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

Michael R. Pence
Governor

Carol S. Comer
Commissioner

NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT

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

for POET Biorefining - Cloverdale, LLC in Putnam County

Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003

The Indiana Department of Environmental Management (IDEM) has received an application from POET Biorefining - Cloverdale, LLC, located at 2265 East County Road 800 South, Cloverdale, Indiana 46120, for a significant modification of its Part 70 Operating Permit issued on June 26, 20112. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow POET Biorefining - Cloverdale, LLC to make certain changes at its existing source. POET Biorefining - Cloverdale, LLC has applied to:

(1) Construction and operation of a new fifth centrifuge (EU033) to the stillage process, which will increase the feed rate to the DDGS dryers (EU034 and EU035) to 115 tons of wetcake per hour.
(2) The DDGS dryers (EU034 and EU035) each have a maximum heat input rate of 92 MMBtu/hr and not 83 MMBtu/hr. This will increase the PTE from the DDGS dryers.
(3) The source operates one (1) set of four (4) molecular sieves, identified as EU031 and not three (3) molecular sieves. This will not result in an increase in PTE as this change does not increase the throughput of the ethanol thru the set of molecular sieves.
(4) Addition of Alternative Operating Scenario No. 2 (AOS2). When the RTOs (CE015 & CE016) are not operating due to maintenance, emissions from the one (1) set of five (5) centrifuges, identified as EU033, shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period.
(5) The source operates two diesel-fired stationary fire pumps, identified as EU045 and EU046, each with a maximum power output rate of 300 horsepower. Only one (1) 600 hp fire pump is currently permitted.
(6) Increase the VOC and CO emission limits from the RTOs (CE015 & CE016) during Alternative Operating Scenario No. 1 (AOS1) when the Wet Scrubber (CE012), which controls the fermentation process, is not operating. Alternative Operating Scenario No. 1 (AOS1) will be limited to one hundred (100) hours per twelve (12) consecutive month period.
(7) Construction and operation of a second rail ethanol loadout. This will increase the PTE from the ethanol loadout racks.
(8) Removal of National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (40 CFR 63, Subpart BBBBBB) because the source does not use a petroleum distillate as defined in 63.11100 at the ethanol production facility.

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:

Putnam County Public Library
103 East Poplar Street
Greencastle, IN 46143

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 133-37437-00003 and SPM 133-37458-00003 in all correspondence.

Comments should be sent to:

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

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

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because

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

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

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

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DRAFT

Mr. Luke Logan
POET Biorefining - Cloverdale, LLC
2265 East County Road 800 South
Cloverdale, IN 46120

Re: 133-37458-00003
Significant Permit Modification to
Part 70 No.: T133-31145-00003

Dear Logan:

POET Biorefining - Cloverdale, LLC was issued Part 70 Operating Permit No. T133-31145-00003 on June 26, 2012 for a stationary ethanol production facility located at 2265 East County Road 800 South, Cloverdale, Indiana 46120. An application requesting changes to this permit was received on July 25, 2016. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified, including the following revised attachment(s):

Attachment E: 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (revised)

The permit references the below listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this modification:

Attachment A:	Fugitive Particulate Matter Emissions Control Plan
Attachment B:	40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
Attachment C:	40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
Attachment D:	40 CFR 60, Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After November 7, 2006
Attachment E:	40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
Attachment F:	40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
Attachment H:	40 CFR 63, Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

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

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

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

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

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

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Part 70 Operating Permit

OFFICE OF AIR QUALITY

POET Biorefining - Cloverdale, LLC
2265 East County Road 800 South
Cloverdale, Indiana 46120

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

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

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

Operation Permit No.: T133-31145-00003	
Issued by: Original Signed Jenny Acker, Section Chief Permits Branch, Office of Air Quality	Issuance Date: June 26, 2012 Expiration Date: June 26, 2017

Significant Permit Modification No.: 133-34343-00003, issued on July 3, 2014
Administrative Amendment No. 133-34652-00003, issued on August 19, 2014
Administrative Amendment No. 133-35024-00003, issued on December 23, 2014
Significant Permit Modification No.: 133-35869-00003, issued on August 25, 2015

Significant Permit Modification No.: 133-37458-00003	
Issued by: Jenny Acker, Section Chief Permits Branch, Office of Air Quality	 Issuance Date: Expiration Date: June 26, 2017

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Attachment A: Fugitive Particulate Matter Emissions Control Plan

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Attachment F: 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Attachment G: RESERVED

Attachment H: 40 CFR 63, Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary ethanol production facility.

Source Address:	2265 East County Road 800 South, Cloverdale, Indiana 46120
General Source Phone Number:	(765) 795-3235
SIC Code:	2869 (Industrial Organic Chemicals, Not Elsewhere Classified) 2048 (Prepared Feed and Feed Ingredients for Animals and Fowls, Except Dogs and Cats)
County Location:	Putnam
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 Not 1 of 28 Source Categories Nested Source 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:

Grain Handling Process:

(a) Three (3) truck dump pits, collectively identified as EU001, originally constructed in March 2008, obtaining new operation approval in 2010, with a combined maximum throughput rate of 50,000 bushels of corn per hour, using a baghouse (CE001) for particulate control, and exhausting through stack SV001.

(b) One (1) grain handling operation, originally constructed in March 2008, obtaining new operation approval in 2010, using a baghouse (CE001) for particulate control, exhausting through stack SV001, and consisting of the following:

(1) One (1) grain conveyor, identified as EU002, with a maximum throughput rate of 50,000 bushels of grain per hour.

(2) One (1) grain elevator, identified as EU003, with a maximum throughput rate of 50,000 bushels of grain per hour.

(c) Four (4) grain storage silos, with two (2) originally constructed in March 2008 and obtaining new operation approval in 2010, and two (2) approved in 2010 for construction , identified as EU004 through EU007, with a total maximum combined capacity of

2,200,000 bushels, using a baghouse (CE001) for particulate control, and exhausting through stack SV001.

(d) One (1) scalper, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU008, with a maximum throughput rate of 6,000 bushels of grain per hour, using a baghouse (CE003) for particulate control, and exhausting through stack SV003.

(e) One (1) conveyor transfer and surge bin, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU009, with a maximum throughput rate of 6,000 bushels of grain per hour, using a baghouse (CE003) for particulate control, and exhausting through stack SV003.

(f) Seven (7) hammermills, approved in 2010 for construction, identified as EU010 through EU016, each with a maximum throughput rate of 23 tons per hour, using baghouses (CE004 through CE010) for particulate control, respectively, and exhausting through stacks SV004 through SV010, respectively.

(g) One (1) DDGS truck loadout process, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU041, with a maximum throughput rate of 400 tons of DDGS per hour, using a baghouse (CE001) for particulate control, and exhausting to stack SV001.

(h) One (1) DDGS rail loadout process, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU042, with a maximum throughput rate of 400 tons of DDGS per hour, using a baghouse (CE001) for particulate control, and exhausting to stack SV001.

Mash Preparation, Fermentation, Distillation, and Dehydration Process:

(i) One (1) mash preparation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE011) for VOC/HAP control, exhausting through stack SV011, and consisting of the following:

(1) One (1) slurry tank, identified as EU017.

(2) One (1) yeast propagation tank, identified as EU018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(j) One (1) fermentation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE012) for VOC/HAP control, exhausting through stack SV012. During wet scrubber downtime, emissions from the fermentation process are vented directly to regenerative thermal oxidizers (CE015 & CE016) through a scrubber bypass. This process consists of the following:

(1) Six (6) fermenters, identified as EU019 through EU024.

(2) Two (2) beer wells, identified as EU025 and EU026.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(k) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum input rate of 83,640 gallons of beer per hour and a maximum production rate of 16,730 gallons of ethanol per hour, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One degas column, identified as EU027.

(2) One (1) beer stripper, identified as EU028.

(3) One (1) rectifier column, identified as EU029.

(4) One (1) side stripper, identified as EU030.

(5) One (1) set of four (4) molecular sieves, identified as EU031.

(6) One (1) set of three (3) evaporators, identified as EU032.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Evaporation Process, DDGS Dryer, & Cooling Process:

(l) One (1) stillage process, originally constructed in March 2008, obtaining new operation approval in 2010, approved in 2016 for modification, with a maximum DDGS production of 350,400 tons per year, using two (2) 30 MMBtu/hr regenerative thermal oxidizers (CE015 & CE016) for VOC/HAP control, approved in 2010 for construction, exhausting through stack SV014, and consisting of the following:

(1) One (1) set of five (5) centrifuges, identified as EU033. Four centrifuges were originally constructed in March 2008, obtaining new operation approval in 2010, and one (1) centrifuge is approved in 2016 for construction. During RTO downtime, emissions from EU033 are exhausted through bypass stack SV022.

(2) Two (2) natural gas fired DDGS dryers operated in series, identified as EU034 and EU035, originally constructed in March 2008, each with a maximum heat input rate of 92 MMBtu/hr, with a total maximum throughput rate of 115 tons of wetcake per hour, and an output of 40 tons of DDGS produced per hour.

(m) One (1) DDGS fluid bed cooler, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU038, with a maximum throughput rate of 40 tons of DDGS per hour, using a baghouse (CE014) for particulate control, with emissions vented to and controlled by RTOs (CE015 & CE016), and exhausting to stack SV014.

Note: The RTO must occasionally be temporarily shut down for maintenance or other operational reasons. In this event, the DDGS dryers and fluid bed cooler will be shut down.

(n) One (1) DDGS storage building/flat storage, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU039, using a baghouse (CE017) for particulate control, and exhausting to stack SV017.

Denatured Ethanol Storage and Loadout Racks:

(o) One (1) ethanol loadout rack (two rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, with the second rail loadout approved in 2016 for construction, identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Natural Gas Fired Combustion Units:

(p) Two (2) natural gas fired boilers, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU036 and EU037, each with a rated heat capacity of 145.3 MMBtu/hr, exhausting to stacks SV015 and SV016.

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

Diesel Fired Combustion Unit:

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

Under NSPS, Subpart IIII, this unit is considered an affected source.
Under NESHAP, Subpart ZZZZ, this unit is considered 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) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including space heaters with a combined heat input capacity not to exceed 2.5 million (2,500,000) Btu per hour.

(b) Storage Tanks:

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

(2) One (1) 190 proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of undenatured ethanol.

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denaturant.

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

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

(d) Forced and induced draft cooling tower system not regulated under a NESHAP.

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

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

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

(h) One (1) diesel-fired stationary fire pump, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(j) Paved roads and parking lots with public access.

(k) A gasoline dispensing operation for plant vehicles with a 300 gallon capacity storage tank, installed in 2007, and with an estimated annual throughput of 3,600 gallons per year.

Under NESHAP, Subpart CCCCCC, this is considered a new affected source.

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

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

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, T133-31145-00003, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

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

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7][IC 13-17-12]

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

B.5 Severability [326 IAC 2-7-5(5)]

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

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

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

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

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

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

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

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

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

and

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

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

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

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

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

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

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

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

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

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

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

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

The Permittee shall implement the PMPs.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

B.11 Emergency Provisions [326 IAC 2-7-16]

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

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

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

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

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

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

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

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

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

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

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

(A) A description of the emergency;

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

(C) Corrective actions taken.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) All terms and conditions of permits established prior to T133-31145-00003 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

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

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

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

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

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

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

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(4) The Permittee notifies the:

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

and

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

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)(1) and (c)(1). The Permittee shall make such records available, upon reasonable request, for public review.

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

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

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

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

(3) Any change in emissions; and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

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

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment 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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

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

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

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

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

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

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

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

C.9 Performance Testing [326 IAC 3-6]

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

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

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

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

(b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C.14 Risk Management Plan [326 IAC 2-7-5(11)][40 CFR 68]

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

C.15 Response to Excursions or Exceedances [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.

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

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

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(b)(2), starting in 2005 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

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

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) (“Regulated pollutant, which is used only for purposes of Section 19 of this rule”) from the source, for purpose of fee assessment.

The statement must be submitted to:

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

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

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

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

(AA) All calibration and maintenance records.
(BB) All original strip chart recordings for continuous monitoring instrumentation.
(CC) Copies of all reports required by the Part 70 permit.

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

(AA) The date, place, as defined in this permit, and time of sampling or measurements.
(BB) The dates analyses were performed.
(CC) The company or entity that performed the analyses.
(DD) The analytical techniques or methods used.
(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

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

(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.

Stratospheric Ozone Protection

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Grain Handling Process:

(a) Three (3) truck dump pits, collectively identified as EU001, originally constructed in March 2008, obtaining new operation approval in 2010, with a combined maximum throughput rate of 50,000 bushels of corn per hour, using a baghouse (CE001) for particulate control, and exhausting through stack SV001.

(b) One (1) grain handling operation, originally constructed in March 2008, obtaining new operation approval in 2010, using a baghouse (CE001) for particulate control, exhausting through stack SV001, and consisting of the following:

(1) One (1) grain conveyor, identified as EU002, with a maximum throughput rate of 50,000 bushels of grain per hour.

(2) One (1) grain elevator, identified as EU003, with a maximum throughput rate of 50,000 bushels of grain per hour.

(c) Four (4) grain storage silos, with two (2) originally constructed in March 2008 and obtaining new operation approval in 2010, and two (2) approved in 2010 for construction , identified as EU004 through EU007, with a total maximum combined capacity of 2,200,000 bushels, using a baghouse (CE001) for particulate control, and exhausting through stack SV001.

(d) One (1) scalper, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU008, with a maximum throughput rate of 6,000 bushels of grain per hour, using a baghouse (CE003) for particulate control, and exhausting through stack SV003.

(e) One (1) conveyor transfer and surge bin, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU009, with a maximum throughput rate of 6,000 bushels of grain per hour, using a baghouse (CE003) for particulate control, and exhausting through stack SV003.

(f) Seven (7) hammermills, approved in 2010 for construction, identified as EU010 through EU016, each with a maximum throughput rate of 23 tons per hour, using baghouses (CE004 through CE010) for particulate control, respectively, and exhausting through stacks SV004 through SV010, respectively.

(g) One (1) DDGS truck loadout process, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU041, with a maximum throughput rate of 400 tons of DDGS per hour, using a baghouse (CE001) for particulate control, and exhausting to stack SV001.

(h) One (1) DDGS rail loadout process, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU042, with a maximum throughput rate of 400 tons of DDGS per hour, using a baghouse (CE001) for particulate control, and exhausting to stack SV001.

(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, PM, PM10, and PM2.5 emissions from the following units shall not exceed the emission limits listed in the table below:

Unit ID	Stack ID	Unit Description	Baghouse ID	PM Emission Limit (lb/hr)	PM10 Emission Limit (lb/hr)	PM2.5 Emission Limit (lb/hr)
EU001 - EU003, EU041, EU042	SV001	Grain Receiving, Grain Handling, Grain Storage & DDGS Loading	CE001	3.41 (Combined)	3.60 (Combined)	0.92 (Combined)
EU004 - EU007	SV001		CE002			
EU008, EU009	SV003	Scalper and Conveyor Transfer / Surge Bin	CE003	0.72 (Combined)	0.76 (Combined)	0.20 (Combined)
EU010	SV004	Hammermill #1	CE004	1.23	1.29	0.34
EU011	SV005	Hammermill #2	CE005	1.23	1.29	0.34
EU012	SV006	Hammermill #3	CE006	1.23	1.29	0.34
EU013	SV007	Hammermill #4	CE007	1.23	1.29	0.34
EU014	SV008	Hammermill #5	CE008	1.23	1.29	0.34
EU015	SV009	Hammermill #6	CE009	1.23	1.29	0.34
EU016	SV010	Hammermill #7	CE010	1.23	1.29	0.34

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

D.1.2 Particulate Emission Limitations [326 IAC 6-3-2]

(a) 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 limitations listed in the table below when operating at the maximum process weight rates listed below:

Stack ID	Unit ID	Unit Description	Max. Process Weight Rate (ton/hr)	Particulate Emission Limit (lb/hr)
SV001	EU001	Three (3) Truck Dump Pits	1,400	82.02
	EU002	Grain Conveyor	1,400	82.02
	EU003	Grain Elevator		
	EU041	DDGS Truck Loading	400	66.31
	EU042	DDGS Rail Loading	400	66.31
SV002	EU004-EU007	Storage: (4) Grain Storage Silos	1,400	82.02
SV003	EU008	Scalper	168	56.64
	EU009	Conveyor Transfer / Surge Bin		
SV004	EU010	Hammermill #1	23	33.51
SV005	EU011	Hammermill #2	23	33.51
SV006	EU012	Hammermill #3	23	33.51
SV007	EU013	Hammermill #4	23	33.51
SV008	EU014	Hammermill #5	23	33.51
SV009	EU015	Hammermill #6	23	33.51
SV010	EU016	Hammermill #7	23	33.51

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:

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

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

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

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

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

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

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

D.1.4 Particulate Control

(a) In order to ensure compliance with Conditions D.1.1 and D.1.2, the baghouses for particulate control shall be in operation and control emissions from the emission units at all times that the emission units are in operation as listed in the table below:

Unit ID	Unit Description	Baghouse ID
EU001 - EU007, EU041, EU042	Grain Receiving, Grain Handling, Grain Storage & DDGS Loading	CE001
EU004 - EU007	Grain Storage	CE002
EU008, EU009	Scalper and Conveyor Transfer / Surge Bin	CE003
EU010	Hammermill #1	CE004
EU011	Hammermill #2	CE005
EU012	Hammermill #3	CE006
EU013	Hammermill #4	CE007
EU014	Hammermill #5	CE008
EU015	Hammermill #6	CE009
EU016	Hammermill #7	CE010

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

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

In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM, PM10, and PM2.5 testing for the units listed below at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the

Commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

(a) Baghouse CE001, controlling emissions from the grain receiving and handling, (EU001 through EU003), Grain Storage (EU004 through EU007), and DDGS loading (EU041 and EU042).

(b) Baghouse CE003, controlling emissions from the scalper and conveyor transfer (EU008) and surge bin (EU009).

(c) One baghouse from group CE004 through CE010, controlling emissions from the respective hammermills (EU010 through EU016). A different representative hammermill stack shall be tested during each compliance testing demonstration until such time that all hammermill baghouse exhausts have been tested. The testing cycle shall then begin again with the first hammermill baghouse tested.

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 SV010) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

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

D.1.7 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed units 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 emissions unit. 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 records of once per day visible emission notations of the baghouse stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

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

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Mash Preparation, Fermentation, Distillation, and Dehydration Process:

(i) One (1) mash preparation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 93,360 gallons per hour, using a wet scrubber (CE011) for VOC/HAP controls, exhausting through stack SV011, and consisting of the following:

(1) One (1) slurry tank, identified as EU017.

(2) One (1) yeast propagation tank, identified as EU018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(j) One (1) fermentation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE012) for VOC/HAP controls, exhausting through stack SV012. During wet scrubber downtime, emissions from the fermentation process are vented directly to regenerative thermal oxidizer (CE015 & CE016) through a scrubber bypass. This process consists of the following:

(1) Six (6) fermenters, identified as EU019 through EU024.

(2) Two (2) beer wells, identified as EU025 and EU026.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(k) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum input rate of 83,640 gallons of beer per hour and a maximum production rate of 16,730 gallons of ethanol per hour, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One degas column, identified as EU027.

(2) One (1) beer stripper, identified as EU028.

(3) One (1) rectifier column, identified as EU029.

(4) One (1) side stripper, identified as EU030.

(5) One (1) set of four (4) molecular sieves, identified as EU031.

(6) One (1) set of three (3) evaporators, identified as EU032.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Evaporation Process, DDGS Dryer, & Cooling Process:

(l) One (1) stillage process, originally constructed in March 2008, obtaining new operation approval in 2010, approved in 2016 for modification, with a maximum DDGS production of 350,400 tons per year, using two (2) 30 MMBtu/hr regenerative thermal oxidizers (CE015 & CE016) for VOC/HAP control, approved in 2010 for construction, exhausting through stack SV014, and consisting of the following:

(1) One (1) set of five (5) centrifuges, identified as EU033. Four centrifuges were originally constructed in March 2008, obtaining new operation approval in 2010, and one (1) centrifuge is approved in 2016 for construction. During RTO downtime, emissions from EU033 are exhausted through bypass stack SV022.

(2) Two (2) natural gas fired DDGS dryers operated in series, identified as EU034 and EU035, originally constructed in March 2008, each with a maximum heat input rate of 92 MMBtu/hr, with a total maximum throughput rate of 115 tons of wetcake per hour, and an output of 40 tons of DDGS produced per hour.

(m) One (1) DDGS fluid bed cooler, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU038, with a maximum throughput rate of 40 tons of DDGS per hour, using a baghouse (CE014) for particulate control, with emissions vented to and controlled by RTOs (CE015 & CE016), and exhausting to stack SV014.

Note: The RTO must occasionally be temporarily shut down for maintenance or other operational reasons. In this event, the DDGS dryers and fluid bed cooler will be shut down.

(n) One (1) DDGS storage building/flat storage, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU039, using a baghouse (CE017) for particulate control, and exhausting to stack SV017.

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

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

(a) Mash Preparation Process:

(1) VOC emissions from scrubber CE011 shall not exceed 3.87 lb/hr.

(2) Combined HAP emissions from scrubber CE011 shall not exceed 0.15 lb/hr.

(3) Acetaldehyde emissions from scrubber CE011 shall not exceed 0.05 lb/hr.

(b) Distillation and Dehydration Process:

(1) VOC emissions from scrubber CE013 shall not exceed 2.39 lb/hr.

(2) Combined HAP emissions from scrubber CE013 shall not exceed 0.75 lb/hr.

(3) Acetaldehyde emissions from scrubber CE013 shall not exceed 0.45 lb/hr.

(c) Unless operating under Alternative Operating Scenario No. 1 (AOS1) - Fermentation Process:

(1) VOC emissions from scrubber CE012 shall not exceed 25.64 lb/hr.

(2) Combined HAP emissions from scrubber CE012 shall not exceed 0.99 lb/hr.

(3) Acetaldehyde emissions from scrubber CE012 shall not exceed 0.70 lb/hr.

(d) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2) - RTOs (CE015 and CE016):

(1) RTOs (CE015 and CE016) shall control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	33.6
PM10	31.3
PM2.5	40.9
VOC	11.0
NOx	28.0
CO	24.4
Acetaldehyde	0.99
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

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

When the Scrubber (CE012) is not operating, the Permittee shall comply with the following:

(1) RTOs (CE015 and CE016) shall control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038).

(2) The Wet Scrubber (CE012) downtime shall not exceed more than one hundred (100) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	33.6
PM10	31.3
PM2.5	40.9
VOC	35.6
NOx	28.0
CO	48.2
Acetaldehyde	0.99

Pollutant	Emission Limit (lb/hr)
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

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

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

(1) The centrifuges (EU033) shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) The DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) shall not be in operation.

(g) In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, PM, PM10, and PM2.5 emissions from the DDGS Storage Building/Flat Storage (EU039) shall not exceed the emission limits listed in the table below:

Unit	Stack ID	Unit Description	Control ID	PM Emission Limit (lb/hr)	PM10 Emission Limit (lb/hr)	PM2.5 Emission Limit (lb/hr)
EU039	SV017	DDGS Storage Bldg. / Flat Storage	CE017	0.42	0.44	0.67

Compliance with these limits, combined with the potential to emit of PM, PM10, PM2.5, VOC, NOx, and CO from all other emission units at the source, shall limit the source-wide potential to emit of PM, PM10, PM2.5, VOC, NOx, and CO to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (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 twelve (12) consecutive month period for any single HAP, and less than twenty-five (25) tons per twelve (12) consecutive month period for total HAP. Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are rendered not applicable and this source is an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

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

Pursuant to 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills), the Permittee shall comply with the following:

(a) The VOC emissions from the mash preparation process shall be controlled at all times by wet scrubber CE011.

(b) The overall control efficiency for the mash preparation wet scrubber (CE011) (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(c) Unless operating under AOS1, the VOC emissions from the fermentation process shall be controlled at all times by wet scrubber CE012. During wet scrubber downtime (AOS1), emissions from the fermentation process are vented to regenerative thermal oxidizer (CE015 & CE016) through a scrubber bypass.

(d) The overall control efficiency for the fermentation wet scrubber (CE012) (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(e) The VOC emissions from the distillation and dehydration process shall be controlled by wet scrubber CE013.

(f) The overall control efficiency for the distillation and dehydration wet scrubber (CE013) (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(g) The VOC emissions from the DDGS Dryers (EU034 and EU035), shall be controlled by the RTOs identified as CE015 and CE016 at all times.

(h) The overall control efficiency, including the capture efficiency and destruction efficiency, of RTOs CE015 and CE016 shall each be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

D.2.3 Particulate Emission Limitations [326 IAC 6-3-2]

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

Stack ID	Unit ID	Unit Description	Max. Process Weight Rate (ton/hr)	Particulate Emission Limit (lb/hr)
SV014	EU034	DDGS Dryer	115	52.7
	EU035	DDGS Dryer		
	EU038	DDGS Cooler	40	42.53
SV017	EU039	DDGS Storage Bldg. / Flat Storage	40	42.53

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:

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

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

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

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

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

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

D.2.5 Particulate, VOC, CO and HAP Control

In order to ensure compliance with Conditions D.2.1 and D.2.2, the following shall apply:

(a) In order to assure compliance with Conditions D.2.1(a), D.2.2, the wet scrubber CE011 shall be in operation and control emissions from the mash preparation process at all times that this process is in operation.

(b) In order to assure compliance with Conditions D.2.1(b), D.2.2, the wet scrubber CE013 shall be in operation and control emissions from the distillation and dehydration process at all times that this process is in operation.

(c) Unless operating under AOS1:
In order to assure compliance with Conditions D.2.1(c) and D.2.2, the wet scrubber CE012 shall be in operation and control emissions from the fermentation process at all times that this process is in operation.

(d) Unless operating under AOS1 or AOS2:
In order to assure compliance with Conditions D.2.1(c) and D.2.2, the RTOs (CE015 and CE016) shall be in operation and control emissions from the DDGS dryers (EU034 and EU035) and the DDGS fluid bed cooler (EU038), at all times that these units are in operation.

(e) When operating under AOS1:
In order to assure compliance with D.2.1(d) and D.2.2, the RTOs (CE015 and CE016) shall be in operation and control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) at all times that these processes are in operation.

(f) In order to assure compliance with Conditions D.2.1(c) and D.2.3, the baghouse (CE014) for particulate control shall be in operation and control emissions from the DDGS cooler (EU038) at all times that the DDGS cooler (EU038) is in operation.

(g) In order to assure compliance with the Conditions in D.2.1(f) and D.2.3, the baghouse (CE017) for particulate control shall be in operation and control particulate emissions from DDGS Storage Building / Flat Storage (EU039) at all times this unit is in operation.

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

(a) In order to demonstrate compliance with Conditions D.2.1(a), D.2.1(b), D.2.1(c), and D.2.2, the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency) and acetaldehyde testing for scrubbers CE011, CE012, and CE013 at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(b) Not later than 180 days after the startup of the fifth centrifuge, in order to demonstrate compliance with Conditions D.2.1(d), D.2.2, and D.2.3, when the RTOs (CE015 and CE016) control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038), the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture

efficiency), NOx, CO, and acetaldehyde testing for the RTO common stack (SV014) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

(c) Not later than 180 days after the startup of the fifth centrifuge, in in order to demonstrate compliance with Conditions D.2.1(e), D.2.2, and D.2.3, when the RTOs (CE015 and CE016) control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038), the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and acetaldehyde testing for the RTO common stack (SV014) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

(c) In order to demonstrate compliance with Conditions D.2.1(f) and D.2.3, PM, PM10, and PM2.5 testing for the DDGS Storage Building / Flat Storage (EU039) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

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

D.2.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhausts from SV014 and SV017, shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.

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

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

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

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

D.2.8 Parametric Monitoring [326 IAC 8-5-6]

(a) The Permittee shall monitor and record the flow rate of scrubbers CE011, and CE013 at least once per day when the associated processes are in operation.

(1) From the date of startup until the latest valid stack test results are available, the Permittee shall maintain the flow rate at or above the minimum values below. If the flow rate falls below the minimum values below, the Permittee shall take a reasonable response.

Scrubber ID	Associated Process	Minimum Flow Rate
CE011	Mash Preparation	3 gallons per minute
CE013	Distillation & Dehydration	10 gallons per minute

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1 and D.2.2.

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

(b) The Permittee shall monitor and record the pressure drop across the scrubbers CE011 and CE013 at least once per day when the associated processes are in operation. When for any one reading, the pressure drop across a scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pressure drop between 1.0 and 12.0 inches of water.

(c) 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.

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

When not operating under AOS1:

(a) The Permittee shall monitor and record the flow rate of scrubber CE012 at least once per day when the associated processes are in operation.

(1) From the date of startup until the latest valid stack test results are available, the Permittee shall maintain the flow rate at or above the minimum values below. If the flow rate falls below the minimum values below, the Permittee shall take a reasonable response.

Scrubber ID	Associated Process	Minimum Flow Rate
CE012	Fermentation	100 gallons per minute

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1 and D.2.2.

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

(b) The Permittee shall monitor and record the pressure drop across the scrubber CE012 at least once per day when the associated processes are in operation. When for any one reading, the pressure drop across a scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pressure drop between 1.0 and 12.0 inches of water.

(c) 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.

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.2.10 RTO Temperature [326 IAC 8-5-6]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the on both RTOs (CE015 and CE016) for measuring operating temperature. 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:
The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, D.2.2, and D.2.3.

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, D.2.2, and D.2.3.

(c) On and after the date the stack test results are available, the Permittee shall operate both RTOs (CE015 and CE016) at or above the 3-hour average temperature as observed during the latest 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.2.11 RTO Duct Pressure or Fan Amperage [326 IAC 8-5-6]

(a) When not operating under AOS1:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, D.2.2, and D.2.3.

When operating under AOS1:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, D.2.2, and D.2.3.

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

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

(d) When, for any one reading, the duct pressure or fan amperage is outside the appropriate range, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.2.12 Broken or Failed Bag Detection

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

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

D.2.13 Scrubber Failure Detection

(a) Scrubber CE012 - When not operating under AOS1:
In the event that a scrubber malfunction has been observed:

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

(b) All other scrubbers:
In the event that a scrubber malfunction has been observed:

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

Record Keeping and Reporting 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(e)(2), the Permittee shall maintain documentation of the dates, including the time, the system is operating under AOS1.

(b) To document the compliance status with Condition D.2.1(f), the Permittee shall maintain documentation of the dates, including the time, the system is operating under AOS2.

(c) To document the compliance status with Condition D.2.7, the Permittee shall maintain records of once per day visible emission notations of stacks SV014 and SV017. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.2.8 and D2.9, the Permittee shall maintain once per day records of the flow rate and pressure drop for scrubbers CE011, CE012, and CE013 during normal operation. The Permittee shall include in its daily record when a flow rate reading or pressure drop reading is not taken and the reason for the lack of flow rate reading or pressure drop reading (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.2.10, the Permittee shall maintain continuous temperature records for the RTOs (CE015 and CE016) (on a 3-hour average basis) used to demonstrate compliance during the most recent compliant stack test. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g. the RTO was not in operation).

(f) To document the compliance status with Condition D.2.11, the Permittee shall maintain daily records of the duct pressure or fan amperage for the RTOs (CE015 and CE016). The Permittee shall include in its daily record when a duct pressure reading or fan amperage reading is not taken and the reason for the lack of a duct pressure reading or fan amperage reading (e.g. the process did not operate that day).

(g) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping 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(e)(2) and D.2.1(f) shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Ethanol Storage and Loadout Racks:

(o) One (1) ethanol loadout rack (two rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, with the second rail loadout approved in 2016 for construction, identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

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

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 emission limits for the ethanol loading rack (EU043):

(a) The total combined load-out rate of denatured ethanol and E-85 associated with the ethanol loading rack (EU043) shall not exceed 118,250,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The E-85 load-out rate associated with the ethanol loading rack (EU043) shall not exceed 14,300,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) VOC emissions associated with the loading rack (EU043) shall not exceed 0.38 pounds per thousand gallons.

(d) The NOx emissions associated with the ethanol loading rack (EU043) shall not exceed 0.076 pounds per thousand gallons.

(e) The CO emissions associated with the ethanol loading rack (EU043) shall not exceed 0.137 pounds per thousand gallons.

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

D.3.2 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) The Permittee shall use flare CE018 to control the emissions from the ethanol loading rack (EU043) when loading denatured ethanol and/or E-85 to trucks.

(b) The Permittee shall use flare CE018 to control emissions from the ethanol loading rack (EU043) when loading denatured ethanol and/or E-85 to railcars.

(c) The overall control efficiency, including the capture efficiency and destruction efficiency, for the enclosed flare (CE018) shall be at least 98%.

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 plan required by this condition.

Compliance Determination Requirements

D.3.4 VOC Control

In order to ensure compliance with Conditions D.3.1 and D.3.2, the enclosed flare CE018 shall be in operation and control emissions from the ethanol loading rack (EU043) at all times when denatured ethanol and/or E-85 is being loaded to trucks or railcars.

D.3.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 8-5-6]

Not later than 180 days after the startup of the second rail loadout, in order to demonstrate compliance with Conditions D.3.1(c), (d), and (e) and D.3.2(c) associated with the ethanol loading rack (EU043), the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency), CO, and NOx testing for enclosed flare CE018 at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

D.3.6 Visible Emissions Notations

(a) Visible emission notations of the flare (CE018) stack exhaust (SV018) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take 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.3.7 Flare Pilot Flame [326 IAC 8-5-6]

In order to comply with Conditions D.3.1 and D.3.2, the Permittee shall monitor the presence of a flare pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame when the ethanol loading rack (EU043) is in operation and loading denatured ethanol

and/or E-85 to trucks or railcars. If a condition exists which should result in a response step, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

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

D.3.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.1(a), the Permittee shall maintain monthly records of the amount of denatured ethanol and E-85 loaded out by truck and rail at the ethanol loading rack (EU043).

(b) To document the compliance status with Condition D.3.1(b), the Permittee shall maintain monthly records of the amount of E-85 loaded out by truck and rail at the ethanol loading rack (EU043).

(c) To document the compliance status with Condition D.3.6, the Permittee shall maintain records of once per day visible emission notations of stack SV018. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.3.7, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when the ethanol loading rack is in operation.

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

D.3.9 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.3.1(a) and (b) shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reports 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 D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Natural Gas Fired Combustion Units:

(p) Two (2) natural gas fired boilers, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU036 and EU037, each with a rated heat capacity of 145.3 MMBtu/hr, exhausting to stacks SV015 and SV016.

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

(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 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the NOx emissions from the boilers (EU036 and EU037) shall not exceed 86.5 tons per twelve (12) consecutive month period total, with compliance determined at the end of each month.

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

D.4.2 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for facilities specified in 326 IAC 6-2-1(d)), the PM emissions from the boilers EU036 and EU037 shall not exceed 0.249 pounds per million Btu heat input (lb/MMBtu) each.

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.4.4 Continuous Emissions Monitoring [326 IAC 3-5]

(a) Pursuant to 326 IAC 3-5, and in order to ensure compliance with Condition D.4.1 and the requirements of 40 CFR 60, Subpart Db as specified in Section E.1, continuous emission monitoring systems (CEMS) for Boilers EU36 and EU37 shall be installed, calibrated, maintained, operated, and certified for measuring NOx 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.

(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.4.5 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.4.1, the Permittee shall maintain records of all NOx 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 NOx limit as required in Condition D.4.1 and the requirements of 326 IAC 3-5-6.

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

D.4.6 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.4.1 shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification the meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall submit reports in accordance 326 IAC 3-5-7.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Diesel Fired Combustion Unit:

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

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

Insignificant Activities

(h) One (1) diesel-fired stationary fire pumps, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(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.5.1 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 emission limits:

(a) The diesel generator (EU044) shall not exceed 250 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The two diesel fire pumps (EU045) and (EU046) each shall not exceed 250 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The NOx and CO emissions from EU044, EU045, and (EU046) shall not exceed the limits as specified in the table below:

Unit	NOx Emission Limit (lb/hr)	CO Emission limit (lb/hr)
Diesel Generator (EU044)	64.40	17.11
Diesel Fire Pump (EU045)	9.30	2.00
Diesel Fire Pump (EU046)	9.30	2.00

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

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

D.5.2 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1(a), the Permittee shall maintain records of the number of hours that the diesel generator (EU044) operates each month.

(b) To document the compliance status with Condition D.5.1(b), the Permittee shall maintain records of the number of hours that each of the two diesel fire pumps (EU045) and (EU046) operates each month.

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

D.5.3 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.5.1(a) and D.5.1(b) shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION E.1 NSPS

Emissions Unit Description: Natural Gas Fired Combustion Units:

(p) Two (2) natural gas fired boilers, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU036 and EU037, each with a rated heat capacity of 145.3 MMBtu/hr, exhausting to stacks SV015 and SV016.

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

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

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

SECTION E.2 NSPS

Emissions Unit Description:

Insignificant Activities:

(b) Storage Tanks:

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

(2) One (1) 190 proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of undenatured ethanol.

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denaturant.

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under 40 CFR 60, 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.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 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.2.2 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 C to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

(1) 40 CFR 60.110b (a), (e)(1)(i), (e)(2) and (e)(3)

(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) through (e)
(7) 40 CFR 60.117b

SECTION E.3 NSPS

Emissions Unit Description: Mash Preparation, Fermentation, Distillation, and Dehydration Process:

(i) One (1) mash preparation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE011) for VOC/HAP control, exhausting through stack SV011, and consisting of the following:

(1) One (1) slurry tank, identified as EU017.

(2) One (1) yeast propagation tank, identified as EU018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(j) One (1) fermentation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE012) for VOC/HAP control, exhausting through stack SV012. During wet scrubber downtime, emissions from the fermentation process are vented directly to regenerative thermal oxidizers (CE015 & CE016) through a scrubber bypass. This process consists of the following:

(1) Six (6) fermenters, identified as EU019 through EU024.

(2) Two (2) beer wells, identified as EU025 and EU026.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(k) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum input rate of 83,640 gallons of beer per hour and a maximum production rate of 16,730 gallons of ethanol per hour, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One degas column, identified as EU027.

(2) One (1) beer stripper, identified as EU028.

(3) One (1) rectifier column, identified as EU029.

(4) One (1) side stripper, identified as EU030.

(5) One (1) set of four (4) molecular sieves, identified as EU031.

(6) One (1) set of three (3) evaporators, identified as EU032.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Denatured Ethanol Storage and Loadout Racks:

(o) One (1) ethanol loadout rack (two rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, with the second rail loadout approved in 2016 for construction, identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Insignificant Activities:

(b) Storage Tanks:

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

(2) One (1) 190 proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of undenatured ethanol.

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denaturant.

Under 40 CFR 60, Subpart Kb, these units are affected facilities. Under 40 CFR 60, 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 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.3.2 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 D to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

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

SECTION E.4 NSPS

Emissions Unit Description: Diesel Fired Combustion Units

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

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

Insignificant Activities

(h) One (1) diesel-fired stationary fire pumps, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered 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.

(a) EU044 is subject to the following portions of 40 CFR 60, Subpart IIII:

(1) 40 CFR 60.4200 (a)(2)(i), (a)(4)
(2) 40 CFR 60.4205 (b)

(3) 40 CFR 60.4206
(4) 40 CFR 60.4207 (b)
(5) 40 CFR 60.4208
(6) 40 CFR 60.4209
(7) 40 CFR 60.4211 (a), (c), (f), (g)(3)
(8) 40 CFR 60.4212
(9) 40 CFR 60.4214 (b), (c)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 8 to Subpart IIII of Part 60

(b) EU045 and EU046 are subject to the following portions of 40 CFR 60, Subpart IIII:

(1) 40 CFR 60.4200 (a)(2)(ii), (a)(4),
(2) 40 CFR 60.4205 (c)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207 (b)
(5) 40 CFR 60.4209
(6) 40 CFR 60.4211 (a), (c), (f), (g)(3)
(7) 40 CFR 60.4212
(8) 40 CFR 60.4214 (b), (c)
(9) 40 CFR 60.4218
(10) 40 CFR 60.4219
(11) Table 4 to Subpart IIII of Part 60
(12) Table 8 to Subpart IIII of Part 60

SECTION E.5 NESHAP

Emissions Unit Description: Diesel Fired Combustion Units

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

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

Insignificant Activities:

(h) One (1) diesel-fired stationary fire pumps, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered 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)

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

SECTION E.6 NESHAP

Emissions Unit Description: Insignificant Activities:

(j) A gasoline dispensing operation for plant vehicles with a 300 gallon capacity storage tank, installed in 2007, and with an estimated annual throughput of 3,600 gallons per year.

Under NESHAP, Subpart CCCCCC, this is considered a new 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.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), (h), (i), (j)
(3) 40 CFR 63.11112 (a), (b)
(4) 40 CFR 63.11113 (a)(1), (e)(1)
(5) 40 CFR 63.11115
(6) 40 CFR 63.11116
(7) 40 CFR 63.11125(d)
(8) 40 CFR 63.11130
(9) 40 CFR 63.11131
(10) 40 CFR 63.11132
(11) Table 3 to Subpart CCCCCC of Part 63

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

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003

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

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

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

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

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

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

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

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Ethanol Loadout Rack (EU043)
Parameter: Total Denatured Ethanol and E-85 Loaded
Limit: The total combined load-out rate of denatured ethanol and E-85 associated with the ethanol loading rack (EU043) shall not exceed 118,250,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Ethanol Loadout Rack (EU043)
Parameter: Total E-85 Loaded
Limit: The E-85 load-out rate associated with the ethanol loading rack (EU043) shall not exceed 14,300,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Boilers EU036 and EU037
Parameter: NOx Emissions
Limit: Shall not exceed 86.5 tons per twelve (12) consecutive month period total, with compliance determined at the end of each month.

QUARTER: YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Diesel Generator (EU044)
Parameter: Hours of Operation
Limit: Shall not exceed 250 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Fire Pump (EU045)
Parameter: Hours of Operation
Limit: Shall not exceed 250 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Fire Pump (EU046)
Parameter: Hours of Operation
Limit: Shall not exceed 250 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Gasoline Dispensing Operation
Parameter: Gasoline Throughput
Limit: Shall be less than 10,000 gallons per month, with compliance determined at the end of each month.

QUARTER: YEAR:

Month	Gallons of Throughput
	This Month

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Wet Scrubber (CE012)
Parameter: Downtime (hrs)
Limit: shall not exceed more than one hundred (100) hours per twelve (12) consecutive month period with compliance determined at the end of each month

QUARTER: _____ YEAR: _____

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003
Facility: Centrifuges (EU033)
Parameter: Hours venting to atmosphere
Limit: shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

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

☐ No deviation occurred in this quarter.

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

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: POET Biorefining - Cloverdale, LLC
Source Address: 2265 East County Road 800 South, Cloverdale, Indiana 46120
Part 70 Permit No.: T133-31145-00003

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

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attachment E

Part 70 Operating Permit No: T133-31145-00003

[Downloaded from the eCFR on September 6, 2016]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for

engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Emission Standards for Manufacturers

§60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

(h) Stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with auxiliary emission control devices (AECDs) as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011; 81 FR 44219, July 7, 2016]

§60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Remote areas of Alaska; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016]

§60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

§60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

(f) Owners and operators of stationary CI ICE certified to the standards in 40 CFR part 1039 and equipped with AECDs as specified in 40 CFR 1039.665 must meet the Tier 1 certification emission standards for new nonroad CI engines in 40 CFR 89.112 while the AECD is activated during a qualified emergency situation. A qualified emergency situation is defined in 40 CFR 1039.665. When the qualified emergency situation has ended and the AECD is deactivated, the engine must resume meeting the otherwise applicable emission standard specified in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011; 81 FR 44219, July 7, 2016]

§60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Other Requirements for Owners and Operators

§60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Compliance Requirements

§60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §60.4201 or §60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

(j) Stationary CI ICE manufacturers may equip their stationary CI internal combustion engines certified to the emission standards in 40 CFR part 1039 with AECDs for qualified emergency situations according to the requirements of 40 CFR 1039.665. Manufacturers of stationary CI ICE equipped with AECDs as allowed by 40 CFR 1039.665 must meet all of the requirements in 40 CFR 1039.665 that apply to manufacturers. Manufacturers must document that the engine complies with the Tier 1 standard in 40 CFR 89.112 when the AECD is activated. Manufacturers must provide any relevant testing, engineering analysis, or other information in sufficient detail to support such statement when applying for certification (including amending an existing certificate) of an engine equipped with an AECD as allowed by 40 CFR 1039.665.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 81 FR 44219, July 7, 2016]

§60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_X and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_X and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent

performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

(h) The requirements for operators and prohibited acts specified in 40 CFR 1039.665 apply to owners or operators of stationary CI ICE equipped with AECDs for qualified emergency situations as allowed by 40 CFR 1039.665.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013; 81 FR 44219, July 7, 2016]

Testing Requirements for Owners and Operators

§60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i = concentration of NO_X or PM at the control device inlet,

C_o = concentration of NO_X or PM at the control device outlet, and

R = percent reduction of NO_X or PM emissions.

(2) You must normalize the NO_X or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \%\ O_2} \qquad \text{(Eq. 3)}$$

Where:

C_{adj} = Calculated NO_X or PM concentration adjusted to 15 percent O_2.

C_d = Measured concentration of NO_X or PM, uncorrected.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2 correction value, percent.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209_{E}}{F_c} \qquad \text{(Eq. 4)}$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \qquad \text{(Eq. 5)}$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2 correction value, percent.

(iii) Calculate the NO_X and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \qquad \text{(Eq. 6)}$$

Where:

C_{adj} = Calculated NO_X or PM concentration adjusted to 15 percent O_2.

C_d = Measured concentration of NO_X or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_X mass per unit output emission limitation, convert the concentration of NO_X in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{KW\text{-hour}} \quad (Eq. 7)$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_X concentration in ppm.

$1.912x10^{-3}$ = Conversion constant for ppm NO_X to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW\text{-hour}} \quad (Eq. 8)$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.

(e) Owners or operators of stationary CI ICE equipped with AECDs pursuant to the requirements of 40 CFR 1039.665 must report the use of AECDs as required by 40 CFR 1039.665(e).

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013; 81 FR 44219, July 7, 2016]

Special Requirements

§60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in remote areas of Alaska may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in §§60.4201(f) and 60.4202(g).

(c) Manufacturers, owners and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§60.4202 and 60.4205, and not those for non-emergency engines in §§60.4201 and 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §§60.4201 and 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in remote areas of Alaska.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in remote areas of Alaska from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011, as amended at 81 FR 44219, July 7, 2016]

§60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§60.4219 What definitions apply to this subpart?

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

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in §60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in §60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied

to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §60.4211(f)(2)(ii) or (iii) and §60.4211(f)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Remote areas of Alaska means areas of Alaska that meet either paragraph (1) or (2) of this definition.

(1) Areas of Alaska that are not accessible by the Federal Aid Highway System (FAHS).

(2) Areas of Alaska that meet all of the following criteria:

(i) The only connection to the FAHS is through the Alaska Marine Highway System, or the stationary CI ICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary CI ICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the source is less than 12 megawatts, or the stationary CI ICE is used exclusively for backup power for renewable energy.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013; 81 FR 44219, July 7, 2016]

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO_X + NMHC	CO	PM
KW<8 (HP<11)	2008 +	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008 +	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008 +	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011 +	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011 +	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011 +	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011 +[1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011 +[1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010 +[2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009 +[3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009 +[3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009 +	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008 +	6.4 (4.8)		0.20 (0.15)

[1]For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2]For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3]In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed[1]	Torque (percent)[2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1]Engine speed: ±2 percent of point.

[2]Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:

Each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥ 30 liters per cylinder	a. Reduce NO_X emissions by 90 percent or more;	i. Select the sampling port location and number/location of traverse points at the inlet and outlet of the control device;		(a) For NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure O_2 at the inlet and outlet of the control device;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Each	Complying with the requirement to	You must	Using	According to the following requirements
	b. Limit the concentration of NO_X in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and number/location of traverse points at the exhaust of the stationary internal combustion engine;		(a) For NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurement for NO_X concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_X concentration.
		iv. Measure NO_X at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) Sampling sites must be located at the inlet and outlet of the control device.

Each	Complying with the requirement to	You must	Using	According to the following requirements
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device.	(4) Method 5 of 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine.	(4) Method 5 of 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[79 FR 11251, Feb. 27, 2014]

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

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 - Cloverdale, LLC**
Source Location:	**2265 East County Road 800 South, Cloverdale, Indiana 46120**
County:	**Putnam**
SIC Code:	**2869 (Industrial Organic Chemicals, Not Elsewhere Classified) 2048 (Prepared Feed and Feed Ingredients for Animals and Fowls, Except Dogs and Cats)**
Operation Permit No.:	**T133-31145-00003**
Operation Permit Issuance Date:	**June 26, 2012**
Significant Source Modification No.:	**133-37437-00003**
Significant Permit Modification No.:	**133-37458-00003**
Permit Reviewer:	**Thomas Olmstead / Kristen Willoughby**

Existing Approvals

The source was issued Part 70 Operating Permit No. 133-31145-00003 on June 26, 2012. The source has since received the following approvals:

Permit Type	Permit Number	Issuance Date
Significant Permit Modification	133-34343-00003	July 3, 2014
Administrative Amendment	133-34652-00003	August 19, 2014
Administrative Amendment	133-35024-00003	December 23, 2014
Significant Permit Modification	133-35869-00003	August 25, 2015

County Attainment Status

The source is located in Putnam 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. Putnam 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) $PM_{2.5}$
Putnam County has been classified as attainment for $PM_{2.5}$. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Putnam County has been classified as attainment or unclassifiable in Indiana for all the 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).

(a) Since this type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

(b) 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.

(c) 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 not counted toward determination of PSD, Emission Offset, and Part 70 Permit applicability.

Greenhouse Gas (GHG) Emissions

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 GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

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:

	Source-Wide Emissions Before Modification (ton/year)								
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP Acetaldehyde***	**Combined HAPs**
Total for Source	224.9	225.1	224.8	16.5	225.1	225.4	143.5	9.92	24.90
PSD Major Source Thresholds	250	250	250	250	250	250	250	--	--
*Single highest source-wide HAP.									

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) 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).

(c) These emissions are based on Appendix A of Technical Support Document 133-35869-00003.

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

	Potential To Emit of the Nested Activities (tons/year)								
Process/Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**Total HAPs**	**Single HAP**
Boilers (036) and (037)	2.37	9.48	9.48	0.75	86.50	6.86	24.96	2.35	2.25 (Hexane)
Total PTE of Nested Activity	**2.37**	**9.48**	**9.48**	**0.75**	**86.50**	**6.86**	**24.96**	**2.35**	**2.25 (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 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 an application, submitted by POET Biorefining - Cloverdale, LLC on July 25, 2016, relating to the following:

(1) Construction and operation of a new fifth centrifuge (EU033) to the stillage process, which will increase the feed rate to the DDGS dryers (EU034 and EU035) to 115 tons of wetcake per hour.
(2) The DDGS dryers (EU034 and EU035) each have a maximum heat input rate of 92 MMBtu/hr and not 83 MMBtu/hr. This will increase the PTE from the DDGS dryers.

(3) The source operates one (1) set of four (4) molecular sieves, identified as EU031 and not three (3) molecular sieves. This will not result in an increase in PTE as this change does not increase the throughput of the ethanol thru the set of molecular sieves.
(4) Addition of Alternative Operating Scenario No. 2 (AOS2). When the RTOs (CE015 & CE016) are not operating due to maintenance, emissions from the one (1) set of five (5) centrifuges, identified as EU033, shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period.
(5) The source operates two diesel-fired stationary fire pumps, identified as EU045 and EU046, each with a maximum power output rate of 300 horsepower. Only one (1) 600 hp fire pump is currently permitted.
(6) Increase the VOC and CO emission limits from the RTOs (CE015 & CE016) during Alternative Operating Scenario No. 1 (AOS1) when the Wet Scrubber (CE012), which controls the fermentation process, is not operating. Alternative Operating Scenario No. 1 (AOS1) will be limited to one hundred (100) hours per twelve (12) consecutive month period.
(7) Construction and operation of a second rail ethanol loadout. This will increase the PTE from the ethanol loadout racks.
(8) Removal of National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities (40 CFR 63, Subpart BBBBBB) because the source does not use a petroleum distillate as defined in 63.11100 at the ethanol production facility.

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

(a) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum input rate of 83,640 gallons of beer per hour and a maximum production rate of 16,730 gallons of ethanol per hour, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One (1) set of four (4) molecular sieves, identified as EU031.

(b) One (1) stillage process, originally constructed in March 2008, obtaining new operation approval in 2010, approved in 2016 for modification, with a maximum DDGS production of 350,400 tons per year, using two (2) 30 MMBtu/hr regenerative thermal oxidizers (CE015 & CE016) for VOC/HAP control, approved in 2010 for construction, exhausting through stack SV014, and consisting of the following:

(1) One (1) set of five (5) centrifuges, identified as EU033. Four centrifuges were originally constructed in March 2008 and one (1) centrifuge is approved in 2016 for construction. During RTO downtime, emissions from EU033 are exhausted uncontrolled through bypass stack SV022.

(2) Two (2) natural gas fired DDGS dryers operated in series, identified as EU034 and EU035, originally constructed in March 2008, each with a maximum heat input rate of 92 MMBtu/hr, with a total maximum throughput rate of 115 tons of wetcake per hour, and an output of 40 tons of DDGS produced per hour.

(c) One (1) ethanol loadout rack (two rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, with the second rail loadout approved in 2016 for construction, identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

(d) One (1) diesel-fired stationary fire pump, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

(e) One (1) diesel-fired stationary fire pump, identified as EU046, constructed in March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

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(12), 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 and 326 IAC 2-7-11. 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.

	Total PTE Increase Due to the Modification (ton/year)						
	PM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
PTE of New Emission units	2.89	2.89	2.89	2.69	40.73	18.64	8.78
PTE Increase of Modified Emission Units/Process	0.00E+00	0.00E+00	0.00E+00	0.05	7.73	4045.96	0.00E+00
Total PTE of the Modification	**2.89**	**2.89**	**2.89**	**2.74**	**48.46**	**4064.60**	**8.78**

Appendix A of this TSD reflects the potential emissions of the modification in detail.

(a) Approval to Construct

Pursuant to 326 IAC 2-7-10.5(g)(4), a Significant Source Modification is required because this modification has the potential to emit VOC at greater than or equal to twenty-five (25) tons per year.

(b) Approval to Operate

Pursuant to 326 IAC 2-7-12(d)(1), this change to the permit is being made through a Significant Permit Modification because this modification does not qualify as a Minor Permit Modification or as an Administrative Amendment.

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 ~~strikethrough~~ 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)								
	PM	PM10*	PM2.5**	SO_2	NOx	VOC	CO	Total HAPs	Worst Single HAP Acetaldehyde
Grain Receiving: (3) Truck Dump Pits (EU001)	14.94	15.77	4.03	--	--	--	--	--	--
Grain Handling: Grain Conveyor (EU002)									
Grain Handling: Grain Elevator (EU003)									
Storage: (4) Grain Storage Silos (EU004 - EU007)									
DDGS Truck Loadout (EU041)									
DDGS Rail Loadout (EU042)									
Scalper (EU008)	3.15	3.33	0.88	--	--	--	--	--	--
Conveyor Transfer and Surge Bin (EU009)									
Hammermill #1 (EU010)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #2 (EU011)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #3 (EU012)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #4 (EU013)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #5 (EU014)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #6 (EU015)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #7 (EU016)	5.39	5.65	1.49	--	--	--	--	--	--
Mash Preparation Process (EU017 and EU018)	--	--	--	--	--	16.95	--	0.66	0.22
Distillation and Dehydration Process (EU027 - EU032)	--	--	--	--	--	10.47	--	3.29	1.97
Fermentation Process (EU019 - EU026)	147.17	137.09	179.14	~~14.34~~ **14.39**	122.64	160.48	~~106.87~~ **108.06**	13.10	7.40
Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038)									
RTO Combustion Emissions									
DDGS Storage Bldg. / Flat Storage (EU039)	1.84	1.93	2.93	--	--	--	--	--	--
Boiler #1 (EU036)	2.37	9.48	9.48	0.75	86.50	6.86	24.96	2.35	--
Boiler #2 (EU037)									
Truck and Rail Loading Rack (Loading and Flare Emissions) (EU043)	0.06	0.22	0.22	0.02	4.49	~~22.47~~ **6.85**[1]	8.10	~~5.07~~ **0.77**[1]	~~0.31~~ **6.69E-03**[1]

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 Acetaldehyde
Diesel Generator (EU044)	0.16	0.14	0.14	1.27	8.05	0.21	2.14	3.96E-03	6.34E-05
Centrifuges (EU033) Bypass**	**--**	**--**	**--**	**--**	**--**	**0.88**	**--**	**0.026**	**0.019**
Insignificant Activities									
Space Heaters	0.02	0.08	0.08	0.01	1.07	0.06	0.90	0.02	--
Denaturant Storage Tank	--	--	--	--	--	1.00	--	0.19	8.38E-04
200 Proof Ethanol Shift Tank	--	--	--	--	--	0.48	--		
200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--		
200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--		
Denaturant Storage Tank	--	--	--	--	--	0.83	--		
Cooling Tower	12.34	12.34	12.34	--	--	--	--	--	--
Diesel Fire Pumps (EU045) **and (EU046)**	0.17	0.17	0.17	0.15	2.33	0.19	0.50	2.03E-03	4.03E-04
Gasoline Dispensing Operation	--	--	--	--	--	0.07	--	0.01	--
Other	5	5	5	--	--	5	--	--	--
Fugitive Leaks	--	--	--	--	--		--	~~0.21~~ **0.23**	~~1.12E-02~~ **1.27E-02**
Total PTE of Entire Source	224.9	225.1	224.8	~~16.5~~ **16.6**	225.1	~~225.4~~ **210.7**	~~143.5~~ **144.7**	~~24.90~~ **20.65**	~~9.92~~ **9.63**
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 $PM_{2.5}$.
1. Decreased due to new methodology and PTE limited not based on VOC emission limit. PTE based on limited throughput and controlled VOC.

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 Acetaldehyde
Grain Receiving: (3) Truck Dump Pits (EU001)	14.94	15.77	4.03	--	--	--	--	--	--
Grain Handling: Grain Conveyor (EU002)									
Grain Handling: Grain Elevator (EU003)									

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 Acetaldehyde
Storage: (4) Grain Storage Silos (EU004 - EU007)									
DDGS Truck Loadout (EU041)									
DDGS Rail Loadout (EU042)									
Scalper (EU008)									
Conveyor Transfer and Surge Bin (EU009)	3.15	3.33	0.88	--	--	--	--	--	--
Hammermill #1 (EU010)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #2 (EU011)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #3 (EU012)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #4 (EU013)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #5 (EU014)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #6 (EU015)	5.39	5.65	1.49	--	--	--	--	--	--
Hammermill #7 (EU016)	5.39	5.65	1.49	--	--	--	--	--	--
Mash Preparation Process (EU017 and EU018)	--	--	--	--	--	16.95	--	0.66	0.22
Distillation and Dehydration Process (EU027 - EU032)	--	--	--	--	--	10.47	--	3.29	1.97
Fermentation Process (EU019 - EU026)									
Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038)	147.17	137.09	179.14	14.39	122.64	160.48	108.06	13.10	7.40
RTO Combustion Emissions									
DDGS Storage Bldg. / Flat Storage (EU039)	1.84	1.93	2.93	--	--	--	--	--	--
Boiler #1 (EU036)	2.37	9.48	9.48	0.75	86.50	6.86	24.96	2.35	--
Boiler #2 (EU037)									
Truck and Rail Loading Rack (Loading and Flare Emissions) (EU043)	0.06	0.22	0.22	0.02	4.49	6.85	8.10	0.77	6.69E-03
Diesel Generator (EU044)	0.16	0.14	0.14	1.27	8.05	0.21	2.14	3.96E-03	6.34E-05
Centrifuges (EU033) Bypass**	--	--	--	--	--	0.88	--	0.026	0.019
Insignificant Activities									
Space Heaters	0.02	0.08	0.08	0.01	1.07	0.06	0.90	0.02	--
Denaturant Storage Tank	--	--	--	--	--	1.00	--	0.19	8.38E-04
200 Proof Ethanol Shift Tank	--	--	--	--	--	0.48	--		

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 Acetaldehyde
200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--		
200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--		
Denaturant Storage Tank	--	--	--	--	--	0.83	--		
Cooling Tower	12.34	12.34	12.34	--	--	--	--	--	--
Diesel Fire Pumps (EU045) and (EU046)	0.17	0.17	0.17	0.15	2.33	0.19	0.50	2.03E-03	4.03E-04
Gasoline Dispensing Operation	--	--	--	--	--	0.07	--	0.01	--
Other	5	5	5	--	--	5	--	--	--
Fugitive Leaks	--	--	--	--	--		--	0.23	1.27E-02
Total PTE of Entire Source	224.9	225.1	224.8	16.6	225.1	210.7	144.7	20.65	9.63
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 $PM_{2.5}$.

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).

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, and the source an area source of HAP emissions under 40 CFR 63, the Permittee shall comply with the following:

(a) Unless operating under Alternative Operating Scenario No. 1 (AOS1) - Fermentation Process:

(1) VOC emissions from scrubber CE012 shall not exceed 25.64 lb/hr.

(2) Combined HAP emissions from scrubber CE012 shall not exceed 0.99 lb/hr.

(3) Acetaldehyde emissions from scrubber CE012 shall not exceed 0.70 lb/hr.

(b) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2) - RTOs (CE015 and CE016):

(1) RTOs (CE015 and CE016) shall control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	33.6
PM10	31.3
PM2.5	40.9
VOC	11.0
NOx	28.0
CO	24.4
Acetaldehyde	0.99
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

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

When the Scrubber (CE012) is not operating, the Permittee shall comply with the following:

(1) RTOs (CE015 and CE016) shall control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038).

(2) The Wet Scrubber (CE012) downtime shall not exceed more than one hundred (100) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	33.6
PM10	31.3
PM2.5	40.9
VOC	35.6
NOx	28.0
CO	48.2
Acetaldehyde	0.99
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

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

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

(1) The centrifuges (EU033) shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) The DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) shall not be in operation.

(e) The total combined load-out rate of denatured ethanol and E-85 associated with the ethanol loading rack (EU043) shall not exceed 118,250,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(f) The E-85 load-out rate associated with the ethanol loading rack (EU043) shall not exceed 14,300,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(g) VOC emissions associated with the loading rack (EU043) shall not exceed 0.38 pounds per thousand gallons.

(h) The NOx emissions associated with the ethanol loading rack (EU043) shall not exceed 0.076 pounds per thousand gallons.

(i) The CO emissions associated with the ethanol loading rack (EU043) shall not exceed 0.137 pounds per thousand gallons.

(j) The two diesel fire pumps (EU045) and (EU046) each shall not exceed 250 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(k) The NOx and CO emissions from EU044, EU045, and (EU046) shall not exceed the limits as specified in the table below:

Unit	NOx Emission Limit (lb/hr)	CO Emission limit (lb/hr)
Diesel Fire Pump (EU045)	9.30	2.00
Diesel Fire Pump (EU046)	9.30	2.00

Compliance with these limits and the unrestricted PM, PM10, PM2.5, VOC, NOx, and CO emissions from all other emission units shall limit the PM, PM10, PM2.5, VOC, NOx, and CO 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

Due to the modification at this source, federal rule applicability has been reviewed as follows:

New Source Performance Standards (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 (4) grain storage silos used in the grain receiving and handling operation is 2,200,000 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 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:

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

(2) One (1) 190 proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of undenatured ethanol.

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denaturant.

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

(1) 40 CFR 60.110b (a), (e)(1)(i), (e)(2) and (e)(3)
(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) through (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) 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.

(2) 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.

(3) The set of five (5) centrifuges, identified as EU033, 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 five (5) 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) mash preparation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE011) for VOC/HAP control, exhausting through stack SV011, and consisting of the following:

(1) One (1) slurry tank, identified as EU017.

(2) One (1) yeast propagation tank, identified as EU018.

(b) One (1) fermentation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE012) for VOC/HAP control, exhausting through stack SV012. During wet scrubber downtime, emissions from the fermentation process are vented directly to regenerative thermal oxidizers (CE015 & CE016) through a scrubber bypass. This process consists of the following:

(1) Six (6) fermenters, identified as EU019 through EU024.

(2) Two (2) beer wells, identified as EU025 and EU026.

(c) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum input rate of 83,640 gallons of beer per hour and a maximum production rate of 16,730 gallons of ethanol per hour, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One degas column, identified as EU027.

(2) One (1) beer stripper, identified as EU028.

(3) One (1) rectifier column, identified as EU029.

(4) One (1) side stripper, identified as EU030.

(5) One (1) set of four (4) molecular sieves, identified as EU031.

(6) One (1) set of three (3) evaporators, identified as EU032.

(d) One (1) ethanol loadout rack (two rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, with the second rail loadout approved in 2016 for construction, identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

(e) Storage Tanks:

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

(2) One (1) 190 proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of undenatured ethanol.

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denaturant.

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

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

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.

(d) The two diesel-fired stationary fire pumps, identified as EU045 and EU046, are subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII and 326 IAC 12. The units subject to this rule includes the following:

(1) One (1) diesel-fired stationary fire pump, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

(2) One (1) diesel-fired stationary fire pump, identified as EU046, constructed in March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

The units are subject to the following portions of Subpart IIII.

(1) 40 CFR 60.4200 (a)(2)(ii), (a)(4),

(2) 40 CFR 60.4205 (c)
(3) 40 CFR 60.4206
(4) 40 CFR 60.4207 (b)
(5) 40 CFR 60.4209
(6) 40 CFR 60.4211 (a), (c), (f), (g)(3)
(7) 40 CFR 60.4212
(8) 40 CFR 60.4214 (b), (c)
(9) 40 CFR 60.4218
(10) 40 CFR 60.4219
(11) Table 4 to Subpart IIII of Part 60
(12) Table 8 to Subpart IIII of Part 60

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the units except as otherwise specified in 40 CFR 60, Subpart IIII.

(e) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ and 326 IAC 12, are not applicable to the two diesel-fired fire pumps because they are compression ignition internal combustion engines and not spark ignition internal combustion engines. Therefore, the requirements of the 40 CFR 60, Subpart JJJJ are not included in this permit.

(f) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the permit for this proposed modification.

National Emission Standards for Hazardous Air Pollutants (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 BBBBBB) 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 BBBBBB 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 BBBBBB 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 BBBBBB, gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines. Natural gasoline is not considered a petroleum distillate. Natural gasoline is derived from natural gas, whereas refined gasoline is derived from crude oil (petroleum). 40 CFR 80.2 defines natural gas liquids: "Natural gas liquids (NGL) means the components of natural gas (primarily propane, butane, pentane, hexane, and heptane) that are separated from the gas state in the form of liquids in facilities such as a natural gas production facility, a gas processing plant, a natural gas pipeline, or a refinery or similar facility. The higher temperature boiling components of NGL are sometimes referred to as 'natural gasoline'". 40 CFR 63, Subpart OOOO defines Natural Gas liquids as hydrocarbons, such as ethane, propane, butane, and pentane that are extracted from field gas. Natural gasoline itself is not used as a fuel in combustion engines. Therefore, the requirements of 40 CFR 63, Subpart BBBBBB are not included in the permit.

(f) 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.

(g) The two diesel-fired stationary fire pumps, identified as EU045 and EU046, are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ and 326 IAC 20-82, because these units are stationary reciprocating internal combustion engines (RICE) located at an area source of HAP emissions. Pursuant to 63.6590(c), an affected source that meets the definition of a new or reconstructed stationary RICE located at an area source must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. The units subject to this rule include the following:

(1) One (1) diesel-fired stationary fire pump, identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of 300 horsepower, and exhausting to stack SV020.

(2) One (1) diesel-fired stationary fire pump, identified as EU046, constructed in March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

This emission units are subject to the following portions of Subpart ZZZZ:

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

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the units except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

(h) There are no other National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included for this proposed.

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the 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.

(b) Pursuant to 40 CFR 64.2(b)(1)(i), emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act are exempt from the requirements of CAM. Therefore, an evaluation was not conducted for any emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act.

(c) Pursuant to 40 CFR 64.2(b)(1)(iii), Acid Rain requirements pursuant to Sections 404, 405, 406, 407(a), 407(b), or 410 of the Clean Air Act are exempt emission limitations or standards. Therefore, CAM was not evaluated for emission limitations or standards for SO_2 and NO_X under the Acid Rain Program.

(d) Pursuant to 40 CFR 64.3(d), if a continuous emission monitoring system (CEMS) is required pursuant to other federal or state authority, the owner or operator shall use the CEMS to satisfy the requirements of CAM according to the criteria contained in 40 CFR 64.3(d).

The following table is used to identify the applicability of CAM to each existing emission unit and each emission limitation or standard for a specified pollutant based on the criteria specified under 40 CFR 64.2:

Emission Unit / Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - PM	RTOs	326 IAC 2-2	>100	<100	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - PM10	RTOs	326 IAC 2-2	>100	<100	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - PM2.5	RTOs	326 IAC 2-2	>100	<100	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - VOC	RTOs	326 IAC 2-2	>100	<100	Y	N

Emission Unit / Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - NOx	None	NA	NA	NA	N [1]	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - CO	RTOs	326 IAC 2-2	>100	<100	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - Acetaldehyde	RTOs	326 IAC 2-4.1	>10	<10	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - Acrolein	RTOs	326 IAC 2-4.1	>10	<10	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - Methanol	RTOs	326 IAC 2-4.1	>10	<10	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - Total HAPs	RTOs	326 IAC 2-4.1	>25	<25	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - VOC	RTOs	326 IAC 8-1-6	>100	<100	Y	N
centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) - PM*	RTOs	326 IAC 6-3-2	>100	<100	Y	N
ethanol loading rack (EU043) - VOC	Flare	326 IAC 2-2	>100	<100	Y	N
ethanol loading rack (EU043) - NOx	None	NA	NA	NA	N [1]	N
ethanol loading rack (EU043) - CO	None	NA	NA	NA	N [1]	N
ethanol loading rack (EU043) - VOC	Flare	326 IAC 8-1-6	>100	<100	Y	N

Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for criteria pollutants (PM10, PM2.5, SO2, NOX, VOC and CO) is 100 tpy, for a single HAP ten (10) tpy, and for total HAPs twenty-five (25) tpy

PM* Under 326 IAC 6-3-2. PM is limited as a surrogate for the Part 70 regulated pollutant, PM10. Therefore, uncontrolled PTE and controlled PTE reflect the emissions of PM10.

Emission Unit / Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
N 1 The control device is not required to comply with the applicable emission limitation or standard. Therefore, based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable.						
Controls: BH = Baghouse, C = Cyclone, DC = Dust Collection System, RTO = Regenerative or Recuperative Thermal Oxidizer, WS = Wet Scrubber, ESP = Electrostatic Preciptator						
Emission units without air pollution controls are not subject to CAM. Therefore, they are not listed.						

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are applicable to the centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038), which are considered as an "other unit," for PM, PM10, PM2.5, VOC, CO, Acetaldehyde, Acrolein, Methanol, and total HAPs upon issuance of the Part 70 Permit Renewal. A CAM plan must be submitted as part of the Part 70 Operating Permit Renewal application.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are applicable to ethanol loading rack (EU043), which is considered as an "other unit," for VOC upon issuance of the Part 70 Permit Renewal. A CAM plan must be submitted as part of the Part 70 Operating Permit Renewal application.

State Rule Applicability Determination

Due to the modification at this source, state rule applicability has been reviewed as follows:

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) Fermentation Process:

(1) Combined HAP emissions from scrubber CE012 shall not exceed 0.99 lb/hr.

(2) Acetaldehyde emissions from scrubber CE012 shall not exceed 0.70 lb/hr.

(b) Unless operating under Alternative Operating Scenario No. 1 (AOS1), RTOs (CE015 and CE016) shall control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
Acetaldehyde	0.99
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

(c) Alternative Operating Scenario No. 1 (AOS1)
When Wet Scrubber (CE012) is not operating, RTOs (CE015 and CE016) shall control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The Wet Scrubber (CE012) downtime shall not exceed more than one hundred (100) hours per twelve (12) consecutive month period with

compliance determined at the end of each month. The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
Acetaldehyde	0.99
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

(d) The emissions from the centrifuges (EU033) bypass stack SV022 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
Acetaldehyde	0.075
Acrolein	0.007
Methanol	0.014
Total HAPs	0.102

The centrifuges (EU033) shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(e) The total combined load-out rate of denatured ethanol and E-85 associated with the ethanol loading rack (EU043) shall not exceed 118,250,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(f) The E-85 load-out rate associated with the ethanol loading rack (EU043) shall not exceed 14,300,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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, an emission statement must be submitted triennially. The first report is due no later than July 1, 2005, 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 certifications 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 becuase it is not located in Lake County.

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 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2 are applicable to the DDGS dryers (EU034 and EU035), since they are a manufacturing process not exempted from this rule under 326 IAC 6-3-1(b) and are 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 DDGS dryers (EU034 and EU035) 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 and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

Summary of Process Weight Rate Limits		
Process / Emission Unit	**P (ton/hr)**	**E (lb/hr)**
DDGS Dryer (EU034)	115	52.7
DDGS Dryer (EU035)	115	52.7

The RTOs (CE015 and CE016) shall be in operation at all times the DDGS dryers (EU034 and EU035) are in operation, in order to comply with this limit.

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)
(a) The fermentation process, distillation process, DDGS dryers (EU034 and EU035), and ethanol load-out operation (EU043) 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 Centrifuges (EU033) and Diesel Fire Pumps (EU045 and EU046) were constructed after January 1, 1980, but each do not have potential VOC emissions greater than 25 tons per year. Therefore, the Centrifuges (EU033) and Diesel Fire Pumps (EU045 and EU046) are 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 T002, 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 T001 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 T001 and T005 are not subject to the requirements of 326 IAC 8-4-3.

(c) The one (1) gasoline dispensing operation for plant vehicles 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 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 assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

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

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Authority**
ethanol loading rack (EU043)	enclosed flare (CE018)	Not later than 180 days after the startup of the second rail loadout	VOC, CO, NOx	Every 5 years	326 IAC 2-7-5(1)
the RTOs (CE015 and CE016) when controlling the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038)	RTOs (CE015 and CE016)	Not later than 180 days after the startup of the fifth centrifuge	PM, PM10, PM2.5, VOC, NOx, CO, and acetaldehyde	Every 5 years	326 IAC 2-7-5(1)
the RTOs (CE015 and CE016) when controlling the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038)	RTOs (CE015 and CE016)	Not later than 180 days after the startup of the fifth centrifuge	PM, PM10, PM2.5, VOC, NOx, CO, and acetaldehyde	Every 5 years	326 IAC 2-7-5(1)

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

Proposed Changes

The following changes listed below are due to the proposed modification. These changes may include Title I changes (ex changes that add or modify synthetic minor emission limits). Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

Proposed Changes

(a) Conditions A.2 and A.3 and the emission unit description boxes have been revised to reflect the new and modified units.

(b) 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 BBBBBB 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 BBBBBB to qualify as gasoline and is not itself a fuel for internal combustion engines. See 76 Fed. Reg. 4156 (Jan. 24, 2011). The denaturant received, stored, and used to process denatured ethanol is "natural gasoline" and not "refined" gasoline. Therefore, the requirements of 40 CFR 63, Subpart BBBBBB have been removed from the permit.

(c) 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.

(d) Per the request of the Permittee, Sections D.2 and D.3 were combined.

(e) The Section D.2 requirements for operating under AOS1 and for not operating under AOS1were revised for clarification purposes. Associated reporting forms were added.

(f) The requirements of 40 CFR 63, Subpart VVVVVV are not applicable to ethanol plants. Therefore, Conditions D.2.3 and D.7.2 and the testing under Conditions D.2.7 and D.7.4 have been removed. For more information please see the Federal Rule Applicability section of this document.

(g) Condition D.2.6 was moved from Compliance Determination Requirements to Compliance Monitoring Requirements since it is considered monitoring.

(h) Condition D.2.7 was revised to require testing after the startup of the new centrifuge.

(i) Section D.2 was revised to add requirements for when the centrifuges are vented to the atmosphere. Associated reporting forms were added.

(j) Old Condition D.4.5 was revised to require testing after the startup of the new rail loadout operation.

(k) Old Section D.6 was revised to include requirements for the two, 300 hp diesel fire pumps and remove requirements for the 600 hp diesel fire pump that was not constructed.

(l) Section D.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 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.

Additional Changes

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

(a) Typographical errors have been corrected throughout. Conditions have been renumbered throughout.

(b) Condition A.1 - General Information has been revised to specify the SIC Code description.

(c) Condition A.1 - General Information has been revised to remove the Greenhouse Gas (GHG) citation because IDEM, OAQ no longer cites GHGs for source status. The source is not 1 of 28 Source Categories and this is specified.

(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 C - Risk Management Plan.

(f) The source is not subject to 40 CFR 64 (CAM) until issuance of the renewal. Therefore, the citations to CAM have been removed from the C sections of the permit in Sections C.11 Compliance Monitoring, C.15 Response to Excursions or Exceedances, and C.19 General Reporting Requirements.

(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)]**

(j) Conditions D.1.7 Parametric Monitoring has 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 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 Parametric Monitoring have also been removed.

(k) IDEM, OAQ has updated the E sections of the permit for clarity.

(l) Part 70 Quarterly Report forms were revised to match the current model.

The permit has been revised as follows:

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 facility.

Source Address:	2265 East County Road 800 South, Cloverdale, Indiana 46120
General Source Phone Number:	(765) 795-3235
SIC Code:	2869 (Industrial Organic Chemicals**, Not Elsewhere Classified) 2048 (Prepared Feed and Feed Ingredients for Animals and Fowls, Except Dogs and Cats**) ~~2048 (Prepared Feeds and Feed Ingredients)~~
County Location:	Putnam
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

~~Greenhouse Gas (GHG) potential to emit (PTE) is equal to or more than one hundred thousand (100,000) tons of CO2 equivalent emissions (CO2e) per year~~
~~Minor Source, Section 112 of the Clean Air Act~~
Not 1 of 28 Source Categories
Nested Source 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)]

***

(k) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum ~~ethanol production~~ **input rate** of 83,640 gallons **of beer** per hour **and a maximum production rate of 16,730 gallons of ethanol per hour**, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One degas column, identified as EU027.

(2) One (1) beer stripper, identified as EU028.

(3) One (1) rectifier column, identified as EU029.

(4) One (1) side stripper, identified as EU030.

(5) One (1) set of ~~three (3~~**four (4**) molecular ~~sieve~~**sieves**, identified as EU031.

(6) One (1) set of three (3) evaporators, identified as EU032.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Evaporation Process, DDGS Dryer, & Cooling Process:

(l) One (1) stillage process, originally constructed in March 2008, obtaining new operation approval in 2010, **approved in 2016 for modification,** with a maximum DDGS production of ~~376,445~~ **350,400** tons per year, using two (2) 30 MMBtu/hr regenerative thermal oxidizers (CE015 & CE016) for VOC/HAP control, approved in 2010 for construction, exhausting through stack SV014, and consisting of the following:

(1) One (1) set of ~~four (4~~**five (5**) centrifuges, identified as EU033~~,~~**. Four centrifuges were** originally constructed in March 2008**, obtaining new operation approval in 2010, and one (1) centrifuge is approved in 2016 for construction. During RTO downtime, emissions from EU033 are exhausted through bypass stack SV022**.

(2) Two (2) natural gas fired DDGS dryers **operated in series**, identified as EU034 and EU035, originally constructed in March 2008, each with a maximum heat input rate of ~~83~~**92** MMBtu/hr, ~~and each~~ with a total maximum throughput rate of ~~25~~**115 tons of wetcake per hour, and an output of 40** tons of DDGS **produced** per hour.

(m) One (1) DDGS fluid bed cooler, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU038, with a maximum throughput rate of 40 tons of DDGS per hour, using a baghouse (CE014) for particulate control, with emissions vented to and controlled by RTOs (CE015 & CE016), and exhausting to stack SV014.

Note: The RTO must occasionally be temporarily shut down for maintenance or other operational reasons. In this event, the DDGS dryers and fluid bed cooler will be shut down.

(n) One (1) DDGS storage building/flat storage, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU039, using a baghouse (CE017) for particulate control, and exhausting to stack SV017.

Denatured Ethanol Storage and Loadout Racks:

(o) One (1) ethanol loadout rack (~~one~~**two** rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, **with the second rail loadout approved in 2016 for construction,** identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new 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) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including space heaters with a combined heat input capacity not to exceed 2.5 million (2,500,000) Btu per hour.

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

(b) Storage Tanks:

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

(2) One (1) ~~200~~ **190** proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this tank are considered to be affected facilities.~~

(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of **un**denatured ethanol.

~~Under NSPS, Subpart Kb, these units are considered affected facilities.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of these tanks are considered to be affected facilities.~~

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denatur~~ed~~**ant** ~~gasoline~~.

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

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

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

(d) Forced and induced draft cooling tower system not regulated under a NESHAP.

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

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

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

(h) **One (1) diesel-fired** stationary fire pumps, ~~including one (1) diesel fire pump,~~ identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of ~~600~~**300** horsepower, and exhausting to stack SV020.

Under ~~NSPS~~**40 CFR 60**, Subpart IIII, this unit is considered an affected source.
Under ~~NESHAP~~**40 CFR 63**, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

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

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

C.11 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1~~)~~][~~40 CFR 64~~][~~326 IAC 3-8~~]**)]**

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

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

***

C.15 Response to Excursions or Exceedances [~~40 CFR 64~~][~~326 IAC 3-8~~][326 IAC 2-7-5][326 IAC 2-7-6]

~~(l)~~ Upon detecting an excursion where a response step is required by the D Section~~,~~ or an exceedance of a limitation~~, not subject to CAM,~~ in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

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

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

~~(II)~~

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

~~(1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.~~

~~(2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.~~

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

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

~~(d) Elements of a QIP:~~

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

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

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

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

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

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

~~(h) *CAM recordkeeping requirements.*~~

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

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

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C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11] ~~[40 CFR 64][326 IAC 3-8]~~

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B ~~-~~–Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a

"responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

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

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

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

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

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

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

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SECTION D.1EMISSIONS UNIT OPERATION CONDITIONS~~ - Grain and Handling Process~~

Emissions Unit Description:

Grain Handling Process:

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(c) Four (4) grain storage silos, with two (2) originally constructed in March 2008 and obtaining new operation approval in 2010, and two (2) approved in 2010 for construction , identified as EU004 through EU007, with a total maximum combined capacity of 2,200,000 bushels, using a baghouse (~~CE002~~**CE001**) for particulate control, and exhausting through stack ~~SV002~~**SV001**.

***

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

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Compliance with these limits~~, combined with the limits in Condition D.3.1~~ and the potential to emit of PM, PM10, and PM2.5 from other units at the source, shall limit the PM, PM10, and PM2.5 emissions from the entire source to less than two hundred fifty (250) tons per twelve (12) consecutive month period each and render the requirements of 326 IAC 2-2 (PSD) not applicable.

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

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~~D.1.7 Baghouse Parametric Monitoring~~

~~The Permittee shall record the pressure drop across the baghouses (CE001 through CE010) used in conjunction with the grain receiving, handling, DDGS loading operations (EU001 through EU003, EU041, and EU042), the grain storage silos (EU004 through EU007), scalper and conveyor transfer / surge bin (EU008 and EU009), and hammermills (EU010 through EU016), at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouses is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units 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 response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

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

***

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

D.1.~~9~~**8** Record Keeping Requirements

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

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

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

SECTION D.2EMISSIONS UNIT OPERATION CONDITIONS~~- Mash Preparation, Fermentation, Distillation, and Dehydration Process~~

Emissions Unit Description:

Mash Preparation, Fermentation, Distillation, and Dehydration Process:

***

(k) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum ~~ethanol production~~ **input rate** of 83,640 gallons **of beer** per hour **and a maximum production rate of 16,730 gallons of ethanol per hour**, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

***

(5) One (1) set of ~~three (3~~ **four (4**) molecular sieve**s**, identified as EU031.

***

Evaporation Process, DDGS Dryer, & Cooling Process:

(l) One (1) stillage process, originally constructed in March 2008, obtaining new operation approval in 2010, approved in 2016 for modification, with a maximum DDGS production of 350,400 tons per year, using two (2) 30 MMBtu/hr regenerative thermal oxidizers (CE015 & CE016) for VOC/HAP control, approved in 2010 for construction, exhausting through stack SV014, and consisting of the following:

(1) One (1) set of five (5) centrifuges, identified as EU033. Four centrifuges were originally constructed in March 2008, obtaining new operation approval in 2010, and one (1) centrifuge is approved in 2016 for construction. During RTO downtime, emissions from EU033 are exhausted through bypass stack SV022.

(2) Two (2) natural gas fired DDGS dryers operated in series, identified as EU034 and EU035, originally constructed in March 2008, each with a maximum heat input rate of 92 MMBtu/hr, with a total maximum throughput rate of 115 tons of wetcake per hour, and an output of 40 tons of DDGS produced per hour.

(m) One (1) DDGS fluid bed cooler, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU038, with a maximum throughput rate of 40 tons of DDGS per hour, using a baghouse (CE014) for particulate control, with emissions vented to and controlled by RTOs (CE015 & CE016), and exhausting to stack SV014.

Note: The RTO must occasionally be temporarily shut down for maintenance or other operational reasons. In this event, the DDGS dryers and fluid bed cooler will be shut down.

(n) One (1) DDGS storage building/flat storage, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU039, using a baghouse (CE017) for particulate control, and exhausting to stack SV017.

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

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

(a) Mash Preparation Process:

(1) VOC emissions from scrubber CE011 shall not exceed 3.87 lb/hr.

(2) Combined HAP emissions from scrubber CE011 shall not exceed 0.15 lb/hr.

(3) Acetaldehyde emissions from scrubber CE011 shall not exceed 0.05 lb/hr.

~~(b) Fermentation Process:~~

~~(1) VOC emissions from scrubber CE012 shall not exceed 25.64 lb/hr.~~

~~(2) Combined HAP emissions from scrubber CE012 shall not exceed 0.99 lb/hr.~~

~~(3) Acetaldehyde emissions from scrubber CE012 shall not exceed 0.70 lb/hr.~~

(~~c~~**b**) Distillation and Dehydration Process:

(1) VOC emissions from scrubber CE013 shall not exceed 2.39 lb/hr.

(2) Combined HAP emissions from scrubber CE013 shall not exceed 0.75 lb/hr.

(3) Acetaldehyde emissions from scrubber CE013 shall not exceed 0.45 lb/hr.

(c) Unless operating under Alternative Operating Scenario No. 1 (AOS1) - Fermentation Process:

(1) VOC emissions from scrubber CE012 shall not exceed 25.64 lb/hr.

(2) Combined HAP emissions from scrubber CE012 shall not exceed 0.99 lb/hr.

(3) Acetaldehyde emissions from scrubber CE012 shall not exceed 0.70 lb/hr.

(d) Unless operating under Alternative Operating Scenario No. 1 (AOS1) or No. 2 (AOS2) - RTOs (CE015 and CE016):

(1) RTOs (CE015 and CE016) shall control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	**33.6**
PM10	**31.3**
PM2.5	**40.9**
VOC	**11.0**
NOx	**28.0**
CO	**24.4**
Acetaldehyde	**0.99**
Acrolein	**0.68**
Methanol	**0.87**
Total HAPs	**2.0**

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

When the Scrubber (CE012) is not operating, the Permittee shall comply with the following:

(1) RTOs (CE015 and CE016) shall control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038).

(2) The Wet Scrubber (CE012) downtime shall not exceed more than one hundred (100) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(3) The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	**33.6**
PM10	**31.3**
PM2.5	**40.9**
VOC	**35.6**
NOx	**28.0**
CO	**48.2**
Acetaldehyde	**0.99**
Acrolein	**0.68**
Methanol	**0.87**
Total HAPs	**2.0**

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

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

(1) The centrifuges (EU033) shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.

(2) The DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) shall not be in operation.

(g) In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, PM, PM10, and PM2.5 emissions from the DDGS Storage Building/Flat Storage (EU039) shall not exceed the emission limits listed in the table below:

Unit	Stack ID	Unit Description	Control ID	PM Emission Limit (lb/hr)	PM10 Emission Limit (lb/hr)	PM2.5 Emission Limit (lb/hr)
EU039	**SV017**	**DDGS Storage Bldg. / Flat Storage**	**CE017**	**0.42**	**0.44**	**0.67**

Compliance with these limits, combined with ~~Conditions D.3.1 and D.4.1 and~~ the potential to emit **of PM, PM10, PM2.5,** VOC**, NOx,** and ~~HAP~~**CO** from **all** other **emission** units **at the source**, shall limit the ~~VOC emissions from the entire source~~**source-wide potential to emit of PM, PM10, PM2.5, VOC, NOx, and CO** to less than two hundred fifty (250) tons per **twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable**.

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

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

Pursuant to 326 IAC 8-5-6 (Fuel Grade Ethanol Production at Dry Mills), the Permittee shall comply with the following:

(a) The VOC emissions from the mash preparation process shall be controlled at all times by wet scrubber CE011.

(b) The overall control efficiency for the mash preparation wet scrubber (CE011) (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(c) Unless operating under AOS1 ~~(detailed in Section D.3)~~, the VOC emissions from the fermentation process shall be controlled at all times by wet scrubber CE012. During wet scrubber downtime (AOS1), emissions from the fermentation process are vented to regenerative thermal oxidizer (CE015 & CE016) through a scrubber bypass.

(d) The overall control efficiency for the fermentation wet scrubber (CE012) (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(e) The VOC emissions from the distillation and dehydration process shall be controlled by wet scrubber CE013.

(f) The overall control efficiency for the distillation and dehydration wet scrubber (CE013) (including the capture efficiency and adsorption efficiency) shall be at least 98%, or the VOC outlet concentration shall not exceed 20 ppmv.

(g) The VOC emissions from the DDGS Dryers (EU034 and EU035), shall be controlled by the RTOs identified as CE015 and CE016 at all times.

(h) The overall control efficiency, including the capture efficiency and destruction efficiency, of RTOs CE015 and CE016 shall each be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

~~D.2.3 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 CE012 and at EU025 and EU026:~~

~~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.7.2, shall render the requirements of 40 CFR Part 63, Subpart VVVVVV (National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources) not applicable.~~

D.2.3 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:

Stack ID	Unit ID	Unit Description	Max. Process Weight Rate (ton/hr)	Particulate Emission Limit (lb/hr)
SV014	EU034	DDGS Dryer	115	52.7
	EU035	DDGS Dryer		
	EU038	DDGS Cooler	40	42.53
SV017	EU039	DDGS Storage Bldg. / Flat Storage	40	42.53

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:

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

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

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

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

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

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

D.2.5 **Particulate,** VOC**, CO** and HAP Control

In order to ensure compliance with Conditions D.2.1 and D.2.2, the following shall apply:

(a) **In order to assure compliance with Conditions D.2.1(a), D.2.2, t**~~T~~he wet scrubber CE011 shall be in operation and control emissions from the mash preparation process at all times that this process is in operation.

(b) ~~Unless operating under AOS1 (detailed in Section D.3), the wet scrubber CE012 shall be in operation and control emissions from the fermentation process at all times that this process is in operation.~~

~~(c)~~ **In order to assure compliance with Conditions D.2.1(b), D.2.2, t**~~T~~he wet scrubber CE013 shall be in operation and control emissions from the distillation and dehydration process at all times that this process is in operation.

(c) Unless operating under AOS1:
In order to assure compliance with Conditions D.2.1(c) and D.2.2, the wet scrubber CE012 shall be in operation and control emissions from the fermentation process at all times that this process is in operation.

(d) Unless operating under AOS1 or AOS2:
In order to assure compliance with Conditions D.2.1(c) and D.2.2, the RTOs (CE015 and CE016) shall be in operation and control emissions from the DDGS dryers (EU034 and EU035) and the DDGS fluid bed cooler (EU038), at all times that these units are in operation.

(e) When operating under AOS1:
In order to assure compliance with D.2.1(d)and D.2.2, the RTOs (CE015 and CE016) shall be in operation and control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) at all times that these processes are in operation.

(f) In order to assure compliance with Conditions D.2.1(c) and D.2.3, the baghouse (CE014) for particulate control shall be in operation and control emissions from the DDGS cooler (EU038) at all times that the DDGS cooler (EU038) is in operation.

(g) In order to assure compliance with the Conditions in D.2.1(f) and D.2.3, the baghouse (CE017) for particulate control shall be in operation and control particulate emissions from DDGS Storage Building / Flat Storage (EU039) at all times this unit is in operation.

(h) 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.2.6 Scrubber Failure Detection~~

~~In the event that a scrubber malfunction has been observed:~~

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

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

(a) In order to demonstrate compliance with Conditions D.2.1**(a), D.2.1(b), D.2.1(c),** and D.2.2, the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency) and acetaldehyde testing for scrubbers CE011, CE012, and CE013 at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(b) Not later than 180 days after the startup of the fifth centrifuge, in order to demonstrate compliance with Conditions D.2.1(d), D.2.2, and D.2.3, when the RTOs (CE015 and CE016) control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038), the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and acetaldehyde testing for the RTO common stack (SV014) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

(c) Not later than 180 days after the startup of the fifth centrifuge, in in order to demonstrate compliance with Conditions D.2.1(e), D.2.2, and D.2.3, when the RTOs (CE015 and CE016) control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038), the Permittee shall perform PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and acetaldehyde testing for the RTO common stack (SV014) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

~~(b) In order to demonstrate compliance with Condition D.2.3, 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 beer wells, identified as EU025 or EU026, from the process fluid from the bottom of the scrubber, identified as CE012, and from the process fluid from the bottom of the beer stripper, identified as EU028, not later than 180 days after the issuance date of this Part 70 Operating Permit No. T133-31145-00003 utilizing methods as approved by the Commissioner. This test 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.~~

(c) In order to demonstrate compliance with Conditions D.2.1(f) and D.2.3, PM, PM10, and PM2.5 testing for the DDGS Storage Building / Flat Storage (EU039) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.

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

D.2.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhausts from SV014 and SV017, shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.

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

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

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

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

D.2.8 Parametric Monitoring [326 IAC 8-5-6]

(a) The Permittee shall monitor and record the flow rate of scrubbers CE011~~, CE012,~~ and CE013 at least once per day when the associated processes are in operation.

(1) From the date of startup until the latest valid stack test results are available, the Permittee shall maintain the flow rate at or above the minimum values below. If the flow rate falls below the minimum values below, the Permittee shall take a reasonable response.

Scrubber ID	Associated Process	Minimum Flow Rate
CE011	Mash Preparation	3 gallons per minute
CE012	Fermentation	100 gallons per minute
CE013	Distillation & Dehydration	10 gallons per minute

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1 and D.2.2.

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

(b) The Permittee shall monitor and record the pressure drop across the scrubbers CE011~~,~~ ~~CE012,~~ and CE013 at least once per day when the associated processes are in operation. When for any one reading, the pressure drop across a scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pressure drop between 1.0 and 12.0 inches of water. ~~A pressure reading that is outside the above mentioned range is not a deviation from this permit.~~

(c) 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.

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

When not operating under AOS1:

(a) The Permittee shall monitor and record the flow rate of scrubber CE012 at least once per day when the associated processes are in operation.

(1) From the date of startup until the latest valid stack test results are available, the Permittee shall maintain the flow rate at or above the minimum values below. If the flow rate falls below the minimum values below, the Permittee shall take a reasonable response.

Scrubber ID	Associated Process	Minimum Flow Rate
CE012	Fermentation	100 gallons per minute

(2) The Permittee shall determine the minimum flow rate from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1 and D.2.2.

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

(b) The Permittee shall monitor and record the pressure drop across the scrubber CE012 at least once per day when the associated processes are in operation. When for any one reading, the pressure drop across a scrubber is outside the normal range, the Permittee shall take a reasonable response. The normal range for these units is a pressure drop between 1.0 and 12.0 inches of water.

(c) 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.

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.2.10 RTO Temperature [326 IAC 8-5-6]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the on both RTOs (CE015 and CE016) for measuring operating temperature. 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:
The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, D.2.2, and D.2.3.

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, D.2.2, and D.2.3.

(c) On and after the date the stack test results are available, the Permittee shall operate both RTOs (CE015 and CE016) at or above the 3-hour average temperature as observed during the latest 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.2.11 RTO Duct Pressure or Fan Amperage [326 IAC 8-5-6]

(a) When not operating under AOS1:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, D.2.2, and D.2.3.

When operating under AOS1:
The Permittee shall determine the appropriate duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with limits in Conditions D.2.1, D.2.2, and D.2.3.

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

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

(d) When, for any one reading, the duct pressure or fan amperage is outside the appropriate range, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.2.12 Broken or Failed Bag Detection

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

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

D.2.13 Scrubber Failure Detection

(a) Scrubber CE012 - When not operating under AOS1:
In the event that a scrubber malfunction has been observed:

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

(b) All other scrubbers:
In the event that a scrubber malfunction has been observed:

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

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

D.2.~~9~~**14** Record Keeping Requirements

(a) **To document the compliance status with Condition D.2.1(e)(2), the Permittee shall maintain documentation of the dates, including the time, the system is operating under AOS1.**

(b) **To document the compliance status with Condition D.2.1(f), the Permittee shall maintain documentation of the dates, including the time, the system is operating under AOS2.**

(c) **To document the compliance status with Condition D.2.7, the Permittee shall maintain records of once per day visible emission notations of stacks SV014 and SV017. 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).**

(~~a~~**d**) To document the compliance status with Condition**s** D.2.8 **and D.2.9**, the Permittee shall maintain once per day records of the flow rate and pressure drop for scrubbers CE011, CE012, and CE013 during normal operation. The Permittee shall include in its daily record when a flow rate reading or pressure drop reading is not taken and the reason for the lack of flow rate reading or pressure drop reading (e.g. the process did not operate that day).

(e) **To document the compliance status with Condition D.2.10, the Permittee shall maintain continuous temperature records for the RTOs (CE015 and CE016) (on a 3-hour average basis) used to demonstrate compliance during the most recent compliant stack test. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g. the RTO was not in operation).**

(f) **To document the compliance status with Condition D.2.11, the Permittee shall maintain daily records of the duct pressure or fan amperage for the RTOs (CE015 and CE016). The Permittee shall include in its daily record when a duct pressure reading or fan amperage reading is not taken and the reason for the lack of a duct pressure reading or fan amperage reading (e.g. the process did not operate that day).**

(~~b~~**g**) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping 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(e)(2) and D.2.1(f) shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report

submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

~~SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS - Evaporation Process, DDGS Dryer and Cooling Process~~

~~Emissions Unit Description:~~
~~Evaporation Process, DDGS Dryer, & Cooling Process:~~

~~(l) One (1) stillage process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum DDGS production of 376,445 tons per year, using two (2) 30 MMBtu/hr regenerative thermal oxidizers (CE015 & CE016) for VOC/HAP control, approved in 2010 for construction, exhausting through stack SV014, and consisting of the following:~~

~~(1) One (1) set of four (4) centrifuges, identified as EU033, originally constructed in March 2008.~~

~~(2) Two (2) natural gas fired DDGS dryers, identified as EU034 and EU035, originally constructed in March 2008, each with a maximum heat input rate of 83 MMBtu/hr, and each with a total maximum throughput rate of 25 tons of DDGS per hour.~~

~~(m) One (1) DDGS fluid bed cooler, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU038, with a maximum throughput rate of 40 tons of DDGS per hour, using a baghouse (CE014) for particulate control, with emissions vented to and controlled by RTOs (CE015 & CE016), and exhausting to stack SV014.~~

~~Note: The RTO must occasionally be temporarily shut down for maintenance or other operational reasons. In this event, the DDGS dryers and fluid bed cooler will be shut down.~~

~~(n) One (1) DDGS storage building/flat storage, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU039, using a baghouse (CE017) for particulate control, and exhausting to stack SV017.~~

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

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

~~D.3.1 PSD and HAP Minor Limits [326 IAC 2-2][326 IAC 2-4.1]~~

~~In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) not applicable, the Permittee shall comply with the following limits for RTOs (CE015 and CE016):~~

~~(a) Unless operating under Alternative Operating Scenario No. 1 (AOS1), RTOs (CE015 and CE016) shall control emissions from the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:~~

~~Pollutant~~	~~Emission Limit (lb/hr)~~
~~PM~~	~~33.6~~
~~PM10~~	~~31.3~~
~~PM2.5~~	~~40.9~~
~~VOC~~	~~11.0~~
~~NOx~~	~~28.0~~
~~CO~~	~~24.4~~
~~Acetaldehyde~~	~~0.99~~

Pollutant	Emission Limit (lb/hr)
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

(b) Alternative Operating Scenario No. 1 (AOS1)
When Wet Scrubber (CE012) is not operating, RTOs (CE015 and CE016) shall control emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038). The emissions from RTOs (CE015 and CE016) stack exhaust SV014 shall be limited as follows:

Pollutant	Emission Limit (lb/hr)
PM	33.6
PM10	31.3
PM2.5	40.9
VOC	11.0
NOx	28.0
CO	24.4
Acetaldehyde	0.99
Acrolein	0.68
Methanol	0.87
Total HAPs	2.0

(c) In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, PM, PM10, and PM2.5 emissions from the DDGS Storage Building/Flat Storage (EU039) shall not exceed the emission limits listed in the table below:

Unit	Stack ID	Unit Description	Control ID	PM Emission Limit (lb/hr)	PM10 Emission Limit (lb/hr)	PM2.5 Emission Limit (lb/hr)
EU039	SV017	DDGS Storage Bldg. / Flat Storage	CE017	0.42	0.44	0.67

Compliance with these limits, combined with the limits in Conditions D.1.1, D.2.1, D.4.1, D.5.1, and D.6.1 and the potential to emit of PM, PM10, PM2.5, VOC, NOx, and CO from other units at the source, shall limit the PM, PM10, PM2.5, VOC, NOx, and CO emissions from the entire source to less than two hundred fifty (250) tons per twelve (12) consecutive month period each and render the requirements of 326 IAC 2-2 (PSD) not applicable.

Compliance with these limits, combined with the limits in Condition D.2.1 and the potential to emit of acetaldehyde, methanol, and acrolein from other units at the source, shall limit the acetaldehyde, methanol, and acrolein emissions from the entire source to less than ten (10) tons per twelve (12) consecutive month period each and to less than twenty-five (25) tons per twelve (12) consecutive month period for any combination of HAPs and render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants) not applicable.

D.3.2 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) The VOC emissions from the DDGS Dryers (EU034 and EU035), shall be controlled by the RTOs identified as CE015 and CE016 at all times.

(b) The overall control efficiency, including the capture efficiency and destruction efficiency, of RTOs CE015 and CE016 shall each be at least 98%, or the VOC outlet concentration shall not exceed 10 ppmv.

~~D.3.3 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:~~

~~Stack ID~~	~~Unit ID~~	~~Unit Description~~	~~Max. Process Weight Rate (ton/hr)~~	~~Particulate Emission Limit (lb/hr)~~
~~SV014~~	~~EU034~~	~~DDGS Dryer~~	~~25~~	~~35.43~~
	~~EU035~~	~~DDGS Dryer~~		
	~~EU038~~	~~DDGS Cooler~~	~~40~~	~~42.53~~
~~SV017~~	~~EU039~~	~~DDGS Storage Bldg. / Flat Storage~~	~~40~~	~~42.53~~

~~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:~~

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

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

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

~~D.3.4 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 plan required by this condition.~~

~~Compliance Determination Requirements~~

~~D.3.5 Particulate, VOC, CO and HAP Control~~

~~(a) Unless operating under AOS1:~~
~~In order to ensure compliance with Conditions D.3.1(a), D.3.2 and D.3.3, the RTOs (CE015 and CE016) shall be in operation and control particulate, VOC, CO, and HAP emissions from the DDGS dryers (EU034 and EU035) and the DDGS fluid bed cooler (EU038), at all times that these units are in operation.~~

~~(b) When operating under AOS1:~~
~~In order to comply with D.3.1(b), when the wet scrubber (CE012) is not operating, emissions from the fermentation process, the set of centrifuges (EU033), the DDGS dryers (EU034 and EU035), and the DDGS fluid bed cooler (EU038) shall be controlled by RTOs (CE015 and CE016).~~

~~(c) In order to ensure compliance with Conditions D.3.1(a) and D.3.3, the baghouse (CE014) for particulate control shall be in operation and control emissions from the DDGS cooler (EU038) at all times that the DDGS cooler (EU038) is in operation.~~

~~(d) In order to ensure compliance with the Conditions in D.3.1(b) and D.3.3, the baghouse (CE017) for particulate control shall be in operation and control particulate emissions from DDGS Storage Building / Flat Storage (EU039) at all times this unit is in operation.~~

~~(e) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units~~

~~will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~D.3.6 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 8-5-6]~~

~~In order to demonstrate compliance with Conditions D.3.1, D.3.2, and D.3.3, the Permittee shall perform:~~

~~(a) PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and Acetaldehyde testing for the RTO common stack (SV014) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.~~

~~(b) When operating under AOS1:~~
~~PM, PM10, PM2.5, VOC (including emission rate, destruction efficiency, and capture efficiency), NOx, CO, and Acetaldehyde testing for the RTOs (CE015 and CE016) stack exhaust (SV014). Testing shall utilize methods as approved by the Commissioner, be conducted no later than 180 days after issuance of this permit, 133-34343-00003, and be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.~~

~~(c) PM, PM10, and PM2.5 testing for the DDGS Storage Building / Flat Storage (EU039) at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 include filterable and condensable particulate combined.~~

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

~~D.3.7 Visible Emissions Notations~~

~~(a) Visible emission notations of the stack exhausts from SV014 and SV017, shall be performed once per day during normal daylight operations. A trained employee or a trained contractor shall record whether emissions are normal or abnormal.~~

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

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

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

~~(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation~~

with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.8 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across the baghouses CE014 and CE017 used in conjunction with the DDGS cooling operation (EU038) and DDGS Storage Building / Flat Storage (EU039) at least once per day when the emissions units are in operation. When for any one reading, the pressure drops across the baghouses are outside the normal range, the Permittee shall take a reasonable response. The normal range for these units 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 response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.3.9 Broken or Failed Bag Detection

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

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

D.3.10 Thermal Oxidation Temperature [326 IAC 8-5-6]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on both RTOs (CE015 and CE016) 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) The Permittee shall determine the 3-hour average temperatures from the latest valid stack test that demonstrates compliance with limits in Conditions D.3.1 and D.3.2.

(c) On and after the date the stack test results are available, the Permittee shall operate both RTOs (CE015 and CE016) at or above the 3-hour average temperatures as observed during the latest compliant stack test. If the 3-hour average temperature falls below the level observed during the latest compliant stack test, the Permittee shall take a reasonable response.

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

~~D.3.11 Parametric Monitoring [326 IAC 8-5-6]~~

~~(a) The Permittee shall determine the appropriate 3-hour average duct pressure or fan amperage range from the latest valid stack test that demonstrates compliance with limits in Conditions D.3.1 and D.3.2.~~

~~(b) 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 approved stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in latest compliant stack test.~~

~~(c) When for any one reading, the duct pressure or fan amperage falls outside of the appropriate range, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.~~

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

~~D.3.12 Record Keeping Requirements~~

~~(a) To document the compliance status with Condition D.3.8, the Permittee shall maintain records of once per day visible emission notations of stacks SV014 and SV017. 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.3.9, the Permittee shall maintain once per day records of the pressure drop across the baghouses CE014 and CE017. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of the pressure drop reading (e.g. the process did not operate that day).~~

~~(c) To document the compliance status with Condition D.3.11, the Permittee shall maintain continuous temperature records for the RTOs (CE015 and CE016) (on a 3-hour average basis) used to demonstrate compliance during the most recent compliant stack test. The Permittee shall include in its daily record when a temperature reading is not taken and the reason for the lack of temperature reading (e.g. the RTO was not in operation).~~

~~(d) To document the compliance status with Condition D.3.12, the Permittee shall maintain daily records of the duct pressure or fan amperage for the RTOs (CE015 and CE016). The Permittee shall include in its daily record when a duct pressure reading or fan amperage reading is not taken and the reason for the lack of a duct pressure reading or fan amperage reading (e.g. the process did not operate that day).~~

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

SECTION D.4**3** EMISSIONS UNIT OPERATION CONDITIONS - ~~Denatured Ethanol Loading Racks~~

Emissions Unit Description: ~~Denatured~~ Ethanol Storage and Loadout Racks:

(o) One (1) ethanol loadout rack (~~one~~ **two** rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, **with the second rail loadout approved in 2016 for construction,** identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

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

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

D.~~4~~**3**.1 PSD Minor Limits [326 IAC 2-2]

***

Compliance with these limits, combined with the ~~limits in Conditions D.2.1, D.3.1, D.5.1, and D.6.1 and the~~ potential to emit VOC, CO, and NOx from **all** other units at the source, shall limit the **source-wide** VOC, CO, and NOx emissions from the entire source to less than two hundred fifty (250) tons per twelve (12) consecutive month period and render the requirements of 326 IAC 2-2 (PSD) not applicable.

***

D.~~4~~**3**.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11][326 IAC 8-5-6]

Not later than 180 days after the startup of the second rail loadout, i~~I~~n order to demonstrate compliance with Conditions D.**43**.1(c), (d), and (e) and D.**43**.2(c) associated with the ethanol loading rack (EU043), the Permittee shall perform VOC (including emission rate, destruction efficiency, and capture efficiency), CO, and NOx testing for enclosed flare CE018 at least once every five (5) years from the date of the most recent valid compliance demonstration utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

SECTION D.~~5~~**4**EMISSIONS UNIT OPERATION CONDITIONS~~ - Natural Gas Fired Combustion Units~~

Emissions Unit Description: Natural Gas Fired Combustion Units:

(p) Two (2) natural gas fired boilers, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU036 and EU037, each with a rated heat capacity of 145.3 MMBtu/hr, exhausting to stacks SV015 and SV016.

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

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

***

D.~~5~~**4**.1 PSD Minor Limits [326 IAC 2-2]

***

Compliance with this limit, combined with ~~Conditions D.3.1, D.4.1, and D.6.1 and~~ the potential to emit of NOx from other **all other** units at the source, shall limit the **source-wide** NOx emissions ~~from the entire source~~ to less than two hundred fifty (250) tons per twelve (12) consecutive month period and render **the requirements of** 326 IAC 2-2 (PSD) not applicable.

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

***

SECTION D.~~6~~**5** EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Diesel Fired Combustion Unit:

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

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

Insignificant Activities

(h) **One (1) diesel-fired** stationary fire pumps, ~~including one (1) diesel fire pump,~~ identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of ~~600~~**300** horsepower, and exhausting to stack SV020.

Under ~~NSPS~~**40 CFR 60**, Subpart IIII, this unit is considered an affected source.
Under ~~NESHAP~~**40 CFR 63**, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected source.

(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.~~6~~**5**.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 emission limits:

(a) The diesel generator (EU044) shall not exceed 250 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The two diesel fire pumps (EU045) and (EU046) each shall not exceed 250 operating hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The NOx and CO emissions from EU044, EU045, and (EU046) shall not exceed the limits as specified in the table below:

Unit	NOx Emission Limit (lb/hr)	CO Emission limit (lb/hr)
Diesel Generator (EU044)	64.40	17.11
Diesel Fire Pump (EU045)	~~18.60~~ **9.30**	~~4.01~~ **2.00**
Diesel Fire Pump (EU046)	**9.30**	**2.00**

Compliance with these limits, combined ~~Conditions D.3.1, D.4.1, and D.5.1 and~~ **with** the potential to emit of NOx and CO from **all** other **emission** units at the source, shall limit the **source-wide potential to emit** NOx and CO ~~emissions from the entire source~~ to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and render **the requirements of** 326 IAC 2-2 (PSD) not applicable.

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

D.~~6~~**5**.2 Record Keeping Requirements

(a) To document the compliance status with Condition D.~~6~~**5**.1(a), the Permittee shall maintain records of the number of hours that the diesel generator (EU044) operates each month.

(b) To document the compliance status with Condition D.~~6~~**5**.1(b), the Permittee shall maintain records of the number of hours that **each of** the **two** diesel fire pump**s** (EU045) **and (EU046)** operates each month.

***

~~**SECTION D.7 FACILITY OPERATION CONDITIONS - Storage Tanks and Gasoline Dispensing Operation**~~

~~**Emissions Unit Description:**~~

~~Insignificant Activities~~

~~(b)(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.~~

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

~~(b)(2) One (1) 200 proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.~~

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this tank are considered to be affected facilities.~~

~~(b)(3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of denatured ethanol.~~

~~Under NSPS, Subpart Kb, these units are considered affected facilities.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of these tanks are considered to be affected facilities.~~

~~(b)(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of~~

~~denatured gasoline.~~

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

~~(j) A gasoline dispensing operation for plant vehicles with a 300 gallon capacity storage tank, installed in 2007, and with an estimated annual throughput of 3,600 gallons per year.~~

~~Under NESHAP, Subpart CCCCCC, this is considered a new affected source.~~

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

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

~~D.7.1 Volatile Organic Compounds (VOC) [326 IAC 8-4-3]~~

~~(a) Pursuant to 326 IAC 8-4-3(b)(1)(B), storage tanks T001 and T005 shall be maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.~~

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

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

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

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

~~D.7.2 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV]~~

~~In order to render the requirements of the NESHAP for Chemical Manufacturing Area Sources, 40 CFR Part 63, Subpart VVVVVV, not applicable, the Permittee shall comply with the following at tanks T002-T004:~~

~~Any HAP listed in Table 1 of 40 CFR 63, Subpart VVVVVV, that is generated or produced in the chemical manufacturing process unit (CMPU) and is present in process fluid shall be less than 0.1 percent for carcinogens, as defined by the Occupational Safety and Health Administration at 29 CFR 1910.1200(d)(4), and less than 1.0 percent for noncarcinogens.~~

~~Compliance with this limit, in conjunction with the limit in Condition D.2.3, 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.7.3 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 300 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.~~

~~**Compliance Determination Requirements**~~

~~D.7.4 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]~~

~~In order to demonstrate compliance with Condition D.7.2, 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 (1) of the 200-Proof ethanol tanks, identified as T002, T003, or T004, not later than 180 days after the issuance date of Part 70 Operating Permit Renewal No. T133-31145-00003 utilizing methods as approved by the Commissioner. The Permittee shall repeat this testing at least once every five (5) years from the date of the most recent valid compliance demonstration. The Permittee shall alternate the tank to be tested every five (5) years and testing on a tank shall not be repeated until each tank has been tested. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

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

~~D.7.5 Record Keeping Requirements~~

~~(a) Pursuant to 326 IAC 8-4-3(d) and to document the compliance status with Condition D.7.1, the Permittee shall maintain the following records for tanks T001 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.7.3, 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 records required by this condition.~~

~~D.7.6 Reporting Requirements~~

~~A quarterly summary of the information to document the compliance status with Condition D.7.3 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 ~~FACILITY OPERATION CONDITIONS - 40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units~~**NSPS**

Emissions Unit Description: **Natural Gas Fired Combustion Units:**

(p) Two (2) natural gas fired boilers, originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU036 and EU037, each with a rated heat capacity of 145.3 MMBtu/hr, exhausting to stacks SV015 and SV016.

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

(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 ~~Industrial-Commercial-Institutional Steam Generating Units,~~**emission unit(s) listed above, except** as **otherwise** specified in 40 CFR ~~60, Subpart Db in accordance with the schedule in 40 CFR~~**Part** 60, Subpart Db.

(b) Pursuant to 40 CFR 60.~~19~~**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**.2 Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units ~~[40 CFR 60, Subpart Db]~~[**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 ~~in its entirety~~ as Attachment B **to the operating permit**), which are incorporated by reference as 326 IAC 12, for the ~~Industrial-Commercial-Institutional Steam Generating Units~~**emission unit(s) listed above**:

***

SECTION E.2 ~~FACILITY OPERATION CONDITIONS - 40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984~~**NSPS**

Emissions Unit Description:

Insignificant Activities:

(b)~~(~~**(** **Storage Tanks:**

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

~~(b)~~(**(**2) One (1) ~~200~~ **190** proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this tank are considered to be affected facilities.~~

~~(b)(~~**(**3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of **un**denatured ethanol.

~~Under NSPS, Subpart Kb, these units are considered affected facilities.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of these tanks are considered to be affected facilities.~~

~~(b)(~~**(**4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denatur~~ed~~**ant** ~~gasoline~~.

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

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new 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.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 ~~Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984,~~**emission unit(s) listed above, except** as **otherwise** specified in 40 CFR ~~60, Subpart Kb in accordance with the schedule in 40 CFR~~**Part** 60, Subpart Kb.

(b) Pursuant to 40 CFR 60.~~19~~**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 ~~Ave.~~
~~MC61~~**Avenue**
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.2.2 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~~]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Kb (included ~~in its entirety~~ as Attachment C **to the operating permit**), which are incorporated by reference as 326 IAC 12, for the ~~Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984~~**emission unit(s) listed above**:

***

SECTION E.3~~FACILITY OPERATION CONDITIONS - 40 CFR 60, Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006~~**NSPS**

Emissions Unit Description:

Mash Preparation, Fermentation, Distillation, and Dehydration Process:

(i) One (1) mash preparation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE011) for VOC/HAP ~~controls~~**control**, exhausting through stack SV011, and consisting of the following:

(1) One (1) slurry tank, identified as EU017.

(2) One (1) yeast propagation tank, identified as EU018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(j) One (1) fermentation process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum throughput rate of 96,360 gallons per hour, using a wet scrubber (CE012) for VOC/HAP control, exhausting through stack SV012. During wet scrubber downtime, emissions from the fermentation process are vented directly to regenerative thermal oxidizers (CE015 & CE016) through a scrubber bypass. This process consists of the following:

(1) Six (6) fermenters, identified as EU019 through EU024.

(2) Two (2) beer wells, identified as EU025 and EU026.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

(k) One (1) distillation and dehydration process, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum ~~ethanol production~~ **input rate** of 83,640 gallons **of beer** per hour **and a maximum production rate of 16,730 gallons of ethanol per hour**, using a wet scrubber (CE013) for VOC control, exhausting through stack SV013, and consisting of the following:

(1) One degas column, identified as EU027.

(2) One (1) beer stripper, identified as EU028.

(3) One (1) rectifier column, identified as EU029.

(4) One (1) side stripper, identified as EU030.

(5) One (1) set of ~~three (3~~**four (4**) molecular ~~sieve~~**sieves**, identified as EU031.

(6) One (1) set of three (3) evaporators, identified as EU032.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

Denatured Ethanol Storage and Loadout Racks:

(o) One (1) ethanol loadout rack (~~one~~**two** rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, **with the second rail loadout approved in 2016 for construction,** identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.

Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

Insignificant Activities:

(b~~)~~**(** **Storage Tanks:**

(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.

(2) One (1) ~~200~~ **190** proof ethanol shift tank, identified as T002, originally constructed in March 2008, obtaining new operation approval in 2010, with a capacity of 180,000 gallons.

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this tank are considered to be affected facilities.~~

~~(b)(~~**(**3) Two (2) 200 proof ethanol storage tanks, identified as T003 and T004, originally constructed in March 2008, obtaining new operation approval in 2010, each with a maximum capacity of 1,000,000 gallons of **un**denatured ethanol.

(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denaturant.

Under ~~NSPS~~**40 CFR 60**, Subpart Kb, these units are ~~considered~~ affected facilities. Under ~~NSPS~~**40 CFR 60**, Subpart VVa, ~~the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of these tanks are considered to be~~**equipment (as defined in 40 CFR 60.481a) within a process unit is an** affected ~~facilities~~**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 the ~~sources of equipment leaks of VOC,~~**emission unit(s) listed above, except** as **otherwise** specified in 40 CFR ~~60, Subpart VVa in accordance with the schedule in 40 CFR~~**Part** 60, Subpart VVa.

(b) Pursuant to 40 CFR 60.~~19~~**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
~~Compliance and Enforcement Branch, Office of Air Quality~~
~~100 North Senate Ave.~~
~~MC61-53 IGCN 1003~~
~~Indianapolis, Indiana 46204-2251~~

E.3.2 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~~][326 IAC 12~~]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart VVa (included ~~in its entirety~~ as Attachment D **to the operating permit**), which are incorporated by reference as 326 IAC 12, for the ~~sources of equipment leaks of VOC~~**emission unit(s) listed above**:

***

SECTION E.4 ~~FACILITY OPERATION CONDITIONS - 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE)~~ **NSPS**

Emissions Unit Description:

~~**Emission Units:**~~
Diesel Fired Combustion Unit:

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

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

Insignificant Activities

(h) **One (1) diesel-fired** stationary fire pumps, ~~including one (1) diesel fire pump,~~ identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of ~~600~~**300** horsepower, and exhausting to stack SV020.

Under ~~NSPS~~**40 CFR 60**, Subpart IIII, this unit is considered an affected source.
Under ~~NESHAP~~**40 CFR 63**, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered 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 the ~~stationary compression ignition internal combustion engines,~~**emission unit(s) listed above, except** as **otherwise** specified in 40 CFR ~~60, Subpart IIII in accordance with the schedule in 40 CFR~~**Part** 60, Subpart IIII.

(b) Pursuant to 40 CFR 60.~~19~~**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~~][326 IAC 12~~]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (included ~~in its entirety~~ as Attachment E **to the operating permit**), which are incorporated by reference as 326 IAC 12~~, for the stationary compression ignition (CI) internal combustion engines (ICE) EU044 and EU045~~.

***

(b) EU045 **and EU046 are** ~~is~~ subject to the following portions of 40 CFR 60, Subpart IIII:

***

SECTION E.5 ~~FACILITY OPERATION CONDITIONS - 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)~~**NESHAP**

Emissions Unit Description:

~~**Emission Units:**~~

~~(~~r**Diesel Fired Combustion Unit:**

(q) One (1) diesel generator, approved in 2010 for construction, identified as EU044, with a rated capacity of 2,000 KW, exhausting to SV019.

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

Insignificant Activities:

(h) **One (1) diesel-fired** stationary fire pumps, ~~including one (1) diesel fire pump,~~ identified as EU045, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum power output rate of ~~600~~**300** horsepower, and exhausting to stack SV020.

Under ~~NSPS~~**40 CFR 60**, Subpart IIII, this unit is considered an affected source.
Under ~~NESHAP~~**40 CFR 63**, Subpart ZZZZ, this unit is considered an affected source.

(i) One (1) diesel-fired stationary fire pump, identified as EU046, constructed March 2008, with a maximum power output rate of 300 horsepower, and exhausting to stack SV021.

Under 40 CFR 60, Subpart IIII, this unit is considered an affected source.
Under 40 CFR 63, Subpart ZZZZ, this unit is considered 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.~~6590(c)(1) and 40 CFR 63.6665,~~ the Permittee ~~is not required to~~**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 ~~in its entirety~~ as Attachment F **to the operating permit**), which are incorporated by reference as 326 IAC 20-82, for the ~~reciprocating internal combustion engines EU044 and EU045~~**emission unit(s) listed above**:

***

~~SECTION E.6 FACILITY OPERATION CONDITIONS - 40 CFR 63, Subpart BBBBBB - National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Bulk Terminals, Bulk Plants, and Pipeline Facilities~~

~~Emissions Unit Description:~~

~~Emission Units:~~

~~(c) One (1) ethanol loadout rack (one rail loadouts utilizing top loading only and two truck loadout utilizing submerged loading only), originally constructed in March 2008, obtaining new operation approval in 2010, identified as EU043, with a maximum throughput rate of 118.25 million gallons per year. The loadout process is controlled by an enclosed flare (CE018), which is fueled by natural gas and has a maximum heat input capacity of 6.8 MMBtu per hour, and exhausting through stack SV018.~~

~~Under NSPS, Subpart VVa, the pumps, compressors, pressure relief devices in gas/vapor service, sampling connection systems, open-ended valves or lines, valves, and flanges or other connectors in VOC service of this process are considered to be affected facilities.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

~~Insignificant Activities:~~

~~(b)(1) One (1) denaturant storage tank, identified as T001, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 180,000 gallons of denaturant.~~

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

~~(b)(4) One (1) denaturant storage tank, identified as T005, originally constructed in March 2008, obtaining new operation approval in 2010, with a maximum capacity of 60,000 gallons of denatured gasoline.~~

~~Under NSPS, Subpart Kb, this unit is considered an affected facility.~~

~~Under NESHAP, Subpart BBBBBB, this unit is considered a new affected source.~~

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

~~National Emissions Standards for Hazardous Air Pollutants (NESHAP) Requirements~~

~~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]~~

~~(a) Pursuant to 40 CFR 63.11098, 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, as specified in Table 3 of 40 CFR 63, Subpart BBBBBB in accordance with the schedule in 40 CFR 63, Subpart BBBBBB.~~

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

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

~~E.6.2 National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline [40 CFR 63, Subpart BBBBBB]~~

~~The Permittee shall comply with the following provisions of 40 CFR 63, Subpart BBBBBB (included in its entirety as Attachment G), for the gasoline storage tanks, the vapor collection-equipped gasoline cargo tanks, and the loading rack when processing gasoline, as defined in 40 CFR 63.11100:~~

~~(1) 40 CFR 63.11080~~
~~(2) 40 CFR 63.11081 (a)(1), (c), (f), (g), (h), (i), (j)~~
~~(3) 40 CFR 63.11082 (a), (b)~~
~~(4) 40 CFR 63.11083 (a)(2)~~
~~(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 (f), (g)~~
~~(10) 40 CFR 63.11093~~
~~(11) 40 CFR 63.11094~~
~~(12) 40 CFR 63.11095 (a), (d)~~
~~(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~~

SECTION E.~~7~~**6** ~~FACILITY OPERATION CONDITIONS - 40 CFR 63, Subpart CCCCCC - National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities~~**NESHAP**

Emissions Unit Description: Insignificant Activities:

(j) A gasoline dispensing operation for plant vehicles with a 300 gallon capacity storage tank, installed in 2007, and with an estimated annual throughput of 3,600 gallons per year.

Under NESHAP, Subpart CCCCCC, this is considered a new 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.~~7~~**6**.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.~~11131,~~**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, ~~as~~**for the emission unit(s) listed above, except as otherwise** specified in ~~Table 3 of~~ 40 CFR ~~63, Subpart CCCCCC in accordance with the schedule 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.~~7~~**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 ~~in its entirety~~ as Attachment H~~),~~ **to the operating permit)** for the ~~gasoline dispensing operation~~**emission unit(s) listed above**:

***

Month	~~Gallons Denatured Ethanol and E-85~~ **Column 1**	~~Gallons Denatured Ethanol and E-85~~ **Column 2**	~~Gallons Denatured Ethanol and E-85~~ **Column 1 + Column 2**
	This Month	Previous 11 Months	12 Month Total
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

***

Month	~~Gallons E-85~~ **Column 1**	~~Gallons E-85~~ **Column 2**	~~Gallons E-85~~ **Column 1 + Column 2**
	This Month	Previous 11 Months	12 Month Total
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

***

Month	~~NOx Emissions (tons)~~ **Column 1**	~~NOx Emissions (tons)~~ **Column 2**	~~NOx Emissions (tons)~~ **Column 1 + Column 2**

	This Month	Previous 11 Months	12 Month Total
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

***

Month	~~Hours of Operation~~ **Column 1**	~~Hours of Operation~~ **Column 2**	~~Hours of Operation~~ **Column 1 + Column 2**
	This Month	Previous 11 Months	12 Month Total
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

***

Month	~~Hours of Operation~~ **Column 1**	~~Hours of Operation~~ **Column 2**	~~Hours of Operation~~ **Column 1 + Column 2**
	This Month	Previous 11 Months	12 Month Total
~~Month 1~~			
~~Month 2~~			
~~Month 3~~			

***

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

Part 70 Quarterly Report

Source Name: **POET Biorefining - Cloverdale, LLC**
Source Address: **2265 East County Road 800 South, Cloverdale, Indiana 46120**
Part 70 Permit No.: **T133-31145-00003**
Facility: **Fire Pump (EU046)**
Parameter: **Hours of Operation**
Limit: **Shall not exceed 250 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.**

QUARTER: **YEAR:**

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

☐ **No deviation occurred in this quarter.**

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

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

***

Month	Gallons of Throughput
	This Month
~~Month 1~~	
~~Month 2~~	
~~Month 3~~	

***

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

Part 70 Quarterly Report

Source Name: **POET Biorefining - Cloverdale, LLC**
Source Address: **2265 East County Road 800 South, Cloverdale, Indiana 46120**
Part 70 Permit No.: **T133-31145-00003**
Facility: **Wet Scrubber (CE012)**
Parameter: **Downtime (hrs)**
Limit: **shall not exceed more than one hundred (100) hours per twelve (12) consecutive month period with compliance determined at the end of each month**

QUARTER : _____ **YEAR:** _____

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

☐ **No deviation occurred in this quarter.**

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

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

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

Part 70 Quarterly Report

Source Name: **POET Biorefining - Cloverdale, LLC**
Source Address: **2265 East County Road 800 South, Cloverdale, Indiana 46120**
Part 70 Permit No.: **T133-31145-00003**
Facility: **Centrifuges (EU033)**
Parameter: **Hours venting to atmosphere**
Limit: **shall not vent to the atmosphere more than five hundred (500) hours per twelve (12) consecutive month period with compliance determined at the end of each month.**

QUARTER: _____ **YEAR:** _____

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

☐ **No deviation occurred in this quarter.**

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

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

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on July 25, 2016.

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 133-37437-00003. The operation of this proposed modification shall be subject to the conditions of the attached Significant Permit Modification.

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Kristen Willoughby at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-3031 or toll free at 1-800-451-6027 extension 3-3031.

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

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: http://www.in.gov/idem/5881.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

Appendix A: Emission Calculations
PTE Summary

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

		Unrestricted PTE (ton/yr)							
Emission Point	Description	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs (CO2e)
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	495.57	495.57	42.12	--	--	--	--	--
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	105.12	105.12	8.94	--	--	--	--	--
SV004	Hammermill #1 (EU010)	180.21	180.21	15.32	--	--	--	--	--
SV005	Hammermill #2 (EU011)	180.21	180.21	15.32	--	--	--	--	--
SV006	Hammermill #3 (EU012)	180.21	180.21	15.32	--	--	--	--	--
SV007	Hammermill #4 (EU013)	180.21	180.21	15.32	--	--	--	--	--
SV008	Hammermill #5 (EU014)	180.21	180.21	15.32	--	--	--	--	--
SV009	Hammermill #6 (EU015)	180.21	180.21	15.32	--	--	--	--	--
SV010	Hammermill #7 (EU016)	180.21	180.21	15.32	--	--	--	--	--
SV011	Mash Preparation Process (EU017 and EU018)	--	--	--	--	--	373.50	--	--
SV012	Fermentation Process (EU019 - EU026)	--	--	--	--	--	2482.10	--	*
SV013	Distillation and Dehydration Process (EU027 - EU032)	--	--	--	--	--	232.20	--	--
SV014	Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038)	354.78	354.78	354.78	14.23	79.01	4048.88	350.40	95009.04
	RTO Combustion Emissions	0.49	1.96	1.96	0.15	25.76	1.42	21.64	30981.21
SV017	DDGS Storage Bldg. / Flat Storage (EU039)	60.07	60.07	5.11	--	--	--	--	--
SV015	Boiler #1 (EU036)	1.19	4.74	4.74	0.37	87.35	3.43	12.48	75026.16
SV016	Boiler #2 (EU037)	1.19	4.74	4.74	0.37	87.35	3.43	12.48	75026.16
SV018	Truck and Rail Loading Rack (Loading and Flare Emissions)	0.06	0.22	0.22	0.02	4.49	3125.40	8.10	3511.20
SV019	Diesel Generator (EU044)	5.47	5.05	4.90	44.51	282.07	7.22	74.93	14595.40
SV022	Centrifuges (EU033) Bypass	--	--	--	--	--	15.33	--	--
Insignificant Activities									
	Space Heaters	0.02	0.08	0.08	0.01	1.07	0.06	0.90	1290.88
T001	Denaturant Storage Tank	--	--	--	--	--	1.00	--	--
T002	190 Proof Ethanol Shift Tank	--	--	--	--	--	0.48	--	--
T003	200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--	--
T004	200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--	--
T005	Denaturant Storage Tank	--	--	--	--	--	0.83	--	--
	Cooling Tower	12.34	12.34	12.34	--	--	--	--	--
SV020 and SV021	Diesel Fire Pumps (EU045) and (EU046)	5.78	5.78	5.78	5.39	81.47	6.61	17.56	3032.47
	Gasoline Dispensing Operation	--	--	--	--	--	0.07	--	--
	Other	5	5	5	--	--	5	--	--
	Total:	2308.49	2316.89	557.93	65.06	648.59	10307.31	498.48	298472.53

*Biogenic CO2 emissions have been deferred from regulation; therefore the CO2 emissions from fermentation have not been included in this table.

Appendix A: Emission Calculations
PTE Summary

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

		Unrestricted PTE (ton/yr)							
		Controlled PTE (ton/yr)							
Emission Point	Description	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs (CO2e)
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	4.96	4.96	0.19	--	--	--	--	--
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	1.05	1.05	0.04	--	--	--	--	--
SV004	Hammermill #1 (EU010)	1.80	1.80	0.07	--	--	--	--	--
SV005	Hammermill #2 (EU011)	1.80	1.80	0.07	--	--	--	--	--
SV006	Hammermill #3 (EU012)	1.80	1.80	0.07	--	--	--	--	--
SV007	Hammermill #4 (EU013)	1.80	1.80	0.07	--	--	--	--	--
SV008	Hammermill #5 (EU014)	1.80	1.80	0.07	--	--	--	--	--
SV009	Hammermill #6 (EU015)	1.80	1.80	0.07	--	--	--	--	--
SV010	Hammermill #7 (EU016)	1.80	1.80	0.07	--	--	--	--	--
SV011	Mash Preparation Process (EU017 and EU018)	--	--	--	--	--	7.47	--	--
SV012	Fermentation Process (EU019 - EU026)	--	--	--	--	--	49.64	--	*
SV013	Distillation and Dehydration Process (EU027 - EU032)	--	--	--	--	--	4.64	--	--
SV014	Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038)	35.48	35.48	35.48	14.23	79.01	80.98	35.04	95009.04
	RTO Combustion Emissions	0.49	1.96	1.96	0.15	25.76	1.42	21.64	30981.21
SV017	DDGS Storage Bldg. / Flat Storage (EU039)	0.60	0.60	0.02	--	--	--	--	--
SV015	Boiler #1 (EU036)	1.19	4.74	4.74	0.37	87.35	3.43	12.48	75026.16
SV016	Boiler #2 (EU037)	1.19	4.74	4.74	0.37	87.35	3.43	12.48	75026.16
SV018	Truck and Rail Loading Rack (Loading and Flare Emissions)	0.06	0.22	0.22	0.02	4.49	62.67	8.10	3511.20
SV019	Diesel Generator (EU044)	5.47	5.05	4.90	44.51	282.07	7.22	74.93	14595.40
SV022	Centrifuges (EU033) Bypass	--	--	--	--	--	0.31	--	--
Insignificant Activities									
	Space Heaters	0.02	0.08	0.08	0.01	1.07	0.06	0.90	1290.88
T001	Denaturant Storage Tank	--	--	--	--	--	1.00	--	--
T002	190 Proof Ethanol Shift Tank	--	--	--	--	--	0.48	--	--
T003	200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--	--
T004	200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--	--
T005	Denaturant Storage Tank	--	--	--	--	--	0.83	--	--
	Cooling Tower	12.34	12.34	12.34	--	--	--	--	--
SV020 and SV021	Diesel Fire Pumps (EU045) and (EU046)	5.78	5.78	5.78	5.39	81.47	6.61	17.56	3032.47
	Gasoline Dispensing Operation	--	--	--	--	--	0.07	--	--
	Other	5	5	5	--	--	5	--	--
	Total:	86.22	94.61	75.99	65.06	648.59	235.61	183.12	298472.53

*Biogenic CO2 emissions have been deferred from regulation; therefore the CO2 emissions from fermentation have not been included in this table.

Appendix A: Emission Calculations
PTE Summary

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

		Unrestricted PTE (ton/yr)							
		Total Source Limited PTE (ton/yr)							
Emission Point	Description	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs (CO2e)
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	14.94	15.77	4.03	--	--	--	--	--
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	3.15	3.33	0.88	--	--	--	--	--
SV004	Hammermill #1 (EU010)	5.39	5.65	1.49	--	--	--	--	--
SV005	Hammermill #2 (EU011)	5.39	5.65	1.49	--	--	--	--	--
SV006	Hammermill #3 (EU012)	5.39	5.65	1.49	--	--	--	--	--
SV007	Hammermill #4 (EU013)	5.39	5.65	1.49	--	--	--	--	--
SV008	Hammermill #5 (EU014)	5.39	5.65	1.49	--	--	--	--	--
SV009	Hammermill #6 (EU015)	5.39	5.65	1.49	--	--	--	--	--
SV010	Hammermill #7 (EU016)	5.39	5.65	1.49	--	--	--	--	--
SV011	Mash Preparation Process (EU017 and EU018)	--	--	--	--	--	16.95	--	--
SV013	Distillation and Dehydration Process (EU027 - EU032)	--	--	--	--	--	10.47	--	--
SV012 and SV014 (Normal and AOS1 Worst Case Operations)	Fermentation Process (EU019 - EU026) Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038) RTO Combustion Emissions	147.17	137.09	179.14	14.39	122.64	160.48	108.06	125990.25
SV017	DDGS Storage Bldg. / Flat Storage (EU039)	1.84	1.93	2.93	--	--	--	--	--
SV015	Boiler #1 (EU036)	2.37	9.48	9.48	0.75	86.50	6.86	24.96	150052.32
SV016	Boiler #2 (EU037)								
SV018	Truck and Rail Loading Rack (Loading and Flare Emissions) (EU043)	0.06	0.22	0.22	0.02	4.49	6.85	8.10	3511.20
SV019	Diesel Generator (EU044)	0.16	0.14	0.14	1.27	8.05	0.21	2.14	416.54
SV022	Centrifuges (EU033) Bypass**						0.88		
Insignificant Activities									
	Space Heaters	0.02	0.08	0.08	0.01	1.07	0.06	0.90	1290.88
T001	Denaturant Storage Tank	--	--	--	--	--	1.00	--	--
T002	200 Proof Ethanol Shift Tank	--	--	--	--	--	0.48	--	--
T003	200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--	--
T004	200 Proof Ethanol Storage Tank	--	--	--	--	--	0.18	--	--
T005	Denaturant Storage Tank	--	--	--	--	--	0.83	--	--
	Cooling Tower	12.34	12.34	12.34	--	--	--	--	--
SV020 and SV021	Diesel Fire Pumps (EU045) and (EU046)	0.17	0.17	0.17	0.15	2.33	0.19	0.50	86.54
	Gasoline Dispensing Operation	--	--	--	--	--	0.07	--	--
	Other	5	5	5	--	--	5	--	--
	Total:	224.9	225.1	224.8	16.6	225.1	210.7	144.7	281347.7
	PSD Major Source Threshold:	250	250	250	250	250	250	250	100000 CO2e

*Biogenic CO2 emissions have been deferred from regulation; therefore the CO2 emissions from fermentation have not been included in this table.
Note: The shaded cells indicate where limits are included.
**The centrifuges are normally controlled by the RTO. Emissions are included in the RTO Stack. During RTO downtime, emissions are uncontrolled and shown here.

		Nested Source Limited PTE (ton/yr)							
Emission Point	Description	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs (CO2e)
SV015	Boiler #1 (EU036)	2.37	9.48	9.48	0.75	86.50	6.86	24.96	150052.32
SV016	Boiler #2 (EU037)								
	PSD Major Source Threshold:	100	100	100	100	100	100	100	100000 CO2e

Appendix A: Emissions Calculations
HAP Emissions Summary - Unrestricted PTE

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

		Unrestricted PTE (ton/yr)																		
Emission Point	**Description**	**Benzene**	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**	**Lead**	**Cadmium**	**Chromium**	**Manganese**	**Nickel**	**Acetaldehyde**	**Propionaldehyde**	**Methanol**	**Acrolein**	**PAH**	**1,3-Butadiene**	**Xylene**	**Cumene**	**Total HAP**
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV004	Hammermill #1 (EU010)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV005	Hammermill #2 (EU011)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV006	Hammermill #3 (EU012)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV007	Hammermill #4 (EU013)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV008	Hammermill #5 (EU014)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV009	Hammermill #6 (EU015)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV010	Hammermill #7 (EU016)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV011	Mash Preparation Process (EU017 and EU018)	--	--	1.70	--	--	--	--	--	--	--	1.50	0.10	0.05	--	--	--	--	--	3.35
SV012	Fermentation Process (EU019 -EU026)	--	--	0.33	--	--	--	--	--	--	--	9.97	0.66	0.33	--	--	--	--	--	11.30
SV013	Distillation and Dehydration Process (EU027 - EU032)	--	--	0.51	--	--	--	--	--	--	--	7.04	0.51	0.51	--	--	--	--	--	8.57
SV014	Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038)	1.66E-03	9.48E-04	1.54	1.42E+00	2.69E-03	3.95E-04	8.69E-04	1.11E-03	3.00E-04	1.66E-03	249.47	--	49.91	14.82	--	--	--	--	317.17
	RTO Combustion Emissions	5.41E-04	3.09E-04	1.93E-02	4.64E-01	8.76E-04	1.29E-04	2.83E-04	3.61E-04	9.79E-05	5.41E-04	--	--	--	--	--	--	--	--	0.49
SV017	DDGS Storage Bldg. / Flat Storage (EU039)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV015	Boiler #1 (EU036)	1.31E-03	7.49E-04	4.68E-02	1.12E+00	2.12E-03	3.12E-04	6.86E-04	8.74E-04	2.37E-04	1.31E-03	--	--	--	--	--	--	--	--	1.18
SV016	Boiler #2 (EU037)	1.31E-03	7.49E-04	4.68E-02	1.12E+00	2.12E-03	3.12E-04	6.86E-04	8.74E-04	2.37E-04	1.31E-03	--	--	--	--	--	--	--	--	1.18
SV018	Truck and Rail Loading Rack (Loading and Flare Emissions)	8.13E+00	3.50E-05	3.13E+00	3.00E+02	5.63E+00	1.46E-05	3.21E-05	4.09E-05	1.11E-05	6.13E-05	3.13	--	15.63	--	--	--	--	--	336.02
SV019	Diesel Generator (EU044)	6.84E-02	--	6.95E-03	--	2.48E-02	--	--	--	--	--	2.22E-03	--	--	6.95E-04	1.39E-01	--	1.70E-02	--	0.26
SV022	Centrifuges (EU033) Bypass	--	--	0.03	--	--	--	--	--	--	--	0.33	--	0.06	0.03	--	--	--	--	0.45
Insignificant Activities																				
	Space Heaters	2.25E-05	1.29E-05	8.05E-04	1.93E-02	3.65E-05	5.37E-06	1.18E-05	1.50E-05	4.08E-06	2.25E-05	--	--	--	--	--	--	--	--	0.02
T001	Denaturant Storage Tank	4.76E-03	--	8.38E-04	1.76E-01	3.29E-03	--	--	--	--	--	8.38E-04	--	4.19E-03	--	--	--	--	3.66E-04	1.90E-01
T002	190 Proof Ethanol Shift Tank																			
T003	200 Proof Ethanol Storage Tank																			
T004	200 Proof Ethanol Storage Tank																			
T005	Denaturant Storage Tank																			
	Cooling Tower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV020	Diesel Fire Pump (EU045)	8.58E-03	--	1.09E-02	--	3.76E-03	--	--	--	--	--	7.05E-03	--	--	8.51E-04	1.55E-03	3.60E-04	2.62E-03	--	0.04
	Gasoline Dispensing Operation	1.86E-04	--	--	6.88E-03	1.29E-04	--	--	--	--	--	--	--	--	--	--	--	--	1.43E-05	0.01
	Fugitive Leaks	3.72E-03	--	1.27E-02	1.38E-01	2.58E-03	--	--	--	--	--	1.27E-02		6.36E-02	--	--	--	--	2.86E-04	0.23
Total:		**8.22**	**2.80E-03**	**7.38**	**304.86**	**5.67**	**1.17E-03**	**2.57E-03**	**3.27E-03**	**8.88E-04**	**4.90E-03**	**271.46**	**1.27**	**66.56**	**14.85**	**0.14**	**3.60E-04**	**1.96E-02**	**6.67E-04**	**680.44**

Appendix A: Emissions Calculations
HAP Emissions Summary - Unrestricted PTE

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

		Unrestricted PTE (ton/yr)																		
		Controlled PTE (ton/yr)																		
Emission Point	**Description**	**Benzene**	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**	**Lead**	**Cadmium**	**Chromium**	**Manganese**	**Nickel**	**Acetaldehyde**	**Propionaldehyde**	**Methanol**	**Acrolein**	**PAH**	**1,3-Butadiene**	**Xylene**	**Cumene**	**Total HAP**
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV004	Hammermill #1 (EU010)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV005	Hammermill #2 (EU011)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV006	Hammermill #3 (EU012)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV007	Hammermill #4 (EU013)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV008	Hammermill #5 (EU014)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV009	Hammermill #6 (EU015)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV010	Hammermill #7 (EU016)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV011	Mash Preparation Process (EU017 and EU018)	--	--	0.85	--	--	--	--	--	--	--	0.75	0.05	0.02	--	--	--	--	--	1.68
SV012	Fermentation Process (EU019 -EU026)	--	--	0.17	--	--	--	--	--	--	--	4.99	0.33	0.17	--	--	--	--	--	5.65
SV013	Distillation and Dehydration Process (EU027 - EU032)	--	--	0.26	--	--	--	--	--	--	--	3.52	0.26	0.26	--	--	--	--	--	4.29
SV014	Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038)	4.98E-05	2.84E-05	0.05	4.27E-02	8.06E-05	1.19E-05	2.61E-05	3.32E-05	9.01E-06	4.98E-05	7.48	--	1.50	0.44	--	--	--	--	9.52
	RTO Combustion Emissions	5.41E-04	3.09E-04	1.93E-02	4.64E-01	8.76E-04	1.29E-04	2.83E-04	3.61E-04	9.79E-05	5.41E-04	--	--	--	--	--	--	--	--	0.49
SV017	DDGS Storage Bldg. / Flat Storage (EU039)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV015	Boiler #1 (EU036)	1.31E-03	7.49E-04	4.68E-02	1.12E+00	2.12E-03	3.12E-04	6.86E-04	8.74E-04	2.37E-04	1.31E-03	--	--	--	--	--	--	--	--	1.18
SV016	Boiler #2 (EU037)	1.31E-03	7.49E-04	4.68E-02	1.12E+00	2.12E-03	3.12E-04	6.86E-04	8.74E-04	2.37E-04	1.31E-03	--	--	--	--	--	--	--	--	1.18
SV018	Truck and Rail Loading Rack (Loading and Flare Emissions)	1.63E-01	3.50E-05	6.47E-02	6.06E+00	1.13E-01	1.46E-05	3.21E-05	4.09E-05	1.11E-05	6.13E-05	6.25E-02	--	3.13E-01	--	--	--	--	--	6.77
SV019	Diesel Generator (EU044)	6.84E-02	--	6.95E-03	--	2.48E-02	--	--	--	--	--	2.22E-03	--	--	6.95E-04	1.39E-01	--	1.70E-02	--	0.26
SV022	Centrifuges (EU033) Bypass	--	--	0.001	--	--	--	--	--	--	--	0.007	--	0.001	0.001	--	--	--	--	0.009
Insignificant Activities																				
	Space Heaters	2.25E-05	1.29E-05	8.05E-04	1.93E-02	3.65E-05	5.37E-06	1.18E-05	1.50E-05	4.08E-06	2.25E-05	--	--	--	--	--	--	--	--	0.02
T001	Denaturant Storage Tank	4.76E-03	--	8.38E-04	1.76E-01	3.29E-03	--	--	--	--	--	8.38E-04	--	4.19E-03	--	--	--	--	3.66E-04	1.90E-01
T002	190 Proof Ethanol Shift Tank																			
T003	200 Proof Ethanol Storage Tank																			
T004	200 Proof Ethanol Storage Tank																			
T005	Denaturant Storage Tank																			
	Cooling Tower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.00
SV020	Diesel Fire Pump (EU045)	8.58E-03	--	1.09E-02	--	3.76E-03	--	--	--	--	--	7.05E-03	--	--	8.51E-04	1.55E-03	3.60E-04	2.62E-03	--	0.04
	Gasoline Dispensing Operation	1.86E-04	--	--	6.88E-03	1.29E-04	--	--	--	--	--	--	--	--	--	--	--	--	1.43E-05	0.01
	Fugitive Leaks	3.72E-03	--	1.27E-02	1.38E-01	2.58E-03	--	--	--	--	--	1.27E-02	0.00	6.36E-02	--	--	--	--	2.86E-04	0.23
Total:		**0.25**	**1.88E-03**	**1.53**	**9.15**	**0.15**	**7.85E-04**	**1.73E-03**	**2.20E-03**	**5.96E-04**	**3.30E-03**	**16.83**	**0.64**	**2.33**	**0.45**	**0.14**	**3.60E-04**	**1.96E-02**	**6.67E-04**	**31.50**

Appendix A: Emissions Calculations
HAP Emissions Summary - Unrestricted PTE

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

		Unrestricted PTE (ton/yr)																		
		Limited PTE (ton/yr)																		
Emission Point	**Description**	**Benzene**	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**	**Lead**	**Cadmium**	**Chromium**	**Manganese**	**Nickel**	**Acetaldehyde**	**Propionaldehyde**	**Methanol**	**Acrolein**	**PAH**	**1,3-Butadiene**	**Xylene**	**Cumene**	**Total HAP**
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV004	Hammermill #1 (EU010)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV005	Hammermill #2 (EU011)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV006	Hammermill #3 (EU012)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV007	Hammermill #4 (EU013)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV008	Hammermill #5 (EU014)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV009	Hammermill #6 (EU015)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV010	Hammermill #7 (EU016)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV011	Mash Preparation Process (EU017 and EU018)	--	--	1.70	--	--	--	--	--	--	--	0.22	0.10	0.05	--	--	--	--	--	0.66
SV013	Distillation and Dehydration Process (EU027 - EU032)	--	--	0.51	--	--	--	--	--	--	--	1.97	0.51	0.51	--	--	--	--	--	3.29
SV012 and SV014 (Normal and AOS1 Worst Case Operations)	Fermentation Process (EU019 -EU026) Centrifuges (EU033), DDGS Dryers (EU034 and EU035), DDGS Fluid Bed Cooler (EU038) RTO Combustion Emissions	2.20E-03	1.26E-03	1.89	1.89	3.56E-03	5.24E-04	1.15E-03	1.47E-03	3.98E-04	2.20E-03	7.40	0.66	4.14	2.98	--	--	--	--	13.10
SV017	DDGS Storage Bldg. / Flat Storage (EU039)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV015	Boiler #1 (EU036)	2.62E-03	1.50E-03	9.36E-02	2.25E+00	4.24E-03	6.24E-04	1.37E-03	1.75E-03	4.74E-04	2.62E-03	--	--	--	--	--	--	--	--	2.35
SV016	Boiler #2 (EU037)												--	--			--			
SV018	Truck and Rail Loading Rack (Loading and Flare Emissions)	1.75E-02	3.50E-05	8.88E-03	6.96E-01	1.21E-02	1.46E-05	3.21E-05	4.09E-05	1.11E-05	6.13E-05	6.69E-03	--	3.35E-02	--	--	--	--	--	0.77
SV019	Diesel Generator (EU044)	1.95E-03	--	1.98E-04	--	7.07E-04	--	--	--	--	--	6.34E-05	--	--	1.98E-05	5.33E-04	--	4.86E-04	--	3.96E-03
SV022	Centrifuges (EU033) Bypass	--	--	0.002	--	--	--	--	--	--	--	0.019	--	0.003	0.002	--	--	--	--	0.026
Insignificant Activities																				
	Space Heaters	2.25E-05	1.29E-05	8.05E-04	1.93E-02	3.65E-05	5.37E-06	1.18E-05	1.50E-05	4.08E-06	2.25E-05	--	--	--	--	--	--	--	--	0.02
T001	Denaturant Storage Tank	4.76E-03	--	8.38E-04	1.76E-01	3.29E-03	--	--	--	--	--	8.38E-04	--	4.19E-03	--	--	--	--	3.66E-04	0.19
T002	190 Proof Ethanol Shift Tank																			
T003	200 Proof Ethanol Storage Tank																			
T004	200 Proof Ethanol Storage Tank																			
T005	Denaturant Storage Tank																			
	Cooling Tower	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SV020	Diesel Fire Pumps (EU045) and (EU046)	4.90E-04	--	6.20E-04	--	2.15E-04	--	--	--	--	--	4.03E-04	--	--	4.86E-05	8.82E-05	2.05E-05	1.50E-04	--	2.03E-03
	Gasoline Dispensing Operation	1.86E-04	--	--	6.88E-03	1.29E-04	--	--	--	--	--	--	--	--	--	--	--	--	1.43E-05	0.01
	Fugitive Leaks	3.72E-03	--	1.27E-02	1.38E-01	2.58E-03	--	--	--	--	--	1.27E-02	0.00E+00	6.36E-02	--	--	--	--	2.86E-04	0.23
Total:		**0.03**	**2.80E-03**	**4.22**	**5.17**	**0.03**	**1.17E-03**	**2.57E-03**	**3.27E-03**	**8.88E-04**	**4.90E-03**	**9.63**	**1.27**	**4.81**	**2.98**	**6.22E-04**	**2.05E-05**	**6.35E-04**	**6.67E-04**	**20.65**

Note: The shaded cells indicate where limits are included.

Appendix A: Emission Calculations
Fugitive Summary

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

Fugitive Emissions (tons/yr)								
Emission Point	**Description**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_2**	**VOC**	**CO**
F001	Uncaptured Grain Receiving (Fugitive)	40.64	11.75	2.00	--	--	--	--
F002	DDGS Loadout Spout (Fugitive)	16.19	5.46	0.93	--	--	--	--
F003	Truck Traffic	4.89	0.98	0.24	--	--	--	--
F004	Equipment Leaks	--	--	--	--	--	14.15	--
Total Fugitive Emissions		**61.72**	**18.19**	**3.17**	**0.00**	**0.00**	**14.15**	**0.00**

Total Emissions Source	**286.63**	**243.29**	**228.00**	**16.58**	**225.08**	**224.83**	**144.66**

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.

Appendix A: Emissions Calculations
Project Parameters (Provided by Permittee)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Receiving	**Current**		
Annual Grain Receiving	40,740,741		bushel/yr
Denaturant Delivery (actual):	8,250,000		gal/yr
Grain Receiving Capacity	50,000		bushel/hr
Grain Receiving Capacity	1,400		ton/hr
Annual Grain Receiving	1,140,741		ton/yr
Grain Density:	56		lb/bushel
Gallons Ethanol Produced per Bushel of Corn:	2.70		gal/bu

Production	**Current**		
Total Production in Gallons Anhydrous Ethanol Produced per Year:	110,000,000		gal/yr
E-85 Operation (assume 10% of Anhydrous Ethanol Production is loaded out at E70):			
Gallons E-85 Produced:	14,300,000	(1)	gal/yr
Denaturant Throughput:	3,300,000	(3)	gal/yr
Gallons Anhydrous Ethanol Loaded out in E-85 Service:	11,000,000	(2)	gal/yr
Normal Denatured Ethanol Operation:			
Gallons Denatured Ethanol Produced:	103,950,000		gal/yr
Denaturant Throughput:	4,950,000	(4)	gal/yr
Gallons Anhydrous Ethanol Loaded out in Denatured Service:	99,000,000		gal/yr
Combined Denatured Ethanol and E85 Production Rate	**118,250,000**	**(1)**	**gal/yr**

DDGS Production	**Current**		
Hourly DDGS Production	44.29		ton/hr
Annual DDGS Production	376,444		ton/yr
Percent Grain Throughput that becomes DDGS	33.0%		
	Current		
DDGS Haul Out	15,058		truck/yr
Ethanol Haul Out	14,781		truck/yr
Denaturant Delivery	1,031		truck/yr
Grain Delivery	45,630		truck/yr
Tons Hauled per Truck	25		ton/truck
Gallons Hauled per Truck	8,000		gal/truck

Storage Tanks	**Current**		
Denaturant Storage Tank (T001)	6,187,500	(5)	gal/yr
190 or 200 Proof Ethanol Shift Tank (T002)	104,500,000	(7)	gal/yr
200 Proof Ethanol Storage Tank (T003)	55,000,000	(6)	gal/yr
200 Proof Ethanol Storage Tank (T004)	55,000,000	(6)	gal/yr
Denaturant Storage Tank (T005)	2,062,500	(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 T001 and T005 based on tank capacities
(6) T003 and T004 half of the anhydrous ethanol throughput is assumed to pass through each tank.
(7) Calculated: Anhydrous Ethanol Produced per Year (gal) / (1.9 / 2)

Appendix A: Emissions Calculations
Modification Summary

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

PTE Before Controls of the New Emission Units (ton/year)

Emission Unit	PM	PM10	PM2.5	SO_2	NOx	VOC	CO
Centrifuges (EU033) Bypass	--	--	--	--	--	15.33	--
Diesel Fire Pump (EU046)	2.89	2.89	2.89	2.69	40.73	3.30	8.78
Total	**2.89**	**2.89**	**2.89**	**2.69**	**40.73**	**18.64**	**8.78**

PTE Before Modification (ton/year)

Emission Unit	PM	PM10	PM2.5	SO_2	NOx	VOC	CO
DDGS Dryers (EU034 and EU035)	354.78	354.78	354.78	14.19	71.28	2806.84	350.40
Diesel Fire Pump (EU045)	5.78	5.78	5.78	5.39	81.47	6.61	17.56
Equipment Leaks	--	--	--	--	--	152.06	--
Second rail ethanol loadout	--	--	--	--	--	340.84	--
Total	**360.56**	**360.56**	**360.56**	**19.57**	**152.75**	**3306.34**	**367.96**

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PTE After Modification (ton/year)

Emission Unit	PM	PM10	PM2.5	SO_2	NOx	VOC	CO
DDGS Dryers (EU034 and EU035)	354.78	354.78	354.78	14.23	79.01	4048.88	350.40
Diesel Fire Pump (EU045)	2.89	2.89	2.89	2.69	40.73	3.30	8.78
Equipment Leaks	--	--	--	--	--	171.42	--
Second rail ethanol loadout	--	--	--	--	--	3125.40	--
Total	**357.67**	**357.67**	**357.67**	**16.93**	**119.75**	**7349.00**	**359.18**

PTE Change of the Modified Emission Unit(s)/Process (ton/year)

Emission Unit	PM	PM10	PM2.5	SO_2	NOx	VOC	CO
DDGS Dryers (EU034 and EU035)	0.00E+00	0.00E+00	0.00E+00	0.05	7.73	1242.04	0.00E+00
Diesel Fire Pump (EU045)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Equipment Leaks	--	--	--	--	--	19.36	--
Second rail ethanol loadout	--	--	--	--	--	2784.56	--
Total	**0.00E+00**	**0.00E+00**	**0.00E+00**	**4.64E-02**	**7.73**	**4045.96**	**0.00E+00**

Total PTE Increase Due to the Modification (ton/year)

Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO
PTE of New Emission units	2.89	2.89	2.89	2.69	40.73	18.64	8.78
PTE Increase of Modified Emission Units/Process	0.00E+00	0.00E+00	0.00E+00	0.05	7.73	4045.96	0.00E+00
Total	**2.89**	**2.89**	**2.89**	**2.74**	**48.46**	**4064.60**	**8.78**

Appendix A: Emissions Calculations
Grain Handling (EU001-EU016, EU039, EU041, EU042)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

						Controlled PTE						Uncontrolled PTE		Limited PTE					
Stack ID	Process Description	Control Device	Control Device ID	Outlet Grain Loading (gr/dscf)	Maximum Air Flow Rate (scfm)	PTE of PM/PM10 after Control* (lb/hr)	PTE of PM/PM10 after Control (ton/yr)	PTE of PM2.5 after Control** (lb/hr)	PTE of PM2.5 after Control (ton/yr)	PM/PM10 Control Efficiency	PM2.5 Control Efficiency	PTE of PM/PM10 before Control (ton/yr)	PTE of PM2.5 before Control (ton/yr)	Limited PTE PM (lb/hr)	Limited PTE PM10 (lb/hr)	Limited PTE PM2.5 (lb/hr)	Limited PTE PM (ton/yr)	Limited PTE PM10 (ton/yr)	Limited PTE PM2.5 (ton/yr)
SV001	Grain Receiving: (3) Truck Dump Pits (EU001) Grain Handling: Grain Conveyor (EU002) Grain Handling: Grain Elevator (EU003) Storage: (4) Grain Storage Silos (EU004 - EU007) DDGS Truck Loadout (EU041) DDGS Rail Loadout (EU042)	Baghouse	CE001	0.004	33,000	1.13	4.96	0.19	0.84	99%	98%	495.6	42.12	3.41	3.60	0.92	14.94	15.77	4.03
SV003	Scalper (EU008) Conveyor Transfer and Surge Bin (EU009)	Baghouse	CE003	0.004	7,000	0.24	1.05	0.04	0.18	99%	98%	105.1	8.94	0.72	0.76	0.20	3.15	3.33	0.88
SV004	Hammermill #1 (EU010)	Baghouse	CE004	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV005	Hammermill #2 (EU011)	Baghouse	CE005	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV006	Hammermill #3 (EU012)	Baghouse	CE006	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV007	Hammermill #4 (EU013)	Baghouse	CE007	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV008	Hammermill #5 (EU014)	Baghouse	CE008	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV009	Hammermill #6 (EU015)	Baghouse	CE009	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV010	Hammermill #7 (EU016)	Baghouse	CE010	0.004	12,000	0.41	1.80	0.07	0.31	99%	98%	180.2	15.32	1.23	1.29	0.34	5.39	5.65	1.49
SV017	DGS Storage Bldg. / Flat Storage (EU0	Baghouse	CE017	0.004	4,000	0.14	0.60	0.02	0.10	99%	98%	60.1	5.11	0.42	0.44	0.67	1.84	1.93	2.93
Total							19.2		3.27			1,922	163				57.6	60.6	18.3

*Assume all PM emissions equal PM10 emissions.

** Assume controlled PM2.5 emissions equal 17% PM/PM10 emissions (AP-42 Table 9.9.1-1 Reference 40).

Methodology
PTE of PM/PM10 after Control (lb/hr) = Outlet Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x (60 min/hr) x (1 lb/7000 gr)
PTE of PM/PM10 after Control (ton/yr) = Outlet Grain Loading (gr/dscf) x Max. Air Flow Rate (scfm) x (60 min/hr) x (1 lb/7000 gr) x (8760 hr/yr) x (1 ton/2000 lb)
PTE before Control (ton/yr) = PTE after Control (ton/yr) / (1-Control Efficiency)
PM2.5 Control Efficiency is assumed to be less than the PM/PM10 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)	1,140,741	0.071	0.0206	0.0035	40.64	11.75	2.00
F002	Uncaptured Emissions From DDGS Loadout Spout (F002)	376,444	0.086	0.0290	0.0049	16.19	5.46	0.93
Total						56.83	17.21	2.93

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: Emissions Calculations
GHG Emissions from Fermentation

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Green House Gas Emissions from Fermentation (Biogenic)

Given:

115,293,750 gallons of undenatured (200-proof) EtOH / year (based on maximum of 118,250,000 gal/yr denatured ethanol with worst case of 97.5% EtOH)
46.06844 [g/mol] mole weight of EtOH
0.789 [g/cm^3] density of liquid EtOH
44.0095 [g/mol] mole weight of CO2

and:

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

Therefore:

$$\frac{115{,}293{,}750 \text{ gal 200-proof EtOH}}{\text{year}} \times \frac{0.789 \text{ g EtOH}}{1 \text{ cm}^3} \times \frac{3{,}785.41 \text{ cm}^3}{1 \text{ gal}}$$

$$= \frac{3.44\text{E+11 g EtOH}}{\text{year}} \times \frac{1 \text{ mol EtOH}}{46.06844 \text{ g EtOH}}$$

$$= \frac{7{,}474{,}672{,}815 \text{ mol EtOH}}{\text{year}} \times \frac{2 \text{ mol } CO_2}{2 \text{ mol EtOH}}$$

$$= \frac{7{,}474{,}672{,}815 \text{ mol } CO_2}{\text{year}} \times \frac{44.0095 \text{ g } CO_2}{1 \text{ mol } CO_2} \times \frac{1 \text{ ton}}{907{,}184.74 \text{ g}}$$

= 362,613 tons CO_2 / year

= **362,613** CO2e Total in tons/yr

Note: Biogenic CO2 emissions have been deferred from regulation. At this time, these CO2 emissions from the fermentation process are not included in the sourcewide GHG emissions.

Appendix A: Emissions Calculations
Mash Prep (EU017, EU018), Fermentation (EU019-EU026), Distillation (EU027-EU032)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

1. Process Description:
POET Biorefining - Cloverdale has three wet scrubbers controlling three different processes. These include the fermentation process, mash preparation process, and distillation and dehydration process.

2. Potential to Emit (PTE) of VOC and HAP from the scrubber:
Scrubber VOC Control Efficiency = 98.00%
Scrubber HAP Control Efficiency = 50.00%

	Mash Prep Scrubber (CE011)		Fermentation Scrubber (CE012)		Distillation Scrubber (CE013)	
Uncontrolled PTE	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
VOC	85.3	373.5	566.7	2482.1	53.0	232.2
Acetaldehyde	0.3	1.5	2.3	10.0	1.6	7.0
Propionaldehyde	0.02	0.10	0.2	0.7	0.1	0.5
Methanol	0.01	0.05	0.1	0.3	0.1	0.5
Formaldehyde	0.39	1.70	0.1	0.3	0.1	0.5
Total Uncontrolled HAP	0.8	3.4	2.6	11.3	2.0	8.6

The uncontrolled emission rates were back-calculated from controlled emission rates and assumed scrubber control efficiencies.

	Mash Prep Scrubber (CE011)		Fermentation Scrubber (CE012)		Distillation Scrubber (CE013)	
Controlled PTE	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
VOC	1.71	7.47	11.33	49.64	1.06	4.64
Acetaldehyde	0.17	0.75	1.14	4.99	0.80	3.52
Propionaldehyde	0.01	0.05	0.08	0.33	0.06	0.26
Methanol	0.01	0.02	0.04	0.17	0.06	0.26
Formaldehyde	0.19	0.85	0.04	0.17	0.06	0.26
Total Controlled HAP	0.38	1.68	1.29	5.65	0.98	4.29

Note: Controlled VOC and HAP emission rates based on performance tests at similar facilities and provided by source. Performance testing conducted in August-September 2011 resulted in emissions less than those assumed in these calculations. As a conservative approach, the higher emission rates will be maintained for purposes of calculating PTE.

	Mash Prep Scrubber (CE011)		Fermentation Scrubber (CE012)		Distillation Scrubber (CE013)	
Limited PTE	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
VOC	3.87	16.95	25.64	112.30	2.39	10.47
Acetaldehyde	0.05	0.22	0.70	3.07	0.45	1.97
Total Limited HAP	0.15	0.66	0.99	4.34	0.75	3.29

Methodology:
Uncontrolled (lb/hr) = Controlled (lb/hr) / (100% - Control Efficiency)
Uncontrolled (ton/yr) = Controlled (ton/yr) / (100% - Control Efficiency)
Controlled (lb/hr) = Provided Emission Rate based on performance tests at similar facilities
Controlled (ton/yr) = Controlled (lb/hr) * 8,760 hours / 2,000 lbs

Appendix A: Emissions Calculations
RTO Controlling DDGS Dryers and Cooler (EU033-EU035, EU038)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Process Description:
Emission point SV014 includes the emissions from the DDGS dryers and DDGS fluid bed cooler and are controlled using two (2) 30 MMBtu/hr RTOs (CE015 & CE016)

Each dryer has a 92 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.

VOC Emissions from the Dryers

Dryer Feed Rate (ton/hr)	Water Content (% by wt)	VOC Content of Water (lb VOC/lb water)	Potential VOC from Dryers (lb/hr)	Potential VOCs from Dryers (ton/yr)
115	66.66%	0.006	919.9	4029.2

Methodology
Potential VOC Emissions from Dryers (lb/hr) = Dryer Feed Rate (115 ton/hr) x Water Content of Feed (% by wt) x (lb VOC/lb water) x (2000 lb/1 ton)
Potential VOC Emissions from Dryers (ton/yr) = Potential VOC Emissions from Dryers (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
The dryer outlet VOC emissions were much lower based on testing conducted on 12/18/2011. However, as a conservative approach, the above calculation will be maintained for determining PTE.

HAP Emissions from the Dryers

HAP	HAP % (by wt of VOC)	Potential HAP from Dryers (lb/hr)	Potential HAP from Dryers (ton/yr)
Acetaldehyde	6.18%	56.88	249.14
Acrolein	0.37%	3.38	14.79
Methanol	1.24%	11.38	49.85
Formaldehyde	0.04%	0.33	1.45
Total			**315.2**

Methodology

Speciated HAPs based upon Method 18 test on RTO inlet at Big Stone.

Potential HAP Emissions from Dryers (lb/hr) = Potential VOC emissions from dryer (lb/hr) x HAP % by wt of VOC

Potential HAP Emissions from Dryers (ton/yr) = Potential HAP Emissions from Dryers (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Particulate Emissions from Dryers

Dryer Exhaust Rate (dscfm)	Outlet Grain Loading (gr/dscf)	Potential Particulate Emissions from Dryers (lb/hr)	Potential Particulate Emissions from Dryers (ton/yr)
70000	0.135	81	354.78

Methodology
Potential Particulate Emissions from Dryers (lb/hr) = Dryer Exhaust Rate (dscfm) x Outlet Grain Loading (gr/dscf) x (60 min/hr) x (1 lb/7000 gr)

Potential Particulate Emissions from Dryers (ton/yr) = Potential Particulate Emissions from Dryers (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Outlet grain loading from dryers is based on the outlet of the process cyclones on the outlet of the DDGS dryers

CO Emissions from Dryers

	Uncontrolled Emission Rate (lb/hr)	Uncontrolled Emission Rate (ton/yr)
CO	80.0	350.4

Based on stack test results from similar facilities, the inlet CO rate to the RTO will be approximately 80 lb/hr.

SO2 Emissions from Dryers

Ethanol Production (gal/yr)	SO2 Emission Factor (lb/gal EtOH produced)	Uncontrolled Emission Rate (ton/yr)
110,000,000	0.00025	13.76

The SO2 Emission Factor is based on test data from POET - North Manchester, March 3, 2009.

SO2 Emission Factor (lb/gal) = tested emission rate (1.837 lb/hr) / [beer feed rate (720 gpm) x 17 vol% ethanol x (60 min/hr)]

Emission Rate (ton/yr) = Ethanol Production (gal/yr) x SO2 Emission Factor (lb/gal EtOH produced) x (1 ton/2000 lb)

Appendix A: Emissions Calculations
RTO Controlling DDGS Dryers and Cooler (EU033-EU035, EU038)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Process Description:

	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs (CO2e)
Emissions from Dryer Natural Gas Combustion (ton/yr)	*	*	*	0.47	79.01	4.35	*	95009.0
Emissions from Dryer Processing (ton/yr)	354.78	354.78	354.78	13.76	--	4029.2	350.4	--
Emissions from Centrifuges (ton/yr)	--	--	--	--	--	15.3	--	--
Total Uncontrolled Emissions Feeding to RTO (lb/hr)	81.00	81.00	81.00	3.25	18.04	924.40	80.00	21691.56
Total Uncontrolled Emissions Feeding to RTO (ton/yr)	**354.78**	**354.78**	**354.78**	**14.23**	**79.01**	**4048.88**	**350.40**	**95009.04**
RTO Control Efficiency	90%	90%	90%	0	0	98%	90%	0
Controlled Emissions from RTO (ton/yr)	35.48	35.48	35.48	14.23	79.01	80.98	35.04	95009.0
RTO Combustion Emissions (lb/hr)	0.11	0.45	0.45	0.04	5.88	0.32	4.94	7073.34
RTO Combustion Emissions (ton/yr)	0.49	1.96	1.96	0.15	25.76	1.42	21.64	30981.2
Total Emissions from RTO (lb/hr)	8.21	8.55	8.55	3.28	23.92	18.81	12.94	28764.90
Total Emissions from RTO (ton/yr)	**35.97**	**37.44**	**37.44**	**14.39**	**104.78**	**82.39**	**56.68**	**125990.2**
Proposed Limited PTE (lb/hr) (total at RTO exhaust)	33.60	31.30	40.90	no limit	28.00	11.00	24.40	no limit
Proposed Limited PTE (ton/yr) (total at RTO exhaust)	**147.17**	**137.09**	**179.14**	**no limit**	**122.64**	**48.18**	**106.87**	**no limit**

*Emissions from Dryer Processing Include Natural Gas Combustion Emissions

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Acetaldehyde	Acrolein	Methanol	Total
Emissions from Dryer Natural Gas Combustion (ton/yr)	1.66E-03	9.48E-04	5.93E-02	1.42E+00	2.69E-03	3.95E-04	8.69E-04	1.11E-03	3.00E-04	1.66E-03				1.49
Emissions from Dryer Processing (ton/yr)			1.45								249.14	14.79	49.85	315.23
Emissions from Centrifuges (ton/yr)			0.03								0.33	0.03	0.06	0.45
Total Uncontrolled Emissions Feeding to RTO (lb/hr)	3.79E-04	2.16E-04	3.51E-01	3.25E-01	6.13E-04	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	5.70E+01	3.38E+00	1.14E+01	7.24E+01
Total Uncontrolled Emissions Feeding to RTO (ton/yr)	**1.66E-03**	**9.48E-04**	**1.54**	**1.42**	**2.69E-03**	**3.95E-04**	**8.69E-04**	**1.11E-03**	**3.00E-04**	**1.66E-03**	**249.47**	**14.82**	**49.91**	**317.17**
RTO Control Efficiency	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%	
Controlled Emissions from RTO (ton/yr)	4.98E-05	2.84E-05	4.61E-02	4.27E-02	8.06E-05	1.19E-05	2.61E-05	3.32E-05	9.01E-06	4.98E-05	7.48	0.44	1.50	9.52
RTO Combustion Emissions (lb/hr)	1.24E-04	7.06E-05	4.41E-03	0.11	2.00E-04	2.94E-05	6.47E-05	8.24E-05	2.24E-05	1.24E-04				0.11
RTO Combustion Emissions (ton/yr)	5.41E-04	3.09E-04	1.93E-02	4.64E-01	8.76E-04	1.29E-04	2.83E-04	3.61E-04	9.79E-05	5.41E-04				0.49
Total Controlled Emissions from RTO (lb/hr)	1.35E-04	7.71E-05	1.49E-02	1.16E-01	2.18E-04	3.21E-05	7.07E-05	8.99E-05	2.44E-05	1.35E-04	1.71E+00	1.02E-01	3.42E-01	2.28E+00
Total Controlled Emissions from RTO (ton/yr)	**5.91E-04**	**3.38E-04**	**6.54E-02**	**5.06E-01**	**9.57E-04**	**1.41E-04**	**3.09E-04**	**3.94E-04**	**1.07E-04**	**5.91E-04**	**7.48**	**0.44**	**1.50**	**10.00**
Proposed Limited PTE (lb/hr) (total at RTO exhaust)	no limit	no limit	no limit	no limit	no limit	no limit	no limit	no limit	no limit	no limit	0.99	0.68	0.87	2.00
Proposed Limited PTE (ton/yr) (total at RTO exhaust)	**no limit**	**no limit**	**no limit**	**no limit**	**no limit**	**no limit**	**no limit**	**no limit**	**no limit**	**no limit**	**4.34**	**2.98**	**3.81**	**8.76**

Methodology
See Natural Gas Combustion page for detailed calculations for natural gas combustion from the dryers and RTOs
Total Uncontrolled Emissions Feed to RTO (ton/yr) = Emissions from Dryer Natural Gas Combustion (ton/yr) + Emissions from Dryer Processing
Controlled Emissions from RTO (ton/yr) = Total Uncontrolled Emissions Feed to RTO (ton/yr) x (1 - Control Efficiency)
Total Emissions from RTO (ton/yr) = Controlled Emissions from RTO (ton/yr) + RTO Combustion Emissions (ton/yr)
Control Efficiencies are based on engineering estimates and testing at similar facilities

Appendix A: Emission Calculations
VOC and HAP Emissions
From the Fermentation Scrubber bypass directly to the RTOs (CE015 & CE016) (Stack SV014)

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

1. Process Description:

The Wet Scrubber (CE012) must occasionally be temporarily shut down for unscheduled maintenance or other operational reasons. In this event, the fermentation process will continue to be operated in normal mode. The emissions from the fermentation process will be vented through a scrubber bypass directly to the RTOs (CE015 & CE016) stack (SV014). The emissions will be controlled by the RTOs (CE015 & CE016).

2. Potential to Emit (PTE) from Scrubber:

Scrubber VOC Control Efficiency = 98.00%
Scrubber HAP Control Efficiency = 50.00%

8/26/2014 Stack Test results - Fermentation Scrubber (Outlet)		
VOC	15.43	lb/hr
VOC Control Efficiency	98.7%	
Acetaldehyde	0.26	lb/hr
Formaldehyde	0.003	lb/hr
Methanol	0.02	lb/hr
Acrolein	0.01	lb/hr
Total HAPs	0.30	lb/hr

Uncontrolled Emissions Fermentation Scrubber (Inlet)	
Pollutant	**lb/hr**
VOC	1186.92
Acetaldehyde	0.52
Formaldehyde	0.01
Methanol	0.04
Acrolein	0.02
Total HAPs	0.60

PTE Uncontrolled (lb/hr) = PTE After Control (lb/hr) / (1- Control Efficiency)

3. Criteria Pollutants

RTO Particulate Control Efficiency = 90.0%
RTO VOC Control Efficiency = 98.0%
RTO CO Control Efficiency = 90.0%
RTO HAP Control Efficiency = 97.0%
Yearly operation limit = 100 hours

Uncontrolled Emissions from Process (Dryers, Centrifuges, Fluid Bed Cooler) to the RTO (inlet)								
	PM	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**GHGs (CO2e)**
(lb/hr)	81.00	81.00	81.00	3.25	18.04	924.40	80.00	21691.56

Values from "RTO Controlling DDGS Dryers and Cooler (EU033-EU035, EU038)" Spreadsheet

AOS1 Uncontrolled Total Emissions to RTO (inlet) (100 hours)								
	PM*	**PM10***	**PM2.5***	**SO2***	**NOx***	**VOC****	**CO***	**GHGs (CO2e)***
(lb/hr)	81.00	81.00	81.00	3.25	18.04	2111.32	80.00	21691.56
Safety Factor***	25%	25%	25%	--	--	50%	140%	--
(lb/hr)	101.25	101.25	101.25	3.25	18.04	3166.99	192.00	21691.56
(ton/yr)	5.06	5.06	5.06	0.16	0.90	158.35	9.60	1084.58

*Uncontrolled PM, PM10, PM2.5, SO2, NOx, CO, GHGs = Uncontrolled Emissions from Process (Dryers, Centrifuges, Fluid Bed Cooler) to the RTO (inlet)
**VOC = Uncontrolled Emissions Fermentation Scrubber (Inlet) + Uncontrolled Emissions from Process (Dryers, Centrifuges, Fluid Bed Cooler) to the RTO (inlet)
***Safety Factor provided by source
PTE Uncontrolled (ton/yr) = PTE Uncontrolled (lb/hr) x (100 hours/yr) / 2,000 lbs

Appendix A: Emission Calculations
VOC and HAP Emissions
From the Fermentation Scrubber bypass directly to the RTOs (CE015 & CE016) (Stack SV014)

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

AOS1 Controlled Total Emissions to RTO (inlet) (100 hours)								
	PM*	PM10*	PM2.5*	SO2**	NOx**	VOC*	CO*	GHGs (CO2e)**
(lb/hr)	10.13	10.13	10.13	3.25	18.04	63.34	19.20	21691.56
(ton/yr)	0.51	0.51	0.51	0.16	0.90	3.17	0.96	1084.58

*PTE After Control (lb/hr) = PTE Uncontrolled (lb/hr) x (1- Control Efficiency RTO)
**SO2, NOx, and GHGs Uncontrolled
PTE After Control (ton/yr) = PTE After Control (lb/hr) x (100 hours/yr) / 2,000 lbs

AOS1 Limited Total Emissions to RTO (inlet) (100 hours)								
	PM	PM10	PM2.5	SO2*	NOx	VOC	CO	GHGs (CO2e)*
(lb/hr)	33.60	31.30	40.90	3.25	28.00	35.60	48.20	21691.56
(ton/yr)	1.68	1.57	2.05	0.16	1.40	1.78	2.41	1084.58

*SO2 and GHGs not limited in permit
PTE Limited (ton/yr) = limited (lb/hr) x (100 hours/yr) / 2,000 lbs

4. HAPs

Uncontrolled HAP Emissions from Process (Dryers, Centrifuges, Fluid Bed Cooler) to the RTO (inlet)														
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Acetaldehyde	Acrolein	Methanol	Total
(lb/hr)	3.79E-04	2.16E-04	0.35	0.32	6.13E-04	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	56.96	3.38	11.39	72.41

Values from "RTO Controlling DDGS Dryers and Cooler (EU033-EU035, EU038)" Spreadsheet

AOS1 Uncontrolled Total HAP Emissions to RTO (inlet)														
	Benzene*	Dichlorobenzene*	Formaldehyde**	Hexane*	Toluene*	Lead*	Cadmium*	Chromium*	Manganese*	Nickel*	Acetaldehyde**	Acrolein**	Methanol**	Total**
(lb/hr)	3.79E-04	2.16E-04	0.357	0.325	0.001	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	57.477	3.403	11.435	73.599
Safety Factor***	--	--	50%	--	--	--	--	--	--	--	50%	50%	50%	--
(lb/hr)	3.79E-04	2.16E-04	0.535	0.325	0.001	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	86.215	5.105	17.152	73.599
(ton/yr)	1.89E-05	1.08E-05	0.03	0.02	3.07E-05	4.51E-06	9.92E-06	1.26E-05	3.43E-06	1.89E-05	4.31	0.26	0.86	3.68

*Uncontrolled Benzene, Dichlorobenzene, Hexane, Toluene, Lead, Cadmium, Chromium, Manganese, Nickel = Uncontrolled HAP Emissions from Process (Dryers, Centrifuges, Fluid Bed Cooler) to the RTO (inlet)
**Formaldehyde, Acetaldehyde, Acrolein, Methanol, Total HAP = Uncontrolled Emissions Fermentation Scrubber (Inlet) + Uncontrolled HAP Emissions from Process (Dryers, Centrifuges, Fluid Bed Cooler) to the RTO (inlet)
***Safety Factor provided by source
PTE Uncontrolled (ton/yr) = PTE Uncontrolled (lb/hr) x (100 hours/yr) / 2,000 lbs

AOS1 Controlled Total HAP Emissions to RTO (100 hours)														
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Acetaldehyde	Acrolein	Methanol	Total
(lb/hr)	1.14E-05	6.49E-06	0.02	0.01	1.84E-05	2.71E-06	5.95E-06	7.58E-06	2.06E-06	1.14E-05	2.59	0.15	0.51	2.21
(ton/yr)	5.68E-07	3.25E-07	0.001	4.87E-04	9.20E-07	1.35E-07	2.98E-07	3.79E-07	1.03E-07	5.68E-07	0.129	0.008	0.026	0.110

PTE After Control (lb/hr) = PTE Uncontrolled (lb/hr) x (1- Control Efficiency RTO)
PTE After Control (ton/yr) = PTE After Control (lb/hr) x (100 hours/yr) / 2,000 lbs

AOS1 Limited Total HAP Emissions to RTO (100 hours)														
	Benzene*	Dichlorobenzene*	Formaldehyde*	Hexane*	Toluene*	Lead*	Cadmium*	Chromium*	Manganese*	Nickel*	Acetaldehyde**	Acrolein**	Methanol**	Total**
(lb/hr)	3.79E-04	2.16E-04	5.35E-01	3.25E-01	6.13E-04	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	0.990	0.680	0.870	2.000
(ton/yr)	1.89E-05	1.08E-05	0.027	0.016	3.07E-05	4.51E-06	9.92E-06	1.26E-05	3.43E-06	1.89E-05	0.050	0.034	0.044	0.100

*Benzene, Dichlorobenzene, Formaldehyde, Hexane, Toluene, Lead, Cadmium, Chromium, Manganese, Nickel not limited in permit
** Acetaldehyde, Acrolein, Methanol, Total HAP limited in permit
PTE Limited (ton/yr) = limited (lb/hr) x (100 hours/yr) / 2,000 lbs

Appendix A: Emission Calculations
Limited PTE Summary (Normal and AOS1 Worst Case Operations)

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

1. Criteria Pollutants

Normal Operations		PM	PM10	PM2.5	SO2*	NOx	VOC	CO	GHGs (CO2e)*
Fermentation Process Scrubber	(lb/hr)	--	--	--	--	--	25.64	--	--
Dryers, Centrifuges, Fluid Bed Cooler RTO	(lb/hr)	33.60	31.30	40.90	3.28	28.00	11.00	24.40	28764.90
Fermentation Process Scrubber	(ton/yr)	--	--	--	--	--	112.30	--	--
Dryers, Centrifuges, Fluid Bed Cooler RTO	(ton/yr)	147.17	137.09	179.14	14.39	122.64	48.18	106.87	125990.25
Total	**(ton/yr)**	**147.17**	**137.09**	**179.14**	**14.39**	**122.64**	**160.48**	**106.87**	**125990.25**

*SO2 and GHGs not limited. PTE based on uncontrolled emissions
PTE Limited (ton/yr) = PTE (lb/hr) x (8760 hours/yr) / 2,000 lbs

Alternative Operating Scenario No. 1 (AOS1)		PM	PM10	PM2.5	SO2*	NOx	VOC	CO	GHGs (CO2e)*
Fermentation Process Scrubber	(lb/hr)	--	--	--	--	--	25.64	--	--
Dryers, Centrifuges, Fluid Bed Cooler RTO	(lb/hr)	33.60	31.30	40.90	3.28	28.00	11.00	24.40	28764.90
RTO 100 Hours	(lb/hr)	33.60	31.30	40.90	3.25	28.00	35.60	48.20	21691.56
Fermentation Process Scrubber**	(ton/yr)	--	--	--	--	--	111.02	--	--
Dryers, Centrifuges, Fluid Bed Cooler RTO**	(ton/yr)	145.49	135.53	177.10	14.22	121.24	47.63	105.65	124552.00
RTO 100 Hours***	(ton/yr)	1.68	1.57	2.05	0.16	1.40	1.78	2.41	1084.58
Total	**(ton/yr)**	**147.17**	**137.09**	**179.14**	**14.38**	**122.64**	**160.43**	**108.06**	**125636.58**

*SO2 and GHGs not limited. PTE based on uncontrolled emissions
**PTE Limited (ton/yr) = PTE limited (lb/hr) x (8660 hours/yr) / 2,000 lbs
***PTE Limited (ton/yr) = PTE limited (lb/hr) x (100 hours/yr) / 2,000 lbs

Worst Case Limited PTE	PM	PM10	PM2.5	SO2*	NOx	VOC	CO	GHGs (CO2e)
(ton/yr)	147.17	137.09	179.14	14.39	122.64	160.48	108.06	125990.25

2. HAPs

Normal Operations		Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Acetaldehyde	Acrolein	Methanol	Propionaldehyde	Total
Fermentation Process Scrubber*	(lb/hr)	--	--	0.08	--	--	--	--	--	--	--	0.70	--	0.08	0.15	0.99
Dryers, Centrifuges, Fluid Bed Cooler RTO**	(lb/hr)	3.79E-04	2.16E-04	0.35	0.32	6.13E-04	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	0.99	0.68	0.87	--	2.00
Fermentation Process Scrubber	(ton/yr)	--	--	0.33	--	--	--	--	--	--	--	3.07	--	0.33	0.66	4.34
Dryers, Centrifuges, Fluid Bed Cooler RTO	(ton/yr)	1.66E-03	9.48E-04	1.54	1.42	2.69E-03	3.95E-04	8.69E-04	1.11E-03	3.00E-04	1.66E-03	4.34	2.98	3.81	--	8.76
Total	**(ton/yr)**	**1.66E-03**	**9.48E-04**	**1.87**	**1.42**	**2.69E-03**	**3.95E-04**	**8.69E-04**	**1.11E-03**	**3.00E-04**	**1.66E-03**	**7.40**	**2.98**	**4.14**	**0.66**	**13.10**

*Formaldehyde, Methanol, and Propionaldehyde not limited in permit. Acetaldehyde and Total HAP limited in permit
**Benzene, Dichlorobenzene, Formaldehyde, Hexane, Toluene, Lead, Cadmium, Chromium, Manganese, Nickel not limited in permit. Acetaldehyde, Acrolein, Methanol, Total HAP limited in permit
PTE Limited (ton/yr) = PTE (lb/hr) x (8760 hours/yr) / 2,000 lbs

Alternative Operating Scenario No. 1 (AOS1)		Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Acetaldehyde	Acrolein	Methanol	Propionaldehyde	Total
Fermentation Process Scrubber[1]	(lb/hr)	--	--	0.08	--	--	--	--	--	--	--	0.70	--	0.08	0.15	0.99
Dryers, Centrifuges, Fluid Bed Cooler RTO [2]	(lb/hr)	3.79E-04	2.16E-04	0.35	0.32	6.13E-04	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	0.99	0.68	0.87	--	2.00
RTO 100 Hours[2]	(lb/hr)	3.79E-04	2.16E-04	0.54	0.32	6.13E-04	9.02E-05	1.98E-04	2.53E-04	6.85E-05	3.79E-04	0.99	0.68	0.87	--	2.00
Fermentation Process Scrubber**	(ton/yr)	--	--	0.33	--	--	--	--	--	--	--	3.03	--	0.33	0.65	4.29
Dryers, Centrifuges, Fluid Bed Cooler RTO**	(ton/yr)	1.64E-03	9.37E-04	1.52	1.41	2.66E-03	3.91E-04	8.59E-04	1.09E-03	2.97E-04	1.64E-03	4.29	2.94	3.77	--	8.66
RTO 100 Hours**	(ton/yr)	1.89E-05	1.08E-05	0.03	0.02	3.07E-05	4.51E-06	9.92E-06	1.26E-05	3.43E-06	1.89E-05	0.05	0.03	0.04	--	0.10
Total	**(ton/yr)**	**1.66E-03**	**9.48E-04**	**1.87**	**1.42**	**2.69E-03**	**3.95E-04**	**8.69E-04**	**1.11E-03**	**3.00E-04**	**1.66E-03**	**7.37**	**2.98**	**4.14**	**0.65**	**13.05**

1. Formaldehyde, Methanol, and Propionaldehyde not limited in permit. Acetaldehyde and Total HAP limited in permit
2. Benzene, Dichlorobenzene, Formaldehyde, Hexane, Toluene, Lead, Cadmium, Chromium, Manganese, Nickel not limited in permit. Acetaldehyde, Acrolein, Methanol, Total HAP limited in permit
**PTE Limited (ton/yr) = PTE limited (lb/hr) x (8660 hours/yr) / 2,000 lbs
***PTE Limited (ton/yr) = PTE limited (lb/hr) x (100 hours/yr) / 2,000 lbs

Worst Case Limited PTE	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	Acetaldehyde	Acrolein	Methanol	Propionaldehyde	Total
(ton/yr)	1.66E-03	9.48E-04	1.87	1.42	2.69E-03	3.95E-04	8.69E-04	1.11E-03	3.00E-04	1.66E-03	7.40	2.98	4.14	0.66	13.10

Formaldehyde PTE Alternative Operating Scenario No. 1 (AOS1) is worst case because of increase due to safety factor

Appendix A: Emission Calculations
Centrifuges (EU033)

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby

Whole stillage is pumped to the centrifuges where the solids (wet cake) are 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 Cloverdale. Speciated compounds with non-detect results were assumed to be emitted at the listed detection limit.

The centrifuges (EU033) are normally vented to the RTOs (CE015 and CE016). It has been determined that during RTO downtime, the centrifuges are not required to be controlled. During RTO downtime, emissions are vented to stack SV022. See TSD for 133-37437-00003.

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

Test Results	Run 1	Run 2	Run 3	Average	*Max - Ratioed for Cloverdale
	lb/hr	lb/hr	lb/hr	lb/hr	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-Cloverdale (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 (EU033)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**

2. Potential to Emit for POET -Cloverdale, LLC:

1,450 gallons liquid per minute through centrifuges
500 Limited RTO Bypass Condition hours per year

VOC Uncontrolled PTE	**3.50**	**lb/hr**	Based on higher flow rate at Cloverdale
VOC Uncontrolled PTE	**15.33**	**ton/year**	
VOC Controlled*	**0.07**	**lb/hr**	
VOC Controlled*	**0.31**	**ton/year**	
VOC during RTO downtime**	**3.50**	**lb/hr**	
VOC during RTO downtime**	**0.88**	**ton/year**	

Uncontrolled rate (lb/hr) = Max (ratioed for Cloverdale) (lb/hr) x Avg. Flow - Cloverdale (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.

	Uncontrolled Rate		**Controlled Rate**		**Limited Rate (500 hours)****	
HAPs	**lb/hr**	**tpy**	**lb/hr**	**tpy**	**lb/hr**	**tpy**
Formaldehyde	0.007	0.030	1.37E-04	0.001	0.007	0.002
Methanol	0.014	0.060	2.73E-04	0.001	0.014	0.003
Acetaldehyde	0.075	0.329	0.002	0.007	0.075	0.019
Acrolein	0.007	0.030	1.37E-04	0.001	0.007	0.002
Total HAP	0.102	0.449	0.002	0.009	0.102	0.026

Uncontrolled rate (lb/hr) = Max (ratioed for Cloverdale) (lb/hr) x Avg. Flow - Cloverdale (gal/min) / Avg. Flow - PRC (gal/min)
Uncontrolled rate (ton/yr) = Uncontrolled PTE (lb/hr) x 1 ton / 2000 lb x 8760 hr/yr
**Based on uncontrolled emissions during limited hours of operation for RTO down time.

Appendix A: Emissions Calculations
Ethanol Loadout Rack (EU043)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

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. Railcars will be filled via top-loading and trucks will be filled by submerged loading process. Both loadout operations will be controlled by a flare (CE18), 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), equation (1), the VOC emission factors for the truck and rail loading racks can be estimated as follows:

$$L = 12.46 \times (SPM)/T$$

where:

L = loading loss (lbs/kgal)
S = a saturation factor (see AP-42, Table 5.2-1)
P = true vapor pressure of the liquid loaded (psia)
M = molecular weight of vapors
T = temperature of the bulk liquid loaded (degree R)

Previous Stored Liquid	*S	P (psia)	M (lbs/mole lbs)	T (degree R)	L (lbs/kgal)
Gasoline (dedicated vapor balance)	1.0	7.2942	60	512	10.65
Gasoline (clean cargo)	0.5	7.2942	60	512	5.33
E-85 Ethanol (dedicated normal)	0.6	1.73	56.46	512	1.43
E-85 Ethanol (clean cargo)	0.5	1.73	56.46	512	1.19
Denatured Ethanol (dedicated normal)	0.6	0.55	49.7	512	0.40
Denatured Ethanol (clean cargo)	0.5	0.55	49.7	512	0.33

Source-Specific Emission Factors

		(lbs/kgal)
The emission factor for loading denatured ethanol to rail which previously contained denatured ethanol = L (Denatured ethanol, normal) =	Denatured Ethanol to Rail	0.40
The emission factor for loading E-85 to rail which previously contained denatured ethanol or E-85 = L (E-85, dedicated normal) =	E-85 to Rail	1.43
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	5.66
The emission factor for loading E-85 to trucks which stored gasoline previously = L (gasoline, dedicated vapor balance) - L (gasoline, clean cargo) + L (E-85, clean cargo) =	E-85 to Truck	6.51

1. Throughputs:

Truck and Rail Combined (MMgal/yr)	
Ethanol (anticipated)	103.95
E-85 (anticipated)	14.30
Ethanol (for PTE)	118.25
E-85 (for PTE)	14.30
Ethanol and E85 Combined	118.25

Ethanol Loading Capacity

	Truck (gal/hr)	Rail (gal/hr)	Total (MMgal/yr)
per unit*	39,000	72,000	972
per unit*	39,000	72,000	972
	78,000	144,000	1,945

*There are now two rail loadouts 133-37437-00003

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:	78	5.66	441.36	1933.17	98%	8.83	38.66
Ethanol loaded out via rail:	144	0.40	57.48	251.77	98%	1.15	5.04
E85 loaded out via truck:	78	6.51	508.13	2225.61	98%	10.16	44.51
E85 loaded out via rail:	144	1.43	205.40	899.63	98%	4.11	17.99
Worst case scenario =			**713.53**	**3125.24**		**14.27**	**62.50**

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: Emissions Calculations
Ethanol Loadout Rack (EU043)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

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. Railcars will be filled via top-loading and trucks will be filled by submerged loading process. Both loadout operations will be controlled by a flare (CE18), which has a control efficiency of 98% for VOC and HAPs.

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:	118,250	5.66	334.56	98%	6.69
All ethanol loaded out via rail:	118,250	0.40	23.60	98%	0.47
All E85 loaded out via truck:	14,300	6.51	46.58	98%	0.93
All E85 loaded out via Rail:	14,300	1.43	10.20	98%	0.20
Worst case scenario =			**334.56**		**6.69**

* 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[1]	2.60E-03	8.13	0.16	0.87	0.02
Hexane[1]	9.61E-02	300.34	6.01	32.15	0.64
Toluene[1]	1.80E-03	5.63	0.11	0.60	0.01
Acetaldehyde[2]	1.00E-03	3.13	0.06	0.33	0.01
Methanol[3]	5.00E-03	15.63	0.31	1.67	0.03
Formaldehyde[2]	1.00E-03	3.13	0.06	0.33	0.01
Total	**0.11**	**335.96**	**6.72**	**35.97**	**0.72**

1. Based on the weight fraction of denaturant (October 2007 laboratory analysis of natural gasoline/denaturant)
2. Acetaldehyde and Formaldehyde are estimated to be at trace levels in the denatured ethanol. POET will conservatively assume that these trace levels do not exceed 1000 ppm in the denatured ethanol product.
3. Methanol concentration is based on maximum weight percent of 0.5% as per ASTM D 4806 - Standard Specification for Denatured Fuel Ethanol for Blending with Gasoline

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: *See Natural Gas Combustion Calculations*

Appendix A: Emissions Calculations
Boilers (EU036 and EU037) Natural Gas Combustion

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

			Criteria Pollutants							GHGs				
			PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO	CO2	N2O	CH4	GHG Mass-Based	CO2e
Emission Factor in lb/MMCF			1.9	7.6	7.6	0.6	140.0	5.5	20.0	120000	0.6	2.3		
							**see below							
Emission Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)											
Boiler EU036	145.3	1247.871	1.19	4.74	4.74	0.37	87.35	3.43	12.48	74872.24	0.40	1.44	74874.07	75026.16
Boiler EU037	145.3	1247.871	1.19	4.74	4.74	0.37	87.35	3.43	12.48	74872.24	0.40	1.44	74874.07	75026.16
Total			2.37	9.48	9.48	0.75	174.70	6.86	24.96	149744.47	0.80	2.87	149748.14	150052.32
Limited PTE (Boilers EU036 and EU037)							86.50							

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2.
*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable particulate combined.
**Emission Factors for NOx: Uncontrolled = 280 (pre-NSPS) or 190 (post-NSPS), Low NOx Burner = 140, Flue gas recirculation = 100 (See Table 1.4-1)
Limited NOx emission rate is achievable based on testing (29.29 lb/MMCF for EU036 and 27.8 lb/MMCF for EU037). Compliance will be determined through the use of CEMS.
CO emission factor based on previous permit limit. Based on testing, CO from EU036 was 10.09 lb/MMCF and from EU037 was 3.56 lb/MMCF.

			HAPs - Organics					HAPs - Metals					Total HAPs
			Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMCF			2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	1.8880
Emission Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)										
Boiler EU036	145.3	1247.871	1.3E-03	7.5E-04	4.7E-02	1.1E+00	2.1E-03	3.1E-04	6.9E-04	8.7E-04	2.4E-04	1.3E-03	1.2E+00
Boiler EU037	145.3	1247.871	1.3E-03	7.5E-04	4.7E-02	1.1E+00	2.1E-03	3.1E-04	6.9E-04	8.7E-04	2.4E-04	1.3E-03	1.2E+00
Total			2.6E-03	1.5E-03	9.4E-02	2.2E+00	4.2E-03	6.2E-04	1.4E-03	1.7E-03	4.7E-04	2.6E-03	2.4E+00

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.
The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology
Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,020 MMBtu
Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

GHGs:
GHG Mass-Based (ton/yr) = CO2 (ton/yr) + N2O (ton/yr) + CH4 (ton/yr)

Where: CO2e = carbon dioxide equivalent (ton/yr)
GHGi = mass emission rate of each greenhouse gas (ton/yr)
GWPi = global warming potential for each greenhouse gas
n = number of greenhouse gases emitted
GWPs from 40 CFR 98, Subpart A, Table A-1: 1 for CO2, 21 for CH4, 310 for N2O

Appendix A: Emissions Calculations

Natural Gas Combustion (<100 MMBtu/hr) for DDGS Dryers (EU034, EU035), RTOs (CE015, CE016), Flare (CE018), and Space Heaters

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

			Criteria Pollutants							GHGs				
			PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO	CO2	N2O	CH4	GHG Mass-Based	CO2e
Emission Factor in lb/MMCF			1.9	7.6	7.6	0.6	100.0	5.5	84.0	120000	0.64	2.3		
Limited Emission Factor for flare in lb/kgal							0.0760		0.137					
							**see below							
Emission Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)											
Dryer #1	92	790.118	0.751	3.002	3.002	0.237	39.506	2.173	33.185	47407.1	0.25	0.91	47408.2	47504.5
Dryer #2	92	790.118	0.751	3.002	3.002	0.237	39.506	2.173	33.185	47407.1	0.25	0.91	47408.2	47504.5
RTOs	60	515.294	0.490	1.958	1.958	0.155	25.765	1.417	21.642	30917.6	0.16	0.59	30918.4	30981.2
Flare	6.8	58.400	0.055	0.222	0.222	0.018		0.161		3504.0	0.02	0.07	3504.1	3511.2
	118,250	kgal/yr					4.494		8.100					
Space Heaters	2.5	21.471	0.020	0.082	0.082	0.006	1.074	0.059	0.902	1288.2	0.01	0.02	1288.3	1290.9
Total			2.07	8.27	8.27	0.65	110.34	5.98	97.01	130524.0	0.70	2.50	130527.2	130792.3

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2.

Emission factors for NO_x and CO for the flare are based on the information provided by the flare manufacturer (John Zink Company). Performance testing conducted in August-September 2011 resulted in emissions less than those assumed in these calculations. As a conservative approach, the higher emission rates will be maintained for purposes of calculating PTE.

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable particulate combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

			HAPs - Organics					HAPs - Metals					Total HAPs
			Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMCF			2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	1.8880
Emission Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)										
Dryer #1	92	790.118	8.3E-04	4.7E-04	3.0E-02	7.1E-01	1.3E-03	2.0E-04	4.3E-04	5.5E-04	1.5E-04	8.3E-04	0.75
Dryer #2	92	790.118	8.3E-04	4.7E-04	3.0E-02	7.1E-01	1.3E-03	2.0E-04	4.3E-04	5.5E-04	1.5E-04	8.3E-04	0.75
RTOs	60	515.294	5.4E-04	3.1E-04	1.9E-02	4.6E-01	8.8E-04	1.3E-04	2.8E-04	3.6E-04	9.8E-05	5.4E-04	0.49
Flare	6.8	58.400	6.1E-05	3.5E-05	2.2E-03	5.3E-02	9.9E-05	1.5E-05	3.2E-05	4.1E-05	1.1E-05	6.1E-05	0.06
Space Heaters	2.5	21.471	2.3E-05	1.3E-05	8.1E-04	1.9E-02	3.7E-05	5.4E-06	1.2E-05	1.5E-05	4.1E-06	2.3E-05	0.02
Total			0.002	0.001	0.08	1.96	0.004	0.001	0.001	0.002	4.13E-04	0.002	2.05

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.

The five highest organic and metal HAPs emission factors are provided above. The total HAPs is the sum of all HAPs listed in AP-42, Tables 1.4-3 and 1.4-4.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF

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

Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

GHGs:

GHG Mass-Based (ton/yr) = CO2 (ton/yr) + N2O (ton/yr) + CH4 (ton/yr)

Where: CO2e = carbon dioxide equivalent (ton/yr)
GHGi = mass emission rate of each greenhouse gas (ton/yr)
GWPi = global warming potential for each greenhouse gas
n = number of greenhouse gases emitted
GWPs from 40 CFR 98, Subpart A, Table A-1: 1 for CO2, 21 for CH4, 310 for N2O

Appendix A: Emissions Calculations
Diesel Generator (EU044)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Sulfur Content (%): 0.5

				Criteria Pollutants							GHGs			
				PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO	CO2	N2O	CH4	CO2e
Emission Factor in lb/MMBtu				0.0620	0.0573	0.0556	0.50500	3.200	0.081900	0.85000	165	1.32E-03	8.10E-03	
Emissions Unit	Power Output (hp)	Fuel Input (MMBtu/hr)	Max Hours	Potential to Emit (ton/yr)										
Diesel Generator (EU044) (2000 KW) - Unrestricted	2875	20.125	8760	5.5	5.1	4.9	44.5	282.1	7.2	74.9	14544.3	0.1	0.7	14595.4
Diesel Generator (EU044) (2000 KW) - Limited	2875	20.125	250	0.2	0.1	0.1	1.3	8.1	0.2	2.1	415.1	0.0	0.0	416.5

Methodology
Emission Factors are from AP 42, Tables 3.4-1 and 3.4-2 for Large Stationary Diesel Engines (SCC #2-02-004-01)
PM is filterable particulate only. PM10 and PM2.5 are filterable and condensable PM combined.
SO2 emission factor = 1.01 X Sulfur Content
VOC emission factor is 91% of total TOC emission factor.
CH4 is 9% of TOC EF and N2O Emission Factor is from 40 CFR 98 Subpart C Table C-2.
Fuel Input (MMBtu/hr) estimated as Power Output (hp) x (7000 Btu/hp-hr) x (MMBtu/1000000 Btu)
PTE (ton/yr) = Fuel Input (MMBtu/hr) x Emission Factor (lb/MMBtu) x (max hr/yr) x (1 ton/2000 lb)

Where: CO2e = carbon dioxide equivalent (ton/yr)
GHGi = mass emission rate of each greenhouse gas (ton/yr)
GWPi = global warming potential for each greenhouse gas
n = number of greenhouse gases emitted
GWPs from 40 CFR 98, Subpart A, Table A-1: 1 for CO2, 21 for CH4, 310 for N2O

				HAPs							
				Benzene	Toluene	Xylenes	Formaldehyde	Acetaldehyde	Acrolein	Total PAH	**Total HAPs**
Emission Factor in lb/MMBtu				7.8E-04	2.8E-04	1.9E-04	7.9E-05	2.5E-05	7.9E-06	2.1E-04	
Emissions Unit	Power Output (hp)	Fuel Input (MMBtu/hr)	Max Hours	Potential to Emit (ton/yr)							
Diesel Generator (EU044) (2000 KW) - Unrestricted	2875	20.125	8760	6.8E-02	2.5E-02	1.7E-02	7.0E-03	2.2E-03	6.9E-04	1.9E-02	1.4E-01
Diesel Generator (EU044) (2000 KW) - Current Limited	2875	20.125	250	2.0E-03	7.1E-04	4.9E-04	2.0E-04	6.3E-05	2.0E-05	5.3E-04	4.0E-03

Methodology
Emission Factors are from AP 42, Tables 3.4-3 and 3.4-4 for Large Uncontrolled Stationary Diesel Engines (SCC #2-02-004-01)
Fuel Input (MMBtu/hr) estimated as Power Output (hp) x (7000 Btu/hp-hr) x (MMBtu/1000000 Btu)
PTE (ton/yr) = Fuel Input (MMBtu/hr) x Emission Factor (lb/MMBtu) x (max hr/yr) x (1 ton/2000 lb)

Appendix A: Emissions Calculations
Fire Pumps (EU045 and EU046)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

			Criteria Pollutants (ton/yr)							GHGs (ton/yr)			
			PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO	CO2	N2O	CH4	CO2e
Emission Factor in lb/hp-hr			0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.00668	1.15	9.24E-06	4.62E-05	
Emission Unit	**Capacity (hp)**	**Max Hours**											
Diesel Fire Pump (EU045) -	300	8760	2.89	2.89	2.89	2.69	40.73	3.30	8.78	1511.10	0.01	0.06	1516.24
Diesel Fire Pump (EU046) -	300	8760	2.89	2.89	2.89	2.69	40.73	3.30	8.78	1511.10	0.01	0.06	1516.24
Potential Emission in tons/yr			**5.78**	**5.78**	**5.78**	**5.39**	**81.47**	**6.61**	**17.56**	**3022.20**	**0.02**	**0.12**	**3032.47**
Limited PTE													
Diesel Fire Pump (EU045) -	300	250	0.08	0.08	0.08	0.08	1.16	0.09	0.25	43.13	0.00	0.00	43.27
Diesel Fire Pump (EU046) -	300	250	0.08	0.08	0.08	0.08	1.16	0.09	0.25	43.13	0.00	0.00	43.27
Limited Emission in tons/yr			**0.17**	**0.17**	**0.17**	**0.15**	**2.33**	**0.19**	**0.50**	**86.25**	**6.93E-04**	**3.47E-03**	**86.54**

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

			HAPs (ton/yr)								
			Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH***	Total HAPs
Emission Factor in lb/hp-hr****			6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06	
Emission Unit	**Capacity (hp)**	**Max Hours**									
Diesel Fire Pump (EU045) -	300	8760	8.58E-03	3.76E-03	2.62E-03	3.60E-04	0.01	7.05E-03	8.51E-04	1.55E-03	0.04
Diesel Fire Pump (EU046) -	300	8760	8.58E-03	3.76E-03	2.62E-03	3.60E-04	0.01	7.05E-03	8.51E-04	1.55E-03	0.04
Potential Emission in tons/yr			**0.02**	**7.52E-03**	**5.24E-03**	**7.19E-04**	**0.02**	**0.01**	**1.70E-03**	**3.09E-03**	**0.07**
Limited PTE											
Diesel Fire Pump (EU045) -	300	250	2.45E-04	1.07E-04	7.48E-05	1.03E-05	3.10E-04	2.01E-04	2.43E-05	4.41E-05	1.02E-03
Diesel Fire Pump (EU046) -	300	250	2.45E-04	1.07E-04	7.48E-05	1.03E-05	3.10E-04	2.01E-04	2.43E-05	4.41E-05	1.02E-03
Limited Emission in tons/yr			**4.90E-04**	**2.15E-04**	**1.50E-04**	**2.05E-05**	**6.20E-04**	**4.03E-04**	**4.86E-05**	**8.82E-05**	**2.03E-03**

***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).

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)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x

Appendix A: Emissions Calculations
Storage Tanks (T001-T005)

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Emissions were calculated using the TANKS 4.0 Program.

Tank	Contents [1]	Annual Throughput (gal)	Capacity (gal)	No. of Turn Overs	Emissions		
					lb/year	lb/hr	Ton/year
T001	Denaturant	6,187,500	180,000	34.4	2005.93	0.23	1.00
T002	200-Proof Ethanol	104,500,000	180,000	580.6	955.94	0.11	0.48
T003	200-Proof Ethanol	55,000,000	1,000,000	55.0	360.13	0.04	0.18
T004	200-Proof Ethanol	55,000,000	1,000,000	55.0	360.13	0.04	0.18
T005	Denaturant	2,062,500	60,000	34.4	1654.21	0.19	0.83
Gasoline Dispensing Operation	Gasoline	3,600	300	12.0	143.14	0.02	0.07
Total					**5,479.48**	**0.63**	**2.74**

[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.

HAP	Material	HAP Fraction	PTE HAP (T001-T005) (ton/yr)	PTE HAP (Gasoline Dispensing Operation)
Acetaldehyde [1]	ethanol	1.00E-03	8.38E-04	
Methanol [2]	ethanol	5.00E-03	4.19E-03	
Formaldehyde [1]	ethanol	1.00E-03	8.38E-04	
Benzene [3]	gasoline	2.60E-03	4.76E-03	1.86E-04
Hexane [3]	gasoline	9.61E-02	1.76E-01	6.88E-03
Toluene [3]	gasoline	1.80E-03	3.29E-03	1.29E-04
Cumene [3]	gasoline	2.00E-04	3.66E-04	1.43E-05
Total			**1.90E-01**	**7.21E-03**

1. Acetaldehyde and Formaldehyde are estimated to be at trace levels in ethanol. POET will conservatively assume that these trace levels do not
2. Methanol concentration is based on maximum weight percent of 0.5% as per ASTM D 4806 - Standard Specification for Denatured Fuel Ethanol for Blending with Gasoline.

3. Based on the weight fraction of denaturant (October 2007 laboratory analysis of natural gasoline/denaturant)
PTE HAP (ton/yr) = PTE VOC (ton/yr) x HAP Fraction

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: POET Biorefining - Cloverdale, LLC
Address City IN Zip: 2265 East County Road 800 South, Cloverdale, IN 46120
Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003
Reviewer: Thomas Olmstead / Kristen Willoughby
Date: September, 2016

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
DDGS truck in	41.0	1.0	41.0	15.0	615.0	2006	0.380	15.6	5685.6
DDGS Haul Out	41.0	1.0	41.0	40.0	1640.0	2006	0.380	15.6	5685.6
Ethanol truck in	40.0	1.0	40.0	15.0	600.0	2006	0.380	15.2	5546.9
Ethanol Haul Out	40.0	1.0	40.0	40.0	1600.0	2006	0.380	15.2	5546.9
Denaturant Delivery	3.0	1.0	3.0	40.0	120.0	2006	0.380	1.1	416.0
Denaturant truck out	3.0	1.0	3.0	15.0	45.0	2006	0.380	1.1	416.0
Grain Delivery	125.0	1.0	125.0	40.0	5000.0	2006	0.380	47.5	17334.0
Grain truck out	125.0	1.0	125.0	15.0	1875.0	2006	0.380	47.5	17334.0
Corn Oil truck in	2.0	1.0	2.0	15.0	30.0	2006	0.380	0.8	277.3
Corn Oil Haul Out	2.0	1.0	2.0	40.0	80.0	2006	0.380	0.8	277.3
Wetcake truck in	3.0	1.0	3.0	15.0	45.0	2006	0.380	1.1	416.0
Wetcake Haul Out	3.0	1.0	3.0	40.0	120.0	2006	0.380	1.1	416.0
Chemical Delivery	4.0	1.0	4.0	40.0	160.0	2006	0.380	1.5	554.7
Chemical truck out	4.0	1.0	4.0	15.0	60.0	2006	0.380	1.5	554.7
		Totals	**436.0**		**11990.0**			**165.6**	**60461.1**

Average Vehicle Weight Per Trip = 27.5 tons/trip
Average Miles Per Trip = 0.38 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	27.5	27.5	27.5	tons = average vehicle weight (provided by source)
sL =	1.1	1.1	1.1	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 120 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	0.353	0.071	0.0173	lb/mile
Mitigated Emission Factor, Eext =	0.324	0.065	0.0159	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
DDGS truck in	1.00	0.20	0.05	0.92	0.18	0.05	0.46	0.09	0.02
DDGS Haul Out	1.00	0.20	0.05	0.92	0.18	0.05	0.46	0.09	0.02
Ethanol truck in	0.98	0.20	0.05	0.90	0.18	0.04	0.45	0.09	0.02
Ethanol Haul Out	0.98	0.20	0.05	0.90	0.18	0.04	0.45	0.09	0.02
Denaturant Delivery	0.07	0.01	0.00	0.07	0.01	0.00	0.03	0.01	0.00
Denaturant truck out	0.07	0.01	0.00	0.07	0.01	0.00	0.03	0.01	0.00
Grain Delivery	3.06	0.61	0.15	2.80	0.56	0.14	1.40	0.28	0.07
Grain truck out	3.06	0.61	0.15	2.80	0.56	0.14	1.40	0.28	0.07
Corn Oil truck in	0.05	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Corn Oil Haul Out	0.05	0.01	0.00	0.04	0.01	0.00	0.02	0.00	0.00
Wetcake truck in	0.07	0.01	0.00	0.07	0.01	0.00	0.03	0.01	0.00
Wetcake Haul Out	0.07	0.01	0.00	0.07	0.01	0.00	0.03	0.01	0.00
Chemical Delivery	0.10	0.02	0.00	0.09	0.02	0.00	0.04	0.01	0.00
Chemical truck out	0.10	0.02	0.00	0.09	0.02	0.00	0.04	0.01	0.00
Totals	**10.66**	**2.13**	**0.52**	**9.78**	**1.96**	**0.48**	**4.89**	**0.98**	**0.24**

Methodology
Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

Appendix A: Emissions Calculations
Fugitive Emissions from Equipment Leaks

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Fugitive VOC Emissions

Process Stream	Equipment Component Source	Product	Old Component Count	New Component Count 133-37437-00003*	Emission Factor (lb/comp.-hr)	Uncontrolled Rate (lb/hr)	Uncontrolled Rate (ton/yr)	Subpart VVa Control Effectiveness	Controlled Rate (lb/hr)	TOC Weight (%)	Emitted Water (lb/hr)	Controlled TOC (lb/hr)	Controlled TOC (ton/yr)
EU027 - EU033 Distillation	Valves	Gas/Vapor	54	59	0.013134	0.77	3.39	92.00%	0.06	100.00%	0.000	0.062	0.272
	Valves	Light Liquid	934	1027	0.0089	9.14	40.03	88.00%	1.10	100.00%	0.000	1.097	4.804
	Pump Seals	Light Liquid	12	13	0.04378	0.57	2.49	75.00%	0.14	100.00%	0.000	0.142	0.623
	Compressors	Gas/Vapor	0	0	0.5016	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	15	17	0.2288	3.89	17.04	92.00%	0.31	100.00%	0.000	0.311	1.363
	Sampling Connections	All	0	0	0.033	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0	0.00374	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Connectors	All	1830	2013	0.004026	8.10	35.50	93.00%	0.57	100.00%	0.000	0.567	2.485
EU017 - EU026 Fermentation	Valves	Gas/Vapor	2	2	0.013134	0.03	0.12	92.00%	0.00	15.00%	0.002	0.000	0.001
	Valves	Light Liquid	195	215	0.0089	1.91	8.38	88.00%	0.23	15.00%	0.195	0.034	0.151
	Pump Seals	Light Liquid	10	11	0.04378	0.48	2.11	75.00%	0.12	15.00%	0.102	0.018	0.079
	Compressors	Gas/Vapor	0	0	0.5016	0.00	0.00		0.00	15.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	0	0	0.2288	0.00	0.00	92.00%	0.00	15.00%	0.000	0.000	0.000
	Sampling Connections	All	0	0	0.033	0.00	0.00		0.00	15.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0	0.00374	0.00	0.00		0.00	15.00%	0.000	0.000	0.000
	Connectors	All	632	695	0.004026	2.80	12.26	93.00%	0.20	15.00%	0.166	0.029	0.129
T001 , T005 Denaturant Tanks	Valves	Gas/Vapor	3	3	0.013134	0.04	0.17	92.00%	0.00	100.00%	0.000	0.003	0.014
	Valves	Light Liquid	38	42	0.0089	0.37	1.64	88.00%	0.04	100.00%	0.000	0.045	0.196
	Pump Seals	Light Liquid	2	2	0.04378	0.09	0.38	75.00%	0.02	100.00%	0.000	0.022	0.096
	Compressors	Gas/Vapor	0	0	0.5016	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	8	9	0.2288	2.06	9.02	92.00%	0.16	100.00%	0.000	0.165	0.722
	Sampling Connections	All	0	0	0.033	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0	0.00374	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Connectors	All	297	327	0.004026	1.32	5.77	93.00%	0.09	100.00%	0.000	0.092	0.404
T002 - T004 Non-denaturant tanks (200-Proof Tanks)	Valves	Gas/Vapor	4	4	0.013134	0.05	0.23	92.00%	0.00	100.00%	0.000	0.004	0.018
	Valves	Light Liquid	64	100	0.0089	0.89	3.90	88.00%	0.11	100.00%	0.000	0.107	0.468
	Pump Seals	Light Liquid	2	3	0.04378	0.13	0.58	75.00%	0.03	100.00%	0.000	0.033	0.144
	Compressors	Gas/Vapor	0	0	0.5016	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Relief Valves	Gas/Vapor	16	19	0.2288	4.35	19.04	92.00%	0.35	100.00%	0.000	0.348	1.523
	Sampling Connections	All	0	0	0.033	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Open Ended Lines	All	0	0	0.00374	0.00	0.00		0.00	100.00%	0.000	0.000	0.000
	Connectors	All	438	532	0.004026	2.14	9.38	93.00%	0.15	100.00%	0.000	0.150	0.657
	Totals					**39.14**	**171.42**		**3.70**		**0.47**	**3.23**	**14.15**

***133-37437-00003 New Components for (2nd) Ethanol Rail Loadout - Equipment Leaks**

Equipment Type	Number of sources	
Pump Seals	1	added to T002 - T004
Valves lt. Liq.	30	added to T002 - T005
Relief Valves	1	added to T002 - T006
Connectors	50	added to T002 - T007

Including 10% increase in component counts across the board to account for miscellaneous additions that may occur in the future for operational needs.
operational needs.

Methodology
* Component count provided by source.
** Emission factors are from Protocol for Equipment leak Emission Estimates, EPA-453/R-95-017. Table 2-1 and Table 5-2
Uncontrolled Rate (lb/hr) = Component Count x Emission Factor (lb/comp-hr)
Uncontrolled Rate (ton/yr) = Uncontrolled Rate (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)
Controlled Rate (lb/hr) = Uncontrolled Rate (lb/hr) x (1 - Subpart VVa Control Effectiveness)
Emitted Water (lb/hr) = Controlled Rate (lb/hr) x (1 - TOC Wt%)
Controlled TOC (lb/hr) = Controlled Rate (lb/hr) x TOC Wt%
Controlled TOC (ton/yr) = Controlled TOC (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Fugitive HAP Emissions

Denaturant Service Fugitive Leak HAP Calculations (T001, T005)
Total Fugitive VOCs from Denaturant (ton/yr) **1.43**

HAP	HAP Fraction*	Fugitive HAP Emissions (tons/yr)
Benzene	2.60E-03	3.72E-03
Hexane	9.61E-02	1.38E-01
Toluene	1.80E-03	2.58E-03
Cumene	2.00E-04	2.86E-04
Total		**0.14**

* Based on the weight fraction of denaturant (October 2007 laboratory analysis of natural gasoline/denaturant)

Ethanol Service Fugitive Leak HAP Calculations (All sources other than T001, T005)
Total Fugitive VOCs from Distillation, Fermentation, and Non-Denaturant Tanks (ton/yr) **12.72**

HAP	HAP Fraction	Fugitive HAP Emissions (tons/yr)
Acetaldehyde [1]	1.00E-03	1.27E-02
Methanol [2]	5.00E-03	6.36E-02
Formaldehyde [1]	1.00E-03	1.27E-02
Total		**0.09**

1. Acetaldehyde and Formaldehyde are estimated to be at trace levels in ethanol. POET will conservatively assume that these trace levels do not exceed 1000 ppm in the ethanol product.
2. Methanol concentration is based on maximum weight percent of 0.5% as per ASTM D 4806 - Standard Specification for Denatured Fuel Ethanol for Blending with Gasoline

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

Appendix A: Emissions Calculations
Cooling Tower

Company Name: **POET Biorefining - Cloverdale, LLC**
Address City IN Zip: **2265 East County Road 800 South, Cloverdale, IN 46120**
Significant Source Modification No.: **133-37437-00003**
Significant Permit Modification No.: **133-37458-00003**
Reviewer: **Thomas Olmstead / Kristen Willoughby**
Date: **September, 2016**

Water circulation flow =	45,000	gallons per minute
Water circulation flow =	170,344	liters per minute
Drift loss =	0.005%	
Drift loss =	8.5	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)	21.3	grams/minute
g/min x 60 =	1277.6	grams/hr
1 pound =	453.6	grams
Fugitive emissions=	2.8	lb/hr
Fugitive emissions=	**12.34**	**TPY**

Methodology

Fugitive emissions (lb/hr) = water circulation flow (l/min) x Drift Loss % x Total Dissolved Solids in Cooling Tower (g/l) x (60 min/hr) x (1 lb/453.6 g)

Fugitive emissions (ton/yr) = Fugitive emissions (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Indiana Department of Environmental Management
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

September 22, 2016

Mr. Luke Logan
General Manager
POET Biorefining – Cloverdale, LLC
2265 East County Road 800 South
Cloverdale, Indiana 46120

Re: Public Notice
POET Biorefining – Cloverdale, LLC
Permit Level: Significant Source Modification
Permit Number: 133-37437-00003
Permit Level: Significant Permit Modification
Permit Number: 133-37458-00003

Dear Mr. Logan:

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 Banner Graphic in Greencastle, Indiana publish the abbreviated version of the public notice no later than September 26, 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 Putnam County Public Library, 103 E. Poplar in Greencastle, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Kristen Willoughby, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-2251 or dial (317) 234-2251.

Sincerely,
Vicki Biddle

Vicki Biddle
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016

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ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

September 21, 2016

Banner Graphic
P. O. Box 509
Greencastle, Indiana 46135

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for POET Biorefining – Cloverdale, LLC, Putnam 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 September 26, 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 and Permit number

Significant Source Modification No.: 133-37437-00003
Significant Permit Modification No.: 133-37458-00003

Enclosure

PN Newspaper.dot 2/17/2016

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Carol S. Comer
Commissioner

September 22, 2016

To: Putnam County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Permit Level: Significant Source Modification
Permit Number: 133-37437-00003
Permit Level: Significant Permit Modification
Permit Number: 133-37458-00003

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

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Carol S. Comer
Commissioner

Notice of Public Comment

September 22, 2016
POET Biorefining – Cloverdale, LLC
133-37437-00003 and 133-37458-00003

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

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Carol S. Comer
Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

September 22, 2016

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

Permit Number: **133-37437-00003 and 133-37458-00003**
Applicant Name: **POET Biorefining – Cloverdale, LLC**
Location: **Cloverdale, Putnam County, Indiana**

The public notice, draft permit and technical support documents can be accessed via the **IDEM Air Permits Online** site at:
http://www.in.gov/ai/appfiles/idem-caats/

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.

Mail Code 61-53

IDEM Staff	VBIDDLE 9/22/2016 POET Biorefining- Cloverdale, LLC	133-37437-00003 DRAFT 133-37458-00003	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Luke Logan POET Biorefining- Cloverdale, LLC 2265 E CR 800 S Cloverdale IN 46120 (Source CAATS)									
2		Cloverdale Town Council P.O. Box 222 Cloverdale IN 46120 *(Local Official)*									
3		Putnam County Commissioners One West Washington Street Greencastle IN 46135 *(Local Official)*									
4		Putnam Co Public Library 103 E Poplar Street Greencastle IN 46135-0116 *(Library)*									
5		Putnam County Health Department P.O. Box 507 Greencastle IN 46135-0507 *(Health Department)*									
6		Mr. Richard Monday 545 E. Margaret Dr. Terre Haute IN 47801 *(Affected Party)*									
7		J.P. Roehm PO Box 303 Clinton IN 47842 *(Affected Party)*									
8		Chris Peterson POET Design and Construction 4615 N Lewis Avenue Sioux Falls SD 57104 *(Source – addl contact)*									
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