0	1.61	7.03	5.60	24.53	40.95	179.37							2.66E-05	1.16E-04	3.23E-04	1.41E-03	48.16	210.93
Acrolein	107-02-8	0.18	0.79			2.39	10.48							8.31E-06	3.64E-05			2.57	11.26
Benzene	71-43-2					3.09E-04	1.35E-03	5.89E-04	2.58E-03	0.54	2.37	1.11E-07	4.87E-07	8.19E-04	3.59E-03	4.03E-03	1.77E-02	0.55	2.40
Carbon Disulfide	75-15-0															3.23E-05	1.41E-04	3.23E-05	1.41E-04
Cumene	98-82-8															1.61E-03	7.07E-03	1.61E-03	0.01
Dichlorobenzene	106-46-7							3.36E-04	1.47E-03			6.35E-08	2.78E-07					3.37E-04	1.47E-03
Ethylbenzene	100-41-4															8.07E-05	3.53E-04	8.07E-05	3.53E-04
Formaldehyde	50-00-0	0.20	0.86	0.04	0.18	0.27	1.20	2.10E-02	9.21E-02			3.97E-06	1.74E-05	8.32E-05	3.65E-04			0.53	2.33
Hexane	110-54-3					0.26	1.16	0.50	2.21	20.04	87.76	9.53E-05	4.17E-04			8.07E-02	3.53E-01	20.89	91.49
Methanol	67-56-1	0.24	1.05	0.04	0.18	8.01	35.09											8.29	36.31
Naphthalene	91-20-3					8.97E-05	3.93E-04							2.24E-04	9.79E-04			3.13E-04	1.37E-03
Propionaldehyde	123-38-6			0.04	0.18													0.04	0.18
Toluene	108-88-3					5.00E-04	2.19E-03	9.53E-04	4.18E-03	0.38	1.64	1.80E-07	7.88E-07	2.96E-04	1.30E-03	3.23E-04	1.41E-03	0.38	1.65
Xylenes	1330-20-7													2.04E-04	8.92E-04	8.07E-03	3.53E-02	0.01	0.04
Inorganic HAP																			
Arsenic	7440-38-2					2.94E-05	1.29E-04											2.94E-05	1.29E-04
Beryllium	7440-41-7					1.76E-06	7.73E-06											1.76E-06	7.73E-06
Cadmium	7440-43-7					1.62E-04	7.09E-04	3.08E-04	1.35E-03			5.82E-08	2.55E-07					4.70E-04	2.06E-03
Chromium	7440-47-3					2.06E-04	9.02E-04	3.93E-04	1.72E-03			7.41E-08	3.25E-07					5.99E-04	2.62E-03
Cobalt	7440-48-4					1.24E-05	5.41E-05											1.24E-05	5.41E-05
Lead	TRI N420					7.35E-05	3.22E-04	1.40E-04	6.14E-04			2.65E-08	1.16E-07					2.14E-04	9.36E-04
Manganese	7439-96-5					5.59E-05	2.45E-04	1.07E-04	4.67E-04			2.01E-08	8.81E-08					1.62E-04	7.12E-04
Mercury	7439-97-6					3.82E-05	1.67E-04											3.82E-05	1.67E-04
Nickel	7440-02-0					3.09E-04	1.35E-03	5.89E-04	2.58E-03			1.11E-07	4.87E-07					8.98E-04	3.93E-03
Selenium	7782-49-2					3.53E-06	1.55E-05											3.53E-06	1.55E-05
Combined HAPs		2.22	9.73	5.72	25.05	51.90	227.30	0.53	2.32	20.95	91.78	9.99E-05	4.38E-04	1.66E-03	7.27E-03	0.10	0.42	81.42	356.61

**Appendix A: Emission Calculations
 HAP Summary**

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

HAP Pollutant	CAS	Potential to Emit after Issuance (tons/yr)																Total	
		DDGS Cooler		Scrubber/ RTO Bypass		RTO Stack - Processing		NG Boilers		E85 Loadout		Flare Pilot Flame		Diesel Generator		Equipment Leaks		(lb/hr)	(ton/yr)
		(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
Organic HAP																			
Acetaldehyde	75-07-0	1.61	0.16	5.60	1.40	1.23	5.07							2.66E-05	1.16E-04	3.23E-04	1.41E-03	8.43	6.64
Acrolein	107-02-8	0.18	0.02			0.21	0.92							8.31E-06	3.64E-05			0.39	0.94
Benzene	71-43-2					3.09E-04	1.35E-03	5.89E-04	2.58E-03	0.54	2.37	1.11E-07	4.87E-07	8.19E-04	3.59E-03	4.03E-03	1.77E-02	0.55	2.40
Carbon Disulfide	75-15-0															3.23E-05	1.41E-04	3.23E-05	1.41E-04
Cumene	98-82-8															1.61E-03	7.07E-03	1.61E-03	7.07E-03
Dichlorobenzene	106-46-7							3.36E-04	1.47E-03			6.35E-08	2.78E-07					3.37E-04	1.47E-03
Ethylbenzene	100-41-4															8.07E-05	3.53E-04	8.07E-05	3.53E-04
Formaldehyde	50-00-0	0.20	0.02	0.04	0.01	0.27	1.20	2.10E-02	9.21E-02			3.97E-06	1.74E-05	8.32E-05	3.65E-04			0.53	1.32
Hexane	110-54-3					0.26	1.16	0.50	2.21	0.79	3.46	9.53E-05	4.17E-04			8.07E-02	0.35	1.64	7.18
Methanol	67-56-1	0.24	0.02	0.04	0.01	1.75	7.67											2.03	7.70
Naphthalene	91-20-3					8.97E-05	3.93E-04							2.24E-04	9.79E-04			3.13E-04	1.37E-03
Propionaldehyde	123-38-6			0.04	0.01													0.04	0.01
Toluene	108-88-3					5.00E-04	2.19E-03	9.53E-04	4.18E-03	0.38	1.64	1.80E-07	7.88E-07	2.96E-04	1.30E-03	3.23E-04	1.41E-03	0.38	1.65
Xylenes	1330-20-7													2.04E-04	8.92E-04	8.07E-03	3.53E-02	0.01	3.62E-02
Inorganic HAP																			
Arsenic	7440-38-2					2.94E-05	1.29E-04											2.94E-05	1.29E-04
Beryllium	7440-41-7					1.76E-06	7.73E-06											1.76E-06	7.73E-06
Cadmium	7440-43-7					1.62E-04	7.09E-04	3.08E-04	1.35E-03			5.82E-08	2.55E-07					4.70E-04	2.06E-03
Chromium	7440-47-3					2.06E-04	9.02E-04	3.93E-04	1.72E-03			7.41E-08	3.25E-07					5.99E-04	2.62E-03
Cobalt	7440-48-4					1.24E-05	5.41E-05											1.24E-05	5.41E-05
Lead	TRI N420					7.35E-05	3.22E-04	1.40E-04	6.14E-04			2.65E-08	1.16E-07					2.14E-04	9.36E-04
Manganese	7439-96-5					5.59E-05	2.45E-04	1.07E-04	4.67E-04			2.01E-08	8.81E-08					1.62E-04	7.12E-04
Mercury	7439-97-6					3.82E-05	1.67E-04											3.82E-05	1.67E-04
Nickel	7440-02-0					3.09E-04	1.35E-03	5.89E-04	2.58E-03			1.11E-07	4.87E-07					8.98E-04	3.93E-03
Selenium	7782-49-2					3.53E-06	1.55E-05											3.53E-06	1.55E-05
Combined HAPs		2.22	0.22	5.72	1.43	3.73	16.03	0.53	2.32	1.00	4.38	9.99E-05	4.38E-04	1.66E-03	0.01	0.10	0.42	13.30	24.80

Limitations Parameters:

DDGS cooler limits are uncontrolled HAP emissions limited by hours of bypassing the vent to the dryer.
 Scrubber/RTO bypass limits for Methanol is based on uncontrolled emissions and hours of operation limit.
 Note: The shaded cells indicate where limits are included.

**Appendix A: Emissions Calculations
Modification Summary**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Uncontrolled Potential to Emit (tons/yr)²							
Emission Unit	PM	PM10	PM2.5	SO₂	NO_x	VOC	CO
Total Emissions for PSD & Part 70 Existing Source ¹	2556.93	2563.74	756.43	13.70	156.69	7601.31	135.30
Total Emissions for PSD & Part 70 due to the Modification	2556.93	2563.74	756.43	14.04	156.69	8020.93	135.30
Total	0.00	0.00	0.00	0.34	0.00	419.62	0.00

Potential to Emit after Issuance (tons/yr)²							
Emission Unit	PM	PM10	PM2.5	SO₂	NO_x	VOC	CO
Total Emissions for PSD & Part 70 Existing Source ¹	200.63	224.61	235.50	13.70	156.69	200.84	135.30
Total Emissions for PSD & Part 70 due to the Modification	200.63	224.61	235.50	14.04	156.69	195.64	135.30
Total	0.00	0.00	0.00	0.34	0.00	0.00	0.00

1. Based upon Appendix A of Technical Support Document 169-33491-00068

2. The before and after PTE for each individual unit is not shown because there are no decreases associated with this modification. All units have the potential to be affected by the overall throughput increase.

**Appendix A: Emission Calculations
 Project Parameters**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Receiving	SSM 169-37113-00068	% Production Increase 169-37113-00068
Annual Grain Receiving	29,327,778 bushel/yr	3.42%
Denaturant Delivery (actual):	6,815,000 gal/yr	
Grain Receiving Capacity	30,000 bushel/hr	
Grain Receiving Capacity	840 ton/hr	
Annual Grain Receiving	821,178 ton/yr	
Grain Density:	56 lb/bushel	
Gallons Ethanol Produced per Bushel of Corn:	2.70 gal/bu	
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Production	SSM 169-37113-00068	
Total Production in Gallons Anhydrous Ethanol Produced per Year:	79,185,000 gal/yr	
<u>E-85 Operation (assume 10% of Anhydrous Ethanol Production is loaded out at E70):</u>		
Gallons E-85 Produced:	10,060,000 (1) gal/yr	
Denaturant Throughput:	3,018,000 (3) gal/yr	
Gallons Anhydrous Ethanol Loaded out in E-85 Service:	7,042,000 (2) gal/yr	
<u>Normal Denatured Ethanol Operation:</u>		
Gallons Denatured Ethanol Produced:	75,940,000 gal/yr	
Denaturant Throughput:	3,797,000 (4) gal/yr	
Gallons Anhydrous Ethanol Loaded out in Denatured Service:	72,143,000 gal/yr	
Combined Denatured Ethanol and E85 Production Rate	86,000,000 (1) gal/yr	
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Dry Distillers Grain with Solubles (DDGS) Production	SSM 169-37113-00068	
Hourly DDGS Production	31.88 ton/hr	
Annual DDGS Production	270,989 ton/yr	
Percent Grain Throughput that becomes DDGS	33.0%	
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DDGS Haul Out	SSM 169-37113-00068	
DDGS Haul Out	10,840 truck/yr	
Ethanol Haul Out	10,750 truck/yr	
Denaturant Delivery	852 truck/yr	
Grain Delivery	32,847 truck/yr	
Tons Hauled per Truck	25 ton/truck	
Gallons Hauled per Truck	8,000 gal/truck	
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Storage Tanks	SSM 169-37113-00068	
190 or 200 Proof Ethanol Shift Tank (T001)	79,185,000 gal/yr	
Denaturant Storage Tank (T002)	4,520,430 (5) gal/yr	
200 Proof Ethanol Storage Tank (T003)	86,000,000 gal/yr	
200 Proof Ethanol Storage Tank (T004)	86,000,000 gal/yr	
Denaturant Storage Tank (T005)	2,294,570 (5) gal/yr	

- (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) Assumed worst case scenario of denaturant throughput divided through tanks T002 and T005 based on tank capacities

Appendix A: Emission Calculations
PM/PM10/PM2.5 Emissions from the Grain Receiving and Handling Operations

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

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 after Control* (lbs/hr)	PTE of PM after Control (tons/yr)	PTE of PM10 after Control* (lbs/hr)	PTE of 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 before Control (lbs/hr)	PTE of PM10 before Control (lbs/hr)	PTE of PM2.5 before Control (lbs/hr)	PTE of PM before Control (tons/yr)	PTE of PM10 before Control (tons/yr)	PTE of PM2.5 before Control (tons/yr)
CE001	Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	Baghouse	0.004	39,700	1.36	5.96	1.36	5.96	0.23	1.01	99%	136.11	136.11	23.14	596.18	596.18	101.35
CE002	Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005))	Baghouse	0.004	3,000	0.10	0.45	0.10	0.45	0.02	0.08	99%	10.29	10.29	1.75	45.05	45.05	7.66
CE003	Hammermill #1 (EU006)	Baghouse	0.004	12,000	0.41	1.80	0.41	1.80	0.07	0.31	99%	41.14	41.14	6.99	180.21	180.21	30.63
CE004	Hammermill #2 (EU007)	Baghouse	0.004	12,000	0.41	1.80	0.41	1.80	0.07	0.31	99%	41.14	41.14	6.99	180.21	180.21	30.63
CE005	Hammermill #3 (EU008)	Baghouse	0.004	12,000	0.41	1.80	0.41	1.80	0.07	0.31	99%	41.14	41.14	6.99	180.21	180.21	30.63
CE006	Hammermill #4 (EU009)	Baghouse	0.004	12,000	0.41	1.80	0.41	1.80	0.07	0.31	99%	41.14	41.14	6.99	180.21	180.21	30.63
CE007	Hammermill #5 (EU010)	Baghouse	0.004	12,000	0.41	1.80	0.41	1.80	0.07	0.31	99%	41.14	41.14	6.99	180.21	180.21	30.63
CE011	DDGS Silo Loading (EU030)	Baghouse	0.004	4,000	0.14	0.60	0.14	0.60	0.02	0.10	99%	13.71	13.71	2.33	60.07	60.07	10.21
CE012	DDGS Silo Bypass (EU031)	Baghouse	0.004	4,500	0.15	0.68	0.15	0.68	0.03	0.11	99%	15.43	15.43	2.62	67.58	67.58	11.49
CE016	DDGS Loadout Operations (EU032 - EU035)	Baghouse	0.004	10,000	0.34	1.50	0.34	1.50	0.06	0.26	99%	34.29	34.29	5.83	150.17	150.17	25.53
Total					4.16	18.20	4.16	18.20	0.71	3.09		415.54	415.54	70.64	1,820.08	1,820.08	309.41

*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, "Emission Factors for Barges and Marine Vessels, Final Test Report to the National Grain and Feed Association", Washington, DC, October 2001).

*** Outlet Grain Loading was supplied by the source.

Methodology

PTE 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 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 before Control (tons/yr) = PTE after Control (tons/yr) / (1-Control Efficiency)

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 Emissions From Grain Handling (F001)	821,178	0.071	0.0206	0.0035	29.25	8.46	1.44
F002	Uncaptured Emissions From DDGS Loadout Spout (F002)	270,989	0.086	0.0290	0.0049	11.65	3.93	0.67
Total						40.91	12.39	2.11

Note:

Emission factors are from AP-42, Chapter 9.9.1-1 and AP-42, Chapter 9.9.1-2. Assume all the grain receiving and DDGS loadout is by truck, which is the worst case scenario.
 Emission factors for grain receiving are a weighted average emission factor based on 75% hopper bottom trucks and 25% straight trucks
 Assume PM10 emissions equal to PM2.5 emissions.
 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 (tons/yr) = Annual Throughput Limit (tons/yr) x Uncontrolled Emission Factor (lbs/ton) x (1-Capture Efficiency%) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
 VOC and HAP Emissions
 From the Distillation and Fermentation Scrubber / RTO Bypass (Stack SV008)**

**Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016**

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 = 98.0%
 Scrubber HAP Control Efficiency = 50.0%
 Yearly operation limit = 500 hours

@ 500 hrs @ 8760 hrs

PTE Before Control	lb/hr	ton/yr	ton/yr
VOC	941.11	235.28	4,122
Acetaldehyde	5.60	1.40	24.53
Formaldehyde	0.04	0.01	0.18
Methanol	0.04	0.01	0.18
Propionaldehyde	0.04	0.01	0.18
Total Uncontrolled HAP	5.72	1.43	25.05

PTE After Control (500 hrs)	lb/hr	ton/yr
VOC	18.82	4.71
Acetaldehyde	2.80	0.70
Formaldehyde	0.02	0.01
Methanol	0.02	0.01
Propionaldehyde	0.02	0.01
Total Controlled HAP	2.86	0.72

Limited PTE	lb/hr	ton/yr
VOC	84.21	21.05
Acetaldehyde	5.60	1.40
Formaldehyde	0.04	0.01
Methanol	0.04	0.01
Propionaldehyde	0.04	0.01
Total Limited HAP	5.72	1.43

Note:

PTE After Control VOC and acetaldehyde emission rates based on performance test conducted March 2009.
 PTE After Control VOC emission rates are expected to increase by 3.42% because of the added throughput due to the additional fermenter (EU047) SSM169-37113-00068.

Methodology:

PTE Before Control (lb/hr) = PTE After Control (lb/hr) / 100% - Control Efficiency)
 PTE Before Control (ton/yr) = PTE Before Control x 500 hours / 2,000 lbs
 PTE After Control (lb/hr) = Emission Rate based on performance tests performed at this facility in March 2009
 PTE After Control (ton/yr) = PTE After Control (lb/hr) x 500 hours / 2,000 lbs
 Limited PTE (lb/hr) = lb/hr emission rate chosen by source
 Limited (ton/yr) = Limited PTE (lb/hr) x 500 hours / 2,000 lbs

Appendix A: Emission Calculations
PM, PM10, NOx, SOx, VOC, CO and HAP Emissions
From the RTO controlling the Fermenters, Distillation System, and DDGS Dryers

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

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.

2. Potential to Emit (PTE) from fermentation, distillation and dryers:

DDGS Dryers and RTO Burners

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.

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.

DDGS Dryer EU025	60 MMBtu/hr	NG burners:	5
DDGS Dryer EU026	60 MMBtu/hr		6 MMBtu/hr
	<u>120 MMBtu/hr</u>		<u>30 MMBtu/hr</u>

Pollutant	Combustion Emissions		Dryers		RTO	
	lb/MMCF	lb/MMBTU	lb/hr	ton/year	lb/hr	ton/year
PM	1.9	0.0019	0.22	0.98	0.06	0.24
PM ₁₀	7.6	0.0075	0.89	3.92	0.22	0.98
PM _{2.5}	7.6	0.0075	0.89	3.92	0.22	0.98
CO	84	0.0824	9.88	43.28	2.47	10.82
NO _x	140	0.1373	16.47	72.14	4.12	18.04
SO ₂	0.6	0.0006	0.07	0.31	0.02	0.08
VOC	5.5	0.0054	0.65	2.83	0.16	0.71

AP-42 emission factors from Section 1.4 were converted to lb/MMBTU assuming a heating value of 1020 Btu/ft3 for natural gas.

Appendix A: Emission Calculations
PM, PM10, NOx, SOx, VOC, CO and HAP Emissions
From the RTO controlling the Fermenters, Distillation System, and DDGS Dryers

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead

Process Emissions - PM/PM₁₀/PM_{2.5} (For both Dryers)		
Dryer Feed Rate =	78.0 ton/hr	solids + water
RTO Exhaust Flow Rate =	50,000 dscfm	
	0.200 gr/dscf	
Uncontrolled emission rate =	85.71 lb/hr	
	375.43 ton/yr	
Allowable Emissions Under 326 IAC 6-3-2 =	48.82 lb/hr	
Controlled Emission Rate =	8.57 lb/hr	
	37.54 ton/yr	

Methodology:
 Dryer Feed Rate increase due to added throughput due to the additional fermenter (EU047) SSM169-37113-00068.

Process Emissions - SO₂ (RTO)					<u>Test Parameters</u>
Ethanol Production (MMgal/yr)	Emission Factor (lb/gal)	Emission Rate (lb/hr)	Emission Rate (ton/yr)		
67.55	0.00024	1.837	8.05	estimated by test data potential @ max production rate	720 gal/min beer feed rate
86.00	0.00024	2.34	10.24		17% % by volume ethanol
					122.4 gal/min anhydrous ethanol production
					7344 gal/hr
					128.52 gal/min denatured ethanol production
Annual DDGS Production		270,989 ton/yr			
SO ₂ emission Rate =		0.0756 lb/ton DDGS			

Note:
 The lb/hr SO₂ emission rate is based on test data from March 3, 2009. Since the RTO is not controlling SO₂, this represents unrestricted potential to emit.

Methodology:
 Emission Rate (lb/hr) = Ethanol Production Limit (MMGal/yr) * Emission Factor (lb/gal) / 8,760 hrs.
 Emission Rate (ton/yr) = Emission Rate (lb/hr) * 8,760 hrs / 2,000 lbs.

Appendix A: Emission Calculations
PM, PM10, NOx, SOx, VOC, CO and HAP Emissions
From the RTO controlling the Fermenters, Distillation System, and DDGS Dryers

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead

Process Emissions - VOC/HAP (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 = 78.0 ton/hour solids + water
 Water content of dryer feed = 66.7%
 Therefore: 0.32 ton VOC /hr

	Total		Each Dryer	
	lb/hr	ton/yr	lb/hr	ton/yr
Inlet VOC Emissions to RTO	645.27	2,826	322.64	1,413
Inlet HAP Emissions to RTO	50.52	221.30	25.26	110.65

Process Emissions - VOC/HAP (Fermentation & Distillation System)

	Total		Each Dryer	
	lb/hr	ton/yr	lb/hr	ton/yr
Inlet VOC Emissions to RTO	25.81	113.05	12.91	56.53
Inlet HAP Emissions to RTO	2.02	8.85	1.01	4.43

Total Emissions from RTO Stack (from March 2009 test data)

Pollutant	Uncontrolled Emission Rate		Controlled Emission Rate		Control Efficiency %
	lb/hr	ton/year	lb/hr	ton/year	
PM	10.50	45.99	1.05	4.60	90%
PM ₁₀	47.50	208.05	4.75	20.81	90%
PM _{2.5}	47.50	208.05	4.75	20.81	90%
CO	97.80	428.36	9.78	42.84	90%
NO _x	5.82	25.49	5.82	25.49	0%
SO ₂	1.80	7.88	1.80	7.88	0%
VOC	242.50	1,062	4.85	21.24	98%
Acetaldehyde*	40.90	179.14	0.15	0.66	97%
Acrolein	2.39	10.46	0.07	0.31	97%
Formaldehyde	0.26	1.13	0.01	0.03	97%
Methanol	8.00	35.05	0.24	1.05	97%
Total HAP	51.55	225.78	0.47	2.06	97%

Total Emissions from the RTO Stack

Pollutant	Unrestricted		Limited		Controlled		Control Efficiency %
	lb/hr	ton/year	lb/hr	ton/year	lb/hr	ton/year	
PM	85.99	376.65	26.64	116.68	8.60	37.67	90%
PM ₁₀	86.83	380.32	29.70	130.09	8.68	38.03	90%
PM _{2.5}	86.83	380.32	28.40	124.39	8.68	38.03	90%
CO	12.35	54.11	12.35	54.11	1.24	5.41	90%
NO _x	20.59	90.18	20.59	90.18	20.59	90.18	0%
SO ₂	2.43	10.63	2.43	10.63	2.43	10.63	0%
VOC*	674.31	2,953	39.49	163.09	13.49	59.07	98%
Acetaldehyde*	40.95	179.37	1.23	5.07	1.23	5.38	97%
Acrolein**	2.39	10.48	0.21	0.92	0.07	0.31	97%
Formaldehyde	0.26	1.15	0.26	1.15	0.01	0.03	97%
Methanol ***	8.01	35.09	1.75	7.67	0.24	1.05	97%
Combustion HAPs	0.28	1.22	0.28	1.22	0.28	1.22	n/a
TOTAL HAPs*	51.90	227.30	3.73	15.40	1.83	8.00	97%

HAP Speciation
 as a % of VOC
 Test Data
 Big Stone, SD
 September 2008
 6.18%
 0.37%
 0.04%
 1.24%
 7.83%

* PTE (tpy) based on 8260 hrs per year, as the emissions during the allowed 500 hrs of bypass are higher.
 ** Acrolein limit based on 90% control efficiency.
 *** Methanol limit based on 76% control efficiency.

**Appendix A: Emission Calculations
 HAP Combustion Emissions from the Dryers and RTO**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

1. Process Description:

POET Biorefining - North Manchester operates two DDGS dryers. Each dryer is 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) Combustion HAPs from the dryers:

HAP Pollutant	Emission Factor ¹	Potential to Emit Emissions (Uncontrolled)		Potential to Emit Emissions (Controlled)	
	(lb/MMSCF)	(lb/hr)	(ton/yr)	(lb/hr)	(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	1.80	2.12E-01	0.93	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
		0.22	0.97	0.01	0.03

1 - Emission factor is from AP-42, 5th Edition, Section 1.4, 7/98

1. Process Description:

POET Biorefining - North Manchester operates an RTO to control emissions from the DDGS 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 burners are not equipped with burners to combust any fuel other than natural gas.

**Appendix A: Emission Calculations
 HAP Combustion Emissions from the Dryers and RTO**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

2. Potential to Emit (PTE) Combustion HAPs from the RTO:

HAP Pollutant	Emission Factor ¹	Potential to Emit Emissions (Uncontrolled)	
	(lb/MMSCF)	(lb/hr)	(ton/yr)
Benzene	2.10E-03	6.18E-05	2.71E-04
Formaldehyde	7.50E-02	2.21E-03	9.66E-03
Hexane	1.80	5.29E-02	0.23
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
		0.06	0.24

1 - Emission factor is from AP-42, 5th Edition, Section 1.4, 7/98

3. Total Combustion HAPs from Dryers and RTO

HAP Pollutant	CAS	Potential to Emit Emissions (Uncontrolled)	
		(lb/hr)	(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	0.26	1.16
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
		0.28	1.22

Methodology

Potential Emission (lbs/hr) = Throughput (MMBtu/hr) x Emission Factor (lb/MMCF) x 1 MMCF/1,020 MMBtu

Potential Emission (tons/yr) = Throughput (MMBtu/hr) x Emission Factor (lb/MMCF) x 1 MMCF/1,020 MMBtu/2,000 lb/ton x 8,760 hrs/yr

**Appendix A: Emission Calculations
 PM/PM10/PM2.5 and VOC Emissions - From the DDGS Cooler (EU029)**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

1. Potential to Emit PM/PM₁₀/PM_{2.5}:

Baghouse ID	Process Description	Control Device	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	PTE of PM after Control *		PTE of PM ₁₀ after Control *		PTE of PM _{2.5} after Control **		Control Efficiency (%)	PTE of PM before Control		PTE of PM ₁₀ before Control		PTE of PM _{2.5} before Control		Uncontrolled PTE of PM (200 hr/yr) (*) (***)		Uncontrolled PTE of PM ₁₀ (200 hrs/yr) (*) (***)		Uncontrolled PTE of PM _{2.5} (200 hrs/yr) (*) (***)	
					lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
CE010	DDGS Cooler	Baghouse CE010	0.004	23,800	0.816	3.57	0.816	3.57	0.14	0.61	99%	81.60	357.41	81.60	357.41	13.87	60.76	81.60	8.16	81.60	8.16	13.87	1.39

*Assume all PM emissions equal PM₁₀ emissions.

** Assume controlled PM_{2.5} emissions equal 17% PM/PM₁₀ emissions (AP-42 Table 9.9-1-1 Reference 40).

***Alternate Operating Scenario: All emissions are exhausted as uncontrolled through the DDGS Cooler stack. This Scenario is limited to 200 hours of operation. For the other 8560 hr/yr, exhaust must be routed through the dryers and RTO.

Methodology

PTE 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 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 200 hr/yr x 1 ton/2000 lbs

PTE of before Control (tons/yr) = PTE of after Control (tons/yr) / (1-Control Efficiency)

2. Potential to Emit VOC:

	Unrestricted ⁽²⁾		Actual Emissions from stack test ⁽¹⁾	Actual Emissions projected ⁽³⁾	Controlled ⁽²⁾
	8760 hrs/yr	200 hrs/yr			
Process Throughput (DDGS) =			26.0 ton/hr	26.9 ton/hr	
Air Flow Rate (as carbon) =			26,475 SCFM	27,380.2 SCFM	
VOC Emission Rate (as ethanol) =	5.685 lb/hr ⁽⁴⁾	5.685 lb/hr ⁽⁴⁾	3.70 lb/hr	3.8 lb/hr	0.11 lb/hr
VOC Emission Rate (200 hrs/yr) (as ethanol) =	24.90 ton/yr	0.57 ton/yr	16.21 ton/yr	16.8 ton/yr	0.50 ton/yr

(1) from Stack test conducted at N. Manchester on 3/5/2009 at maximum throughput rate of 26 tons of DDGS produced per hour

(2) Assumes all VOCs are routed to the dryers and RTO (98%) except for 200 hrs per year. Alternate Operating Scenario: All emissions are exhausted as uncontrolled through the DDGS Cooler stack. This Scenario is limited to 200 hours of operation. For the other 8560 hr/yr, exhaust must be routed through the dryers and RTO.

(3) Actual VOC emissions from the DDGS Cooler (EU029) are expected to increase by 3.42% because of the added throughput due to the additional fermenter (EU047) SSM169-37113-00068.

Actual projected emissions = actual from stack test x (1+project increase)

(4) Pursuant to SSM169-37113-00068, in order to maintain that the DDGS Cooler (EU029) is not subject to 326 IAC 8-1-6, the source choose a 5.685 lb/hr limit as a safety factor for demonstrating potential emissions will remain below twenty-five (25) tons/yr.

The source verified from a stack test conducted at N. Manchester on 3/5/2009, that the DDGS Cooler (EU029) is below the limit of 5.685 lb/hr

	Pollutant				
	Acetaldehyde	Methanol	Formaldehyde	Acrolein	Total
Tested Emission Rate (lbs/hr)	1.07	0.08	0.07	0.06	1.28
Permitted Emission Rate (lbs/hr)	1.61	0.24	0.20	0.18	2.22
Uncontrolled PTE in tons/yr	7.03	1.05	0.86	0.79	9.73
Limited PTE in tons/yr (200 hrs)	0.16	0.02	0.02	0.02	0.22

HAP emission rates were originally provided by the source based on stack test results (October 16, 2008 for a similar source at POET Biorefining - Alexandria) and multiplied by a 1.4 safety factor. Testing at N. Manchester determined that the emission rate of acetaldehyde is 2.326 times more than the rate tested at Alexandria. Therefore, the methanol, formaldehyde, and acrolein emissions will be calculated using the Alexandria emission rates and a safety factor of 3.0 and the acetaldehyde emissions will be calculated using the emission rate from the N. Manchester test with a safety factor of 1.5.

Methodology

PTE after Control (tons/yr) = Emission Rate after Control (lbs/hr) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
VOC Emission Calculations - Ethanol/E85 Load-out Racks (EU036) and Flare (CE015)

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

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 (CE015), 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:

$$L = 12.46 \times (S \times P \times M) / T$$

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

The emission factor for loading denatured ethanol to rail which previously contained denatured ethanol (lbs/kgal)
 = 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
 The emission factor for loading E-85 to trucks which previously contained denatured ethanol or E-85
 = L (gasoline, dedicated vapor balance) - L (gasoline, clean cargo) + L (E-85, clean cargo) = E-85 to Truck 4.47

1. Throughputs:

<u>Truck and Rail Combined (MMgal/yr)</u>		<u>Ethanol Loading Capacity</u>		
		<u>Truck (gal/hr)</u>	<u>Rail (gal/hr)</u>	<u>Total (MMgal/yr)</u>
Ethanol (anticipated)	75.94	39,000	144,000	1,603
E-85 (anticipated)	10.06			
Ethanol (for PTE)	86.00			
E-85 (for PTE)	10.06			
Ethanol and E85 Combined	86.00			

2. Hourly Potential to Emit (Annual Unlimited):

	Maximum Loading Capacity kgal/hr	Uncontrolled Emission Factor lb/kgal	Emissions Uncontrolled lb/hr	Emissions Uncontrolled ton/yr	Control Efficiency %	Emissions Controlled lb/hr	Emissions Controlled ton/yr
Ethanol loaded out via truck:	39	3.60	140.33	614.65	98%	2.81	12.29
Ethanol loaded out via rail:	144	0.40	58.04	254.22	98%	1.16	5.08
E85 loaded out via truck:	39	4.47	174.29	763.39	98%	3.49	15.27
E85 loaded out via rail:	144	1.45	208.51	913.26	98%	4.17	18.27
Worst case scenario =			208.51	913.26		4.17	18.27

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 - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

3. Limited Annual Potential to Emit:

	Limited* Throughput kgal/yr	Uncontrolled Emission Factor lbs/kgal	Limited* Emissions Uncontrolled ton/yr	Control Efficiency %	Limited* Emissions Controlled ton/yr
All ethanol loaded out via truck:	86,000	3.60	154.72	98%	3.09
All ethanol loaded out via rail:	86,000	0.40	17.33	98%	0.35
All E85 loaded out via truck:	10,060	4.47	22.48	98%	0.45
All E85 loaded out via Rail:	10,060	1.45	7.28	98%	0.15
Worst case scenario =			154.72		3.09

* Total throughput is limited in order for HAP emission to be less than major source levels.
 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*	Unrestricted PTE of HAP (tpy)	Controlled PTE of HAP (tpy)	PTE of HAP Limited (throughput) before Control (tons/yr)	Limited (throughput) PTE of HAP after Control (tons/yr)
Benzene	2.60E-03	2.37	0.01	0.40	0.01
Hexane	9.61E-02	87.76	0.40	14.87	0.30
Toluene	1.80E-03	1.64	0.01	0.28	0.01
Total	0.10	91.78	0.42	15.55	0.31

Permit Limited Hexane = 0.79 lb/hr 3.46 tpy
Permit Limited Total HAPs = 1.00 lb/hr 4.38 tpy

* 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 from Combustion of VOCs from the Ethanol Loading Rack

Heat Input Capacity **Max Hourly Rate (Rail)** **Annual Production Limit**
 MMBtu/hr kgal/hr kgal/yr
 0.055 144.0 86,000

	Pollutant	
	CO**	NOx**
Emission Factor (lb/kgal)	0.084	0.0334
Potential to Emit in lbs/hr	12.10	4.81
UNRESTRICTED Potential to Emit (TPY)	52.98	21.07
LIMITED Potential to Emit in tons/yr	3.61	1.44

Emission factors for NO_x and CO are based on the information provided by the flare manufacturer (John Zink Company).

PM, PM₁₀, PM_{2.5}, and SO₂ emission factors are negligible due to the smokeless design and minimal H₂S levels in the fuel. Potential emissions from natural gas for the pilot flame are estimated on the following page.

VOC emission calculations can be found above in loading rack calculations.

Appendix A: Emission Calculations
Flare Pilot Flame - Natural Gas Combustion < 100 MMBtu/hr

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Max. Heat Input Capacity	Potential Throughput
MMBtu/hr	MMCF/yr
0.054	0.4638

	Pollutant						
	PM*	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x **	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100	5.5	84
Potential Emission in tons/yr	4.41E-04	1.76E-03	1.76E-03	1.39E-04	2.32E-02	1.28E-03	1.95E-02

*PM emission factor is filterable PM only. PM₁₀ emission factor is condensable and filterable PM₁₀ combined. PM_{2.5} emission factor is equal to PM₁₀.

**The Emission Factor for NO_x is from AP-42 Chapter 1 Table 1-4.1 for natural gas combustion for uncontrolled emissions from small boilers rated less than 100 MMBtu/hr.

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

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	1.80	3.4E-03
Potential Emission in tons/yr	4.87E-07	2.78E-07	1.74E-05	4.17E-04	7.88E-07

	HAPs - Metals					Total HAP
	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	1.16E-07	2.55E-07	3.25E-07	8.81E-08	4.87E-07	4.38E-04

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
Boilers - Natural Gas Combustion > 100 MMBtu/hr

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Individual Heat Input Capacity for Boiler #1 & Boiler #2 MMBtu/hr	Combined Heat Input Capacity for Boiler #1 & Boiler #2 MMBtu/hr	Potential Throughput MMCF/yr
143	286	2,456

Particulate Emission Limitations for Sources of Indirect Heating:
 Emission Limitations for facilities specified in 326 IAC 6-2-1(d)

$$Pt = 1.09 / Q^{0.26} = 0.25 \text{ lb/MMBtu}$$

	Pollutant						
	PM*	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x **	VOC	CO***
Emission Factor in lb/MMCF (AP-42)	1.9	7.6	7.6	0.6		5.5	
Emission Factor in lb/MMCF (test data)					30		20
Potential Emission in tons/yr	2.33	9.33	9.33	0.74	36.84	6.75	24.56

*PM emission factor is filterable PM only. PM₁₀ emission factor is condensable and filterable PM₁₀ combined. PM_{2.5} emission factor is condensable and filterable PM_{2.5} combined.

**The Emission Factor for NO_x from AP-42 Chapter 1 Table 1-4.1 (for natural gas combustion for low NO_x burners) is 140 lb/MMCF. The source used manufacturer's certified emission factors for the low NO_x burners in a previous FESOP permit. The manufacturer's emission factors are less than the AP-42 values (30 lb of NO_x/MMCF) and have been verified by performance testing.

***The Emission Factor for CO is from AP-42 Chapter 1 Table 1-4.1 for natural gas combustion. The source used manufacturer's certified emission factors in a previous FESOP permit. The manufacturer's emission factors are less than the AP-42 values (20 lb of CO/MMCF) and have been verified by performance testing.

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

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	1.80	3.4E-03
Potential Emission in tons/yr	2.58E-03	1.47E-03	9.21E-02	2.21	4.18E-03

	HAPs - Metals					Total HAP
	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	2.32

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
 Diesel Generator (for Electricity)**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	2640.0	
Unlimited Hours of Operation per Year	500	Emergency Use only
Unlimited Potential Throughput (hp-hr/yr)	1,320,000	
Limited Hours of Operation per Year	500	
Limited Potential Throughput (hp-hr/yr)	1,320,000	
Sulfur Content (S) of Fuel (% by weight)	0.500	

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	4.05E-03 (.00809S)	1.30E-02 **see below	7.05E-04	5.50E-03
Unlimited Potential Emissions in tons/yr	0.46	0.26	0.26	2.67	8.58	0.47	3.63
Limited Potential Emission in tons/yr	0.46	0.26	0.26	2.67	8.58	0.47	3.63

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Unlimited Potential Emission in tons/yr	3.59E-03	1.30E-03	8.92E-04	3.65E-04	1.16E-04	3.64E-05	9.79E-04
Limited Potential Emission in tons/yr	3.59E-03	1.30E-03	8.92E-04	3.65E-04	1.16E-04	3.64E-05	9.79E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****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).

Unlimited Potential Emissions of Total HAPs (ton/yr)	7.27E-03
Limited Potential Emission of Total HAPs (tons/yr)	7.27E-03

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours of Operation per Year]

Limited Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

**Appendix A: Emission Calculations
 Greenhouse Gas Emissions**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

1. Green House Gas from Combustion

		Greenhouse Gas			
		CO2	CH4	N2O	CO2e
Emission Factors for Natural Gas Combustion lb/MMcf		120,000	2.3	2.2 Low NOx 0.64	
	MMBtu/hr	MMCF/yr*	tons/yr	tons/yr	tons/yr
Boiler #1	143.0	1,228	73,687	1.41	0.39
Boiler #2	143.0	1,228	73,687	1.41	0.39
Dryer #1	60	515	30,918	0.59	0.57
Dryer #2	60	515	30,918	0.59	0.57
RTO	30	258	15,459	0.30	0.08
Flare	0.055	0	28.34	0.0005	0.0005
Potential Emission (tons/yr)	436.1	3,745	224,697	4.3	2.0
Emission Factors for Diesel Sources		lb/HP- hr	1.15	0.00247	0.000021
	kW	HP	tons/yr	tons/yr	tons/yr
Diesel Generator	2000	2640	151.80	0.326	0.003
Summed Potential Emissions in tons/yr			224,855		
CO2e Total in tons/yr			225,567		

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

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors for Natural Gas Combustion are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Emission Factors for Diesel Generator are from AP 42, Table 3.3-1 SCC #2-02-001-02, 2-03-001-01.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emission Calculations
 Greenhouse Gas Emissions**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

2. Green House Gas from Fermentation (Biogenic)

Fermentation Process

Given: 79,185,000 gallons of undenatured (200-proof) EtOH / year
 46.06844 [g/mol] mole weight of EtOH
 0.789 [g/cm³] density of liquid EtOH
 44.0095 [g/mol] mole weight of CO₂

and: $C_6H_{12}O_6 + \text{yeast} = 2 CH_3CH_2OH + 2 CO_2$
 sugar + yeast = ethanol + carbon dioxide

Therefore:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 45%;">79,185,000 gal 200-proof EtOH</td> <td style="border-left: 1px solid black; text-align: center; width: 25%;">0.789 g EtOH</td> <td style="text-align: center; width: 30%;">3,785.41 cm³</td> </tr> <tr> <td style="text-align: center;">year</td> <td style="border-left: 1px solid black; text-align: center;">1 cm³</td> <td style="text-align: center;">1 gal</td> </tr> </table>	79,185,000 gal 200-proof EtOH	0.789 g EtOH	3,785.41 cm ³	year	1 cm ³	1 gal
79,185,000 gal 200-proof EtOH	0.789 g EtOH	3,785.41 cm ³					
year	1 cm ³	1 gal					
=	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 45%;">2.37E+11 g EtOH</td> <td style="border-left: 1px solid black; text-align: center; width: 25%;">1 mol EtOH</td> <td style="width: 30%;"></td> </tr> <tr> <td style="text-align: center;">year</td> <td style="border-left: 1px solid black; text-align: center;">46.06844 g EtOH</td> <td></td> </tr> </table>	2.37E+11 g EtOH	1 mol EtOH		year	46.06844 g EtOH	
2.37E+11 g EtOH	1 mol EtOH						
year	46.06844 g EtOH						
=	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 45%;">5,133,686,491 mol EtOH</td> <td style="border-left: 1px solid black; text-align: center; width: 25%;">2 mol CO₂</td> <td style="width: 30%;"></td> </tr> <tr> <td style="text-align: center;">year</td> <td style="border-left: 1px solid black; text-align: center;">2 mol EtOH</td> <td></td> </tr> </table>	5,133,686,491 mol EtOH	2 mol CO ₂		year	2 mol EtOH	
5,133,686,491 mol EtOH	2 mol CO ₂						
year	2 mol EtOH						
=	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 45%;">5,133,686,491 mol CO₂</td> <td style="border-left: 1px solid black; text-align: center; width: 25%;">44.0095 g CO₂</td> <td style="text-align: center; width: 30%;">1 ton</td> </tr> <tr> <td style="text-align: center;">year</td> <td style="border-left: 1px solid black; text-align: center;">1 mol CO₂</td> <td style="text-align: center;">907,184.74 g</td> </tr> </table>	5,133,686,491 mol CO ₂	44.0095 g CO ₂	1 ton	year	1 mol CO ₂	907,184.74 g
5,133,686,491 mol CO ₂	44.0095 g CO ₂	1 ton					
year	1 mol CO ₂	907,184.74 g					
=	<p>249,046 tons CO₂ / year</p>						
=	<p>249,046 CO₂e Total in tons/yr</p>						

Total CO₂e tons/year for entire source = 474,614 tons/year (Biogenic and Combustion sources combined)

Appendix A: Emission Calculations
VOC Emission Calculations - Storage Tanks and Centrifuges

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

Emissions were calculated using the TANKS 4.0 Program.

VOC Emission Calculations - Storage Tanks T001 - T005, T009								
Tank	Contents ¹	Annual Throughput (gal)	Capacity (gal)	Avg. Capacity (gal/min)	No. of Turn Overs	Emissions		
						lb/year	lb/hr	Ton/year
T001	190 Proof Ethanol	79,185,000	250,000	151	316.7	707.80	0.08	0.35
T002	Denaturant	4,520,430	250,000	9	18.1	2,817	0.32	1.41
T003	200-Proof Ethanol	86,000,000	2,000,000	164	43.0	618.88	0.07	0.31
T004	200-Proof Ethanol	86,000,000	2,000,000	164	43.0	618.88	0.07	0.31
T005	Denaturant	2,294,570	126,900	4	18.1	1,683	0.19	0.84
T009	Gasoline	2,200	265	0.00	8.3	345	0.04	0.17
Total						6,791	0.78	3.40

* Emissions were calculated using Tanks 4.0.9d software and submitted by the source for the SSM 168-37113-00068.
¹ Assume:
 190-Proof Ethanol is 100% ethyl alcohol in TANKS calculations.
 Denaturant is 100% gasoline (RVP 15) in TANKS calculations.
 200-Proof Ethanol is 100% ethyl alcohol in TANKS calculations.

<u>Estimated Denaturant Usage</u>	<u>Estimated E85 Production</u>
6,815,000 gal/yr	10,060,000 gal/yr
18,671 gal/day	27,562 gal/day
Total amount meeting definition of "gasoline" under 40 CFR 63.11100: 46,233 gal/day	

VOC Emission Calculations - Tanks EU040 - EU046								
Tank	Contents	Annual Throughput (gal)	Capacity (gal)	Avg. Capacity (gal/min)	No. of Turn Overs	Emissions		
						lb/year	lb/hr	Ton/year
EU040	corn oil / defatted syrup	70,956,000	1,000	135	70,956	10.19	1.16E-03	5.10E-03
EU041	corn oil / defatted syrup	42,048,000	1,000	80	42,048	6.05	6.91E-04	3.03E-03
EU042	corn oil / defatted syrup	26,280,000	500	50	52,560	3.78	4.32E-04	1.89E-03
EU043	corn oil / defatted syrup	15,768,500	2,350	30	6,710	2.59	2.96E-04	1.30E-03
EU044	corn oil / defatted syrup	7,884,000	200	15	39,420	1.13	1.29E-04	5.65E-04
EU045	corn oil / defatted syrup	2,628,000	30,000	15	263	0.34	3.88E-05	1.70E-04
EU046	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

VOC Emission Calculations - Centrifuges EU038 - EU039								
Unit	Contents	Annual Throughput (gal)	Avg. Capacity (gal/min)	Avg. Capacity (gal/min)	No. of Turn Overs	Emissions		
						lb/year	lb/hr	Ton/year
EU038	corn "syrup"	70,956,000	135	135	NA	10.17	1.16E-03	5.09E-03
EU039	corn "syrup"	42,048,000	80	80	NA	6.02	6.87E-04	3.01E-03
Total						16.19	1.85E-03	8.10E-03

**Appendix A: Emission Calculations
Centrifuges (EU024)**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead

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.

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 North Manchester. Speciated compounds with non-detect results were assumed to be emitted at the listed detection limit.

The centrifuges (EU024) are normally vented to the RTO. It has been determined that during RTO downtime, the centrifuges are not required to be controlled. During RTO downtime, emissions are vented to stack SV017. See TSD for 169-37113-00068.

1. Speciated VOC data from POET Research Center, Scotland, SD on May 29th, 2003:

Test Results	Run 1 lb/hr	Run 2 lb/hr	Run 3 lb/hr	Average lb/hr	*Max - Ratioed for North Manchester lb/hr
Ethanol	0.0073	0.0064	0.0142	0.0093	0.019
Acetic Acid	0.0475	0.0438	0.0342	0.0418	0.084
Lactic Acid	0.0021	0.0022	0.0022	0.0022	0.004
Ethyl Acetate	0.0002	0.0002	0.0002	0.0002	0.000
2-Furaldehyde	0.0002	0.0002	0.0002	0.0002	0.000
Formic Acid	0.0042	0.0044	0.0045	0.0044	0.009
Glycerol	0.0401	0.0419	0.0423	0.0414	0.083
Formaldehyde	0.0002	0.0002	0.0002	0.0002	0.000
Methanol	0.0004	0.0004	0.0004	0.0004	0.001
Acetaldehyde	0.0028	0.0023	0.0015	0.0022	0.004
Acrolein	0.0002	0.0002	0.0002	0.0002	0.000
Total VOC				0.103	0.205
Total HAP				0.003	0.006

*Emissions were ratioed due to the average ethanol content of the whole stillage (0.05 wt% at PRC used during testing) vs. the maximum whole stillage content at POET-North Manchester (0.1 wt%)

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	42.5
Total				84.91

**Appendix A: Emission Calculations
Centrifuges (EU024)**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead

2. Potential to Emit for POET - North Manchester, LLC:

1,000 gallons liquid per minute through centrifuges
 500 Limited RTO Bypass Condition hours per year

VOC Uncontrolled PTE	2.41	lb/hr	Based on higher flow rate at North Manchester
VOC Uncontrolled PTE	10.57	ton/year	
VOC Controlled*	0.05	lb/hr	
VOC Controlled*	0.21	ton/year	
VOC during RTO downtime**	0.60	ton/year	

Uncontrolled rate (lb/hr) = Max (ratioed for North Manchester) (lb/hr) x Avg. Flow - North Manchester (gal/min) / Avg. Flow - PRC (gal/min)

Uncontrolled rate (ton/yr) = Uncontrolled PTE (lb/hr) x 1 ton / 2000 lb x 8760 hr/yr

*Controlled VOC during operation when RTO is operating. This value is already included in the RTO stack emissions.

**Based on uncontrolled emissions during limited hours of operation for RTO down time.

HAPs	Uncontrolled Rate		Limited Rate	
	lb/hr	tpy	lb/hr	tpy
Formaldehyde	4.71E-03	0.02	3.77E-03	9.42E-04
Methanol	9.42E-03	0.04	7.54E-03	1.88E-03
Acetaldehyde	5.18E-02	0.23	4.15E-02	1.04E-02
Acrolein	4.71E-03	0.02	3.77E-03	9.42E-04
Total HAP	0.07	0.25	0.06	1.41E-02

Uncontrolled rate (lb/hr) = Max (ratioed for North Manchester) (lb/hr) x Avg. Flow - North Manchester (gal/min) / Avg. Flow - PRC (gal/min)

Uncontrolled rate (ton/yr) = Uncontrolled PTE (lb/hr) x 1 ton / 2000 lb x 8760 hr/yr

3. Change in PTE (due to using stack test results from PRC instead of engineering estimate):

Previous calculated PTE*	6.6	ton/year
PTE after change in calculation method	10.57	ton/year
Increase in PTE	3.97	ton/year

*From Appendix A to TSD 169-31191-00068

**Appendix A: Emission Calculations
 PM, PM10 and PM2.5 Emissions - Paved Road Traffic**

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

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 DDGS being shipped off-site by rail.

Equation from AP-42 Section 13.2.1 Paved Roads, January 2011

$$E = k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \quad \text{Equation 2} \quad (\text{Used for annual uncontrolled emissions, but adjusted for precipitation.})$$

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
Mean vehicle weight (tons)	W	27.5
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

(From AP-42, Table 13.2-1-3, Corn Wet Mills.)

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	270,989 ton	25 ton	10,840	15	40	27.5	0.75	8,130
Ethanol Haul Out	86,000,000 gal	8,000 gal	10,750	15	40	27.5	0.75	8,063
Denaturant Delivery	6,815,000 gal	8,000 gal	852	15	40	27.5	0.75	639
Grain Delivery	821,178 ton	25 ton	32,847	15	40	27.5	0.75	24,635
Fleet Totals			55,289					41,466
Fleet Averages (weighted)				15.0	40.0	27.5		

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	0.0159	0.08	0.33
PM10	0.0647	0.31	1.34
PM	0.3235	1.53	6.71

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
VOC and HAP Emissions From Equipment Leaks

Company Name: POET Biorefining - North Manchester, LLC
 Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
 Significant Source Modification No.: 169-37113-00068
 Significant Permit Modification No.: 169-37123-00068
 Reviewer: Thomas Olmstead
 Date: August, 2016

1. Fugitive VOC Emissions:

Process Stream	Equipment Component Source	Product	Component Count	Emission Factor (lb/comp.-hr)	Uncontrolled Rate		Subpart Vva Control Effectiveness	Controlled Rate (lb/hr)	TOC Weight (%)	Emitted Water (lb/hr)	Controlled TOC	
					(lb/hr)	(ton/yr)					(lb/hr)	(ton/yr)
EU011 - EU023 Distillation	Valves	Gas/Vapor	33	0.013134	0.43	1.90	92%	0.03	100%	0	0.035	0.152
	Valves	Light Liquid	271	0.0089	2.41	10.56	88%	0.29	100%	0	0.289	1.268
	Pump Seals	Light Liquid	7	0.04378	0.31	1.34	75%	0.08	100%	0	0.077	0.336
	Compressors	Gas/Vapor	0	0.5016	0	0		0	100%	0	0	0
	Relief Valves	Gas/Vapor	10	0.2288	2.29	10.02	92%	0.18	100%	0	0.183	0.802
	Sampling Connections	All	0	0.033	0	0		0	100%	0	0	0
	Open Ended Lines	All	0	0.00374	0	0		0	100%	0	0	0
	Connectors	All	1194	0.004026	4.81	21.05	93%	0.34	100%	0	0.336	1.474
EU011 - EU023 Fermentation	Valves	Gas/Vapor	1	0.013134	0.01	0.06	92%	0.00	15%	0.001	0.000	0.001
	Valves	Light Liquid	137	0.0089	1.22	5.34	88%	0.15	15%	0.124	0.022	0.096
	Pump Seals	Light Liquid	7	0.04378	0.31	1.34	75%	0.08	15%	0.065	0.011	0.050
	Compressors	Gas/Vapor	0	0.5016	0	0		0	15%	0	0	0
	Relief Valves	Gas/Vapor	0	0.2288	0	0	92%	0	15%	0	0	0
	Sampling Connections	All	0	0.033	0	0		0	15%	0	0	0
	Open Ended Lines	All	0	0.00374	0	0		0	15%	0	0	0
	Connectors	All	443	0.004026	1.78	7.81	93%	0.12	15%	0.106	0.019	0.082
T002 , T005 Denaturant Tanks	Valves	Gas/Vapor	0	0.013134	0.00	0.00	92%	0.00	100%	0	0.000	0.000
	Valves	Light Liquid	40	0.0089	0.36	1.56	88%	0.04	100%	0	0.043	0.187
	Pump Seals	Light Liquid	2	0.04378	0.09	0.38	75%	0.02	100%	0	0.022	0.096
	Compressors	Gas/Vapor	0	0.5016	0	0		0	100%	0	0	0
	Relief Valves	Gas/Vapor	1	0.2288	0.23	1.00	92%	0.02	100%	0	0.018	0.080
	Sampling Connections	All	0	0.033	0	0		0	100%	0	0	0
	Open Ended Lines	All	0	0.00374	0	0		0	100%	0	0	0
	Connectors	All	151	0.004026	0.61	2.66	93%	0.04	100%	0	0.043	0.186
T001, T003 - T004 Non-denaturant tanks (200-Proof Tanks)	Valves	Gas/Vapor	0	0.013134	0.00	0.00	92%	0.00	100%	0	0.000	0.000
	Valves	Light Liquid	160	0.0089	1.42	6.24	88%	0.17	100%	0	0.171	0.748
	Pump Seals	Light Liquid	5	0.04378	0.22	0.96	75%	0.05	100%	0	0.055	0.240
	Compressors	Gas/Vapor	0	0.5016	0	0		0	100%	0	0	0
	Relief Valves	Gas/Vapor	4	0.2288	0.92	4.01	92%	0.07	100%	0	0.073	0.321
	Sampling Connections	All	0	0.033	0	0		0	100%	0	0	0
	Open Ended Lines	All	0	0.00374	0	0		0	100%	0	0	0
	Connectors	All	769	0.004026	3.10	13.56	93%	0.22	100%	0	0.217	0.949
Totals					20.50	89.81		1.91		0.30	1.61	7.07

Methodology

* Component count provided initially by source for initial permit. Source performed audit and updated component count SSM 168-37113-00068.

** Emission factors are from Protocol for Equipment leak Emission Estimates, EPA-453/R-95-017, Table 2-1 and Table 5-2

2. Fugitive HAP Emissions:

Fugitive HAP Emissions (tons/yr) = Controlled TOC (tons/yr) x HAP Fraction

HAP	HAP Fraction*	Fugitive HAP Emissions (lb/hr)	Fugitive HAP Emissions (tons/yr)
Acetaldehyde **	2.00E-04	3.23E-04	1.41E-03
Benzene	2.50E-03	4.03E-03	1.77E-02
Carbon Disulfide	2.00E-05	3.23E-05	1.41E-04
Cumene	1.00E-03	1.61E-03	7.07E-03
Ethylbenzene	5.00E-05	8.07E-05	3.53E-04
n-Hexane	5.00E-02	8.07E-02	3.53E-01
Methanol	2.00E-04	3.23E-04	1.41E-03
Toluene	5.00E-03	8.07E-03	3.53E-02
Xylenes	5.00E-04	8.07E-04	3.53E-03
Total		0.10	0.42

Appendix A: Emission Calculations
PM, PM10, and PM2.5 Emissions from Cooling Tower

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Permit Source Modification No.: 169-37113-00068
Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

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

Company Name: POET Biorefining - North Manchester, LLC
Address City IN Zip: 868 East 800 North, North Manchester, IN 46962
Significant Source Modification No.: 169-37113-00068
Significant Permit Modification No.: 169-37123-00068
Reviewer: Thomas Olmstead
Date: August, 2016

PM Control Device	Process	Process Weight, P		P ≤ 60,000 lb/hr	P > 60,000 lb/hr	PTE	PTE
		each unit	each unit	E = 4.10 P ^{0.67}	E = 55 P ^{0.11} - 40	Uncontrolled	Controlled
		P (lb/hr)	P (ton/hr)	E (lb/hr)	E (lb/hr)	(lb/hr)	(lb/hr)
CE001	Grain Receiving (EU001), Conveyors (EU002), and Grain Storage Bins (EU003)	1,680,000	840	-	75.4	136.11	1.36
CE002	Corn Transfer Conveyor / Scalper (EU004, Surge Bin (EU005)	280,000	140	-	54.7	10.29	0.10
CE003	Hammermill #1 (EU006)	40,000	20	30.5	-	41.14	0.41
CE004	Hammermill #2 (EU007)	40,000	20	30.5	-	41.14	0.41
CE005	Hammermill #3 (EU008)	40,000	20	30.5	-	41.14	0.41
CE006	Hammermill #4 (EU009)	40,000	20	30.5	-	41.14	0.41
CE007	Hammermill #5 (EU010)	40,000	20	30.5	-	41.14	0.41
CE009	DDGS Dryer (EU025)	156,000	78.0	-	48.8	85.71	8.57
CE009	DDGS Dryer (EU026)	156,000	78.0	-	48.8	85.71	8.57
CE010	Fluidized DDGS Cooler (EU029)	58,000	29.0	39.1	-	81.60	0.816
CE011	DDGS Silo Loading (EU030)	58,000	29.0	39.1	-	13.71	0.14
CE012	DDGS Silo Bypass (EU031)	58,000	29.0	39.1	-	15.43	0.15
CE016	DDGS storage building (EU032)	58,000	29.0	39.1	-	34.29	0.34
	DDGS conveyor (EU033)	440,000	220	-	59.5	34.29	0.34
	DDGS truck loadout spout (EU034)	440,000	220	-	59.5	34.29	0.34
	DDGS rail loadout spout (EU035)	440,000	220	-	59.5	34.29	0.34

(c) This rule shall not apply if a particulate matter limitation established in:

- (1) 326 IAC 2-2-3, concerning prevention of significant deterioration (PSD) best available control technology (BACT) determinations contained in a permit;
- (2) 326 IAC 2-3-3, concerning lowest achievable emission rate (LAER) determinations contained in a permit;
- (3) 326 IAC 6.5 and 326 IAC 6.8, concerning particulate matter emissions;
- (4) 326 IAC 11, concerning existing emission limitations for specific operations;
- (5) 326 IAC 12, concerning new source performance standards; or
- (6) 326 IAC 20, concerning national emission standards for hazardous air pollutants.



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

August 22, 2016

Mr. Keith Caudill
Plant Engineer
POET Biorefining – North Manchester, LLC
868 East 800 North
North Manchester, Indiana 46962

Re: Public Notice
POET Biorefining – North Manchester, LLC
Permit Level: Significant Source Modification
Permit Number: 169-37113-00069
Permit Level: Significant Permit Modification
Permit Number: 169-37123-00069

Dear Mr. Caudill:

Enclosed is a copy of your draft 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 Wabash Plain Dealer in Wabash, Indiana publish the abbreviated version of the public notice no later than August 23, 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 N. Manchester Public Library, 405 N. Market Street in North Manchester, 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 Thomas Olmstead, 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 3-9664 or dial (317) 233-9664.

Sincerely,

Vicki Biddle

Vicki Biddle
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 22, 2016

Wabash Plain Dealer
123 W. Canal Street
Wabash, Indiana 46992

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for POET Biorefining – North Manchester, LLC, Wabash 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 23, 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 Vicki Biddle at 800-451-6027 and ask for extension 3-6867 or dial 317-233-6867.

Sincerely,

Vicki Biddle

Vicki Biddle
Permit Branch
Office of Air Quality

Permit Level: Significant Source Modification
Permit Number: 169-37113-00069
Permit Level: Significant Permit Modification
Permit Number: 169-37123-00069

Enclosure

PN Newspaper.dot 2/17/2016



Indiana Department of Environmental Management

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100 N. Senate Avenue • Indianapolis, IN 46204

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

August 22, 2016

To: North Manchester 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 Permits**

Permit Level: Significant Source Modification

Permit Number: 169-37113-00069

Permit Level: Significant Permit Modification

Permit Number: 169-37123-00069

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

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

Notice of Public Comment

August 22, 2016

Permit Level: Significant Source Modification

Permit Number: 169-37113-00069

Permit Level: Significant Permit Modification

Permit Number: 169-37123-00069

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.

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(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 22, 2016

A 30-day public comment period has been initiated for:

Permit Numbers: 169-37113-00068 and 169-37123-00068
Applicant Name: POET Biorefining – North Manchester, LLC
Location: North Manchester, Wabash 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.

Affected States Notification.dot 2/17/2016

Mail Code 61-53

IDEM Staff	VBIDDLE 8/22/2016		169-37113-00068		
	POET Biorefining North Manchester LLC		169-37123-00068	DRAFT	
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		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING

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		Keith Caudill POET Biorefining North Manchester LLC 868 E 800 N North Manchester IN 46962 (Source CAATS)										
2		Steve Pittman GM POET Biorefining North Manchester LLC 868 E 800 N North Manchester IN 46962 (RO CAATS)										
3		North Manchester Public Library 405 N. Market St North Manchester IN 46962 (Library)										
4		Wabash County Commissioners 1 West Hill Street Wabash IN 46992 (Local Official)										
5		Wabash County Health Department 89 W. Hill, Memorial Hall Wabash IN 46992-3184 (Health Department)										
6		Ted Little Wabash County Council 1076 West 900 North North Manchester IN 46962 (Affected Party)										
7		North Manchester Town Council and Town Manager 103 East Main Street North Manchester IN 46962 (Local Official)										
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)	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.
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