



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

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

for Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant in Posey County

Significant Source Modification No.: 129-36200-00051

Significant Permit Modification No.: 129-36213-00051

The Indiana Department of Environmental Management (IDEM) has received an application from Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant, located at 7201 Port Road, Mount Vernon, IN 47206, for a significant modification of its Part 70 Operating Permit issued on September 25, 2013. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant to make certain changes at its existing source. Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant has applied to construct new DDGS dryers and cooling drum to replace existing DDGS dryers and coolers, new grain truck unloading pit and storage silos, a new corn oil extraction process, new denatured ethanol blending skids, and a new CO₂ scrubber stack dilution blower, and modify the ethanol storage tanks. The source has not requested any changes to federally enforceable production or throughput limitations.

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:

Alexandrian Public Library
115 West 5th St
Mount Vernon, IN 47620

and

IDEM Southwest Regional Office
1120 N. Vincennes Avenue
P.O. Box 128
Petersburg, IN 47567-0128

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.



A State that Works

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 129-36200-00051 and SPM 129-36213-00051 in all correspondence.

Comments should be sent to:

Doug Logan
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 4-5328
Or dial directly: (317) 234-5328
Fax: (317) 232-6749 attn: Doug Logan
E-mail: dlogan@idem.IN.gov

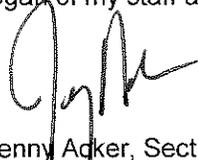
All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have 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, at the IDEM Regional Office 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 Doug Logan of my staff at the above address.



Jenny Adker, Section Chief
Permits Branch
Office of Air Quality



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Mr. Jon Kapellusch
Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
7201 Port Road
Mount Vernon, Indiana 47620

Re: 129-36213-00051
Significant Permit Modification to
Part 70 Renewal No.: T129-31281-00051

Dear Mr. Kapellusch

Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant was issued Part 70 Operating Permit Renewal No. T129-31281-00051 on September 25, 2013 for a stationary ethanol production plant located at 7201 Port Road, Mount Vernon, Indiana 47620. An application requesting changes to this permit was received on August 27, 2015. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

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

- Attachment A: 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984
- Attachment B: 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
- Attachment C: 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 D: 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- Attachment E: 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
- Attachment F: 40 CFR 63, Subpart CCCCC, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
- Attachment G: 40 CFR 63, Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

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

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

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

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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 Doug Logan, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-234-5328 or 1-800-451-6027, and ask for extension 4-5328.

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

Attachments: Modified Permit and Technical Support Document

cc: File - Posey County
Posey County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
IDEM Southwest Regional Office



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Part 70 Operating Permit Renewal DRAFT OFFICE OF AIR QUALITY

Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant 7201 Port Road Mount Vernon, Indiana 47620

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

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

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

Operation Permit No.: T129-31281-00051	
Issued by: Original Signed Jenny Acker, Section Chief Permits Branch, Office of Air Quality	Issuance Date: September 25, 2013 Expiration Date: September 25, 2018

Administrative Amendment No. 129-34550-00051, issued on July 10, 2014.
Significant Permit Modification No.: 129-35226-00051, issued on June 16, 2015

Significant Permit Modification No.: 129-36213-00051	
Issued by: Jenny Acker, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date: September 25, 2018

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SECTION A

SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary ethanol production plant.

Source Address:	7201 Port Road, Mount Vernon, Indiana 47620
General Source Phone Number:	(812) 833-3911
SIC Code:	2869 (Industrial Organic Chemicals, Not Elsewhere Classified)
County Location:	Posey
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD 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, is 1 of 28 Source Categories, within a non-listed source

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

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

- (a) Grain receiving and handling operations, identified as process P-1, with a maximum capacity of 1,120 tons of grain per hour and an annual throughput of 1,252,731 tons of grain. The grain when received from various sources is already dried and cleaned. These operations include the following:
 - (1) Grain Receiving 1, identified as EP-01a, installed in 2008, with one (1) conveyor and one (1) elevator system. The particulate emissions from the dump pit are controlled by one (1) baghouse, C-1A, exhausting to stack S-1A.
 - (2) Grain Receiving 2, identified as EP-01b, installed in 2008, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1A, exhausting to stack S-1A.
 - (3) Two (2) corn storage silos, identified as EP-02a and EP-02b, installed in 2008, with a total storage capacity of 600,000 bushels with two (2) conveyor systems.
 - (4) One (1) grain scalper, identified as EP-03a installed in 2008, and one (1) surge bin, identified as EP-03b, installed in 2008, both units controlled by one (1) baghouse, C-1B, exhausting to stack S-1B.
 - (5) Grain Receiving 3, identified as EP-01c, approved in 2016 for construction, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1C, exhausting to stack S-1C.

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- (6) Two (2) corn storage silos, identified as EP-02c and EP-02d, approved in 2016 for construction, with a total storage capacity of 1,304,320 bushels with two (2) conveyor systems.
- (b) Grain milling operation, identified as process P-2, which include the following:
 - (1) One (1) hammermill feed system, installed in 2008, with a maximum capacity of 6,000 bushels of grain per hour.
 - (2) Four (4) hammermills, identified as EP-05 through EP-08, installed in 2008, each has a capacity of 1,700 bushels per hour (7,000 bushels per hour total). The particulate emissions from these hammermills are controlled by four (4) baghouses, C-2A through C-2D, exhausting to stacks S-2A through S-2D.
 - (c) Milled grain cooking operation, identified as process P-4, which includes the following:
 - (1) Milled grain cooking operation, consisting of the following major components:
 - (A) One (1) process condensate tank, installed in 2008,
 - (B) One (1) slurry mix tank, installed in 2008,
 - (C) Two (2) liquification tanks, installed in 2008, and
 - (D) Two (2) yeast tanks, permitted in 2014, each with a capacity of 20,000 gallons.
 - (E) One (1) yeast tank, installed in 2008, with a maximum capacity of 277,000 gallons. Decommissioned upon startup of the two (2) yeast tanks permitted in 2014.

The emissions from these tanks will be controlled by two (2) Thermal Oxidizers, C-6A and C-6B, exhausting to stacks S-6A and S-6B. Each thermal oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) One (1) ammonia tank, installed in 2008.
 - (d) Fermentation operation, identified as process P-5, installed in 2008 and approved in 2016 for modification, with an average throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height. The average undenatured ethanol production rate is 13,302 gallons per hour and a maximum of 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:
 - (1) Seven (7) fermenters tanks, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.
 - (2) One (1) beer well tank, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.

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- (e) Distillation and dehydration operations, identified as process P-6, with an average throughput of 13,302 gallons of undenatured ethanol per hour (a maximum of 116.5 million gallons of undenatured ethanol per year) consisting of the following emission units:
- (1) Two (2) beer columns, #1 and #2, installed in 2008, with an extension to column #2 added in 2014, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) One (1) acid reduction column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (3) One (1) rectifier column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (4) Two (2) molecular sieves, installed in 2008.
 - (5) One (1) 200 proof condenser, installed in 2008.
 - (6) One (1) whole stillage tank, installed in 2008.
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
- (1) Four (4) centrifuges, installed in 2008.
 - (2) One (1) thin stillage tank, installed in 2008.
 - (3) Two (2) evaporator systems, installed in 2008.
 - (4) One (1) syrup tank, installed in 2008.
 - (5) One (1) wet cake pad, installed in 2008.
 - (6) DDGS drying, #1 and #2, installed in 2008, with a total drying rate of 391,148 tons (dry basis) of DDGS per year (44.65 tons per hour), with two (2) DDGS dryers, each with a heat input capacity of 90 MMBtu/hr. Dryer #1 is controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A, and Dryer #2 is controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and exhausts to stack S-7A. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and exhausts to stack S-7B.

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- (8) Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (9) One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - (10) Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
- (g) DDGS handling, storage and loadout operations, identified as process P-8, with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
- (1) One (1) DDGS storage building, installed in 2008, which includes supporting equipment; one (1) enclosed DDGS conveyor, identified as EP-09, with a maximum throughput capacity of 44.65 tons per hour. Particulate emissions between the DDGS storage building and DDGS loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8.
 - (2) One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour, and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.
 - (3) One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour, and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.
- (h) Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, with a maximum capacity of 36,000 gallons per hour.
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, with a maximum capacity of 120,000 gallons per hour.
 - (3) Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.
- These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.
- (i) Product Storage, identified as process P-10, consisting of the following emission units:
- (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, each with a capacity of 172,000 gallons.

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- (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, and a maximum design capacity less than 20,000 gallons per day throughput.
- (3) Two (2) ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 and approved in 2016 for modification, each storing denatured or undenatured ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
- (4) One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.
- (j) Natural gas combustion sources, identified as P-11, installed in 2008, consisting of four (4) natural gas-fired package boilers, identified as EP-26 through EP-29, installed in 2008, each with a heat input capacity of 92.4 MMBtu/hr.
- (k) Two (2) Thermal Oxidizers, C-6A and C-6B, installed in 2008, with a heat input capacity of 18 million British thermal units per hour (MMBtu/hr), each, controlling emissions from the following:
 - (1) One (1) process condensate tank.
 - (2) One (1) slurry mix tank.
 - (3) Two (2) liquification tanks.
 - (4) Two (2) yeast tanks.
 - (5) Two (2) beer columns, identified as EP-16.
 - (6) One (1) side stripper (acid reduction column), identified as EP-17.
 - (7) One (1) rectifier column, identified as EP-18.
 - (8) One (1) whole stillage tank.
 - (9) One (1) thin stillage tank.
 - (10) One (1) syrup tank.
 - (11) Two (2) DDGS dryers, identified as EP-20 and EP-21. DDGS Dryer #1 and DDGS Dryer #2, shall be decommissioned and permanently shut down prior to start up of the first of the following units: DDGS Dryer A (EP-30), DDGS Dryer B (EP-31), DDGS Dryer C (EP-32), or DDGS Dryer D (EP-33).
 - (12) Four (4) DDGS dryers, identified as Dryer A (EP-30), Dryer B (EP-31), Dryer C (EP-32), and Dryer D (EP-33).

Thermal oxidizer C-6A exhausts to stack S-6A and thermal oxidizer C-6B exhausts to stack S-6B.

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):

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- (a) One (1) diesel-fired emergency fire pump, identified as process P-12, installed in 2008, with a capacity of 420 horsepower (HP).

Under the NSPS 40 CFR 60, Subpart IIII, this is an affected source.

Under the NESHAP 40 CFR 63, Subpart ZZZZ, this is a new affected source.

- (b) One (1) cooling tower with three (3) cells, identified as F-1, installed in 2008, with a total circulation rate of 2,256,000 gallons of water per hour.

- (c) Fuel dispensing activities, as follows:

- (1) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons. Such storage tanks may be in a fixed location or on mobile equipment.

- (A) One (1) gasoline dispensing operation for plant vehicles, installed in 2008, with a maximum throughput of 75 gallons per month.

Under the NESHAP 40 CFR 63, Subpart CCCCCC, this is a new affected source.

- (d) Vehicular traffic on paved roads.

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

This stationary source also includes the following insignificant activities:

- (a) One (1) Corn Oil Separation System.
- (1) Four (4) corn oil storage tanks, identified as Tk008, Tk009, Tk010, and Tk011, approved in 2016 for construction, with a maximum capacity of 18,000 gallons, each.
- (2) One (1) corn oil truck loadout system, approved in 2016 for construction.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

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

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

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SECTION B GENERAL CONDITIONS

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

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

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

- (a) This permit, T129-31281-00051, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

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

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

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

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

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

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

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

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

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

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

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- (1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
 - (c) A "responsible official" is defined at 326 IAC 2-7-1(35).

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

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

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

and

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

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

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

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

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

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

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

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- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ or Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)

Facsimile Number: 317-233-6865

Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304.

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

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

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

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

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

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

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- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

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

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

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

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

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- (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

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

- (a) All terms and conditions of permits established prior to T129-31281-00051 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

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

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

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

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

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- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

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

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

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

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

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

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

- (a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

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

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

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

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

and

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

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

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

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

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

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

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

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

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

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

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

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

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

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- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

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

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

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

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

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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.

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SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

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

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

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

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

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

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

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C.7 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).

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

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) The Permittee shall 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

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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.13 Risk Management Plan [326 IAC 2-7-5(12)][40 CFR 68]

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

C.14 Response to Excursions or Exceedances [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

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- (3) inspection of the control device, associated capture system, and the process.
 - (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
 - (e) The Permittee shall record the reasonable response steps taken.
- (II)
 - (a) *CAM Response to excursions or exceedances.*
 - (1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
 - (2) Determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
 - (b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
 - (c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a Quality Improvement Plan (QIP). The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
 - (d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

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- (e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
- (f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(c) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
 - (1) Failed to address the cause of the control device performance problems; or
 - (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
- (h) *CAM recordkeeping requirements.*
 - (1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(c) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.
 - (2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

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

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

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

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

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(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.17 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

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

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

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

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

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

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

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

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

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

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

- (1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- (2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- (3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

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

- (b) The address for report submittal is:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

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Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

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SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (a) Grain receiving and handling operations, identified as process P-1, with a maximum capacity of 1,120 tons of grain per hour and an annual throughput of 1,252,731 tons of grain. The grain when received from various sources is already dried and cleaned. These operations include the following:
- (1) Grain Receiving 1, identified as EP-01a, installed in 2008, with one (1) conveyor and one (1) elevator system. The particulate emissions from the dump pit are controlled by one (1) baghouse, C-1A, exhausting to stack S-1A.
 - (2) Grain Receiving 2, identified as EP-01b, installed in 2008, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1A, exhausting to stack S-1A.
 - (3) Two (2) corn storage silos, identified as EP-02a and EP-02b, installed in 2008, with a total storage capacity of 600,000 bushels with two (2) conveyor systems.
 - (4) One (1) grain scalper, identified as EP-03a installed in 2008, and one (1) surge bin, identified as EP-03b, installed in 2008, both units controlled by one (1) baghouse, C-1B, exhausting to stack S-1B.
 - (5) Grain Receiving 3, identified as EP-01c, approved in 2016 for construction, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1C, exhausting to stack S-1C.
 - (6) Two (2) corn storage silos, identified as EP-02c and EP-02d, approved in 2016 for construction, with a total storage capacity of 1,304,320 bushels with two (2) conveyor systems.
- (b) Grain milling operation, identified as process P-2, which include the following:
- (1) One (1) hammermill feed system, installed in 2008, with a maximum capacity of 6,000 bushels of grain per hour.
 - (2) Four (4) hammermills, identified as EP-05 through EP-08, installed in 2008, each has a capacity of 1,700 bushels per hour (7,000 bushels per hour total). The particulate emissions from these hammermills are controlled by four (4) baghouses, C-2A through C-2D, exhausting to stacks S-2A through S-2D.
- (g) DDGS handling, storage and loadout operations, identified as process P-8, with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
- (1) One (1) DDGS storage building, installed in 2008, which includes supporting equipment; one (1) enclosed DDGS conveyor, identified as EP-09, with a maximum throughput capacity of 44.65 tons per hour. Particulate emissions between the DDGS storage building and DDGS loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8.
 - (2) One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour, and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.

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(3) One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour, and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.

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

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

D.1.1 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

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

- (a) The PM, PM₁₀, and PM_{2.5} emissions from the following processes shall not exceed the emission limits in the table below:

Process ID	Process Description	Control ID	PM Emissions Limits (lbs/hr)	PM ₁₀ Emissions Limits (lbs/hr)	PM _{2.5} Emissions Limits (lbs/hr)
EP-01a	Grain Receiving 1	Baghouse C-1A	0.46	0.46	0.46
EP-01b	Grain Receiving 2				
EP-01c	Grain Receiving 3	Baghouse C-1C	0.46	0.46	0.46
EP-05	Hammermill	Baghouse C-2A	0.30	0.30	0.30
EP-06	Hammermill	Baghouse C-2B	0.30	0.30	0.30
EP-07	Hammermill	Baghouse C-2C	0.30	0.30	0.30
EP-08	Hammermill	Baghouse C-2D	0.28	0.28	0.28
EP-03a	Grain Scalper	Baghouse C-1B	0.44	0.44	0.44
EP-09	DDGS conveyor	Baghouse C-8	0.08	0.08	0.08
	DDGS storage				

- (b) The annual grain throughput shall not exceed 1,252,731 tons per twelve (12) consecutive month period, and the pound/ton emission factors shall not exceed the emission limits in the table below:

Process ID	Process Description	PM Emissions Limits (lb/ton)	PM ₁₀ Emissions Limits (lb/ton)	PM _{2.5} Emissions Limits (lb/ton)
EP-02a	Corn storage bin	0.025	0.0063	0.0011
EP-02b	Corn storage bin			
EP-02c	Corn storage bin			
EP-02d	Corn storage bin			
na	Storage silo conveyors	0.061	0.034	0.0058

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.2.4, D.3.2, D.4.4, and D.6.1, combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at this source, shall limit the source-wide potential to emit of PM, PM₁₀, and PM_{2.5} to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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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 the following processes shall not exceed the pound per hour limits as follows:

Process ID	Process Description	Process Weight Rate (tons/hr)	Particulate Emissions Limits (lbs/hr)
EP-01a	Grain Receiving 1	560	70.32
EP-01b	Grain Receiving 2	560	70.32
EP-01c	Grain Receiving 3	560	70.32
EP-02a	Corn storage bin	560	70.32
EP-02b	Corn storage bin	560	70.32
EP-02c	Corn storage bin	560	70.32
EP-02d	Corn storage bin	560	70.32
EP-03b	Surge bin	350	64.76
EP-05	Hammermill	47.6	44.12
EP-06	Hammermill	47.6	44.12
EP-07	Hammermill	47.6	44.12
EP-08	Hammermill	47.6	44.12
EP-03a	Grain Scalper	196	58.29
EP-09	DDGS conveyor	44.65	43.55
	DDGS storage		
EP-10	DDGS truck loadout	225	59.79
EP-11	DDGS rail loadout	225	59.79

The pounds per hour limitations for the emissions units in the above table shall be calculated using the following equation:

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

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

- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the Grain Receiving 1 (EP-01a) and Grain Receiving 2 (EP-01b) shall not exceed the pound per hour limits (E) when operating at a process weight rate in tons per hour (P) as calculated as follows:

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

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

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

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

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- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), when the process weight rate exceeds two hundred (200) tons per hour, the allowable emissions may exceed that shown in the table in 326 IAC 6-3-2(e) provided the concentration of particulate in the discharge gases to the atmosphere is less than one tenth (0.10) pound per one thousand (1,000) pounds of gases.

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

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

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

D.1.4 Particulate Control

- (a) In order to assure compliance with Conditions D.1.1 and D.1.2, the control devices listed below for particulate control shall be in operation and control emissions from the associated processes at all times the facilities are in operation.

Process ID	Process Description	Control ID
EP-01a and EP-01b	Grain Receiving 1	restricting vehicles unloading grain to trucks with choke unloading applications
	Grain Receiving 2	restricting vehicles unloading grain to trucks with choke unloading applications or rail cars unloading grain to hopper bottom
	Truck dump pit conveyance & elevators	Baghouse C-1A
	Rail dump pit conveyance & elevator	
EP-01c	Grain Receiving 3	restricting vehicles unloading grain to trucks with choke unloading applications
	Truck dump pit conveyance & elevators	Baghouse C-1C
EP-05	Hammermill	Baghouse C-2A
EP-06	Hammermill	Baghouse C-2B
EP-07	Hammermill	Baghouse C-2C
EP-08	Hammermill	Baghouse C-2D
EP-03a	Grain Scalper	Baghouse C-1B
EP-09	DDGS conveyor	Baghouse C-8
	DDGS storage	
EP-10	DDGS truck loadout	chute extension with a funnel device
EP-11	DDGS rail loadout	chute extension with a funnel device

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- (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 2-1.1-11]

- (a) In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform the following testing utilizing methods as approved by the Commissioner:
- (1) PM, PM₁₀ and PM_{2.5} testing for Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b).
 - (2) PM, PM₁₀ and PM_{2.5} testing for one (1) of Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08). Repeat testing for the hammermills shall be conducted on a different baghouse than the one tested for the previous testing period.
 - (3) PM, PM₁₀ and PM_{2.5} testing for Baghouse C-1B, controlling grain scalper (EP-03a).
 - (4) PM, PM₁₀ and PM_{2.5} testing for Baghouse C-8, controlling DDGS conveyor and DDGS storage (EP-09).

Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

- (b) Not later than 180 days after the startup of Grain Receiving 3 (EP-01c), the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the Baghouse C-1C utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration.
- (c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM₁₀ and PM_{2.5} includes filterable and condensable PM.

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

D.1.6 Compliance Assurance Monitoring (CAM) Visible Emissions Notations [40 CFR 64]

- (a) Visible emission notations of the stacks exhausts from:
- (1) Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b),
 - (2) Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08),
 - (3) Baghouse C-1B, controlling grain scalper (EP-03a), and
 - (4) Baghouse C-8, controlling DDGS conveyor and DDGS storage (EP-09),

shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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- (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 and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.7 Visible Emissions Notations

- (a) Visible emission notations of Baghouse C-1C stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.8 Broken or Failed Bag Detection

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

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

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

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

D.1.9 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.6 and D.1.7, the Permittee shall maintain a daily record of visible emission notations of the stacks exhausts from:
- (1) Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b),
 - (2) Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08),
 - (3) Baghouse C-1B, controlling grain scalper (EP-03a),
 - (4) Baghouse C-8A, controlling DDGS conveyor and DDGS storage (EP-09),
 - (5) Baghouse C-1C, controlling Grain Receiving 3 (EP-01c),
- The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

D.1.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.1(b) 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(35).

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SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (c) Milled grain cooking operation, identified as process P-4, which includes the following:
- (1) Milled grain cooking operation, consisting of the following major components:
 - (A) One (1) process condensate tank, installed in 2008,
 - (B) One (1) slurry mix tank, installed in 2008,
 - (C) Two (2) liquification tanks, installed in 2008, and
 - (D) Two (2) yeast tanks, permitted in 2014, each with a capacity of 20,000 gallons.
 - (E) One (1) yeast tank, installed in 2008, with a maximum capacity of 277,000 gallons. Decommissioned upon startup of the two (2) yeast tanks permitted in 2014.

The emissions from these tanks will be controlled by two (2) Thermal Oxidizers, C-6A and C-6B, exhausting to stacks S-6A and S-6B. Each thermal oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) One (1) ammonia tank, installed in 2008.
- (e) Distillation and dehydration operations, identified as process P-6, with an average throughput of 13,302 gallons of undenatured ethanol per hour (a maximum of 116.5 million gallons of undenatured ethanol per year) consisting of the following emission units:
- (1) Two (2) beer columns, #1 and #2, installed in 2008, with an extension to column #2 added in 2014, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) One (1) acid reduction column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (3) One (1) rectifier column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (4) Two (2) molecular sieves, installed in 2008, and modified in 2014 to better secure the sieve beads in place.
 - (5) One (1) 200 proof condenser, installed in 2008.
 - (6) One (1) whole stillage tank, installed in 2008.
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
- (1) Four (4) centrifuges, installed in 2008.
 - (2) One (1) thin stillage tank, installed in 2008.

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- (3) Two (2) evaporator systems, installed in 2008.
 - (4) One (1) syrup tank, installed in 2008.
 - (5) One (1) wet cake pad, installed in 2008.
 - (6) DDGS drying, #1 and #2, installed in 2008, with a total drying rate of 391,148 tons (dry basis) of DDGS per year (44.65 tons per hour), with two (2) DDGS dryers, each with a heat input capacity of 90 MMBtu/hr. Dryer #1 is controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A, and Dryer #2 is controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and exhausts to stack S-7A. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and exhausts to stack S-7B.
 - (8) Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (9) One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - (10) Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
- (k) Two (2) Thermal Oxidizers, C-6A and C-6B, installed in 2008, with a heat input capacity of 18 million British thermal units per hour (MMBtu/hr), each, controlling emissions from the following:
- (1) One (1) process condensate tank.
 - (2) One (1) slurry mix tank.
 - (3) Two (2) liquification tanks.
 - (4) One (2) yeast tanks.
 - (5) Two (2) beer columns, identified as EP-16.
 - (6) One (1) side stripper (acid reduction column), identified as EP-17.
 - (7) One (1) rectifier column, identified as EP-18.
 - (8) One (1) whole stillage tank.
 - (9) One (1) thin stillage tank.

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- (10) One (1) syrup tank.
- (11) Two (2) DDGS dryers, identified as EP-20 and EP-21. DDGS Dryer #1 and DDGS Dryer #2, shall be decommissioned and permanently shut down prior to start up of the first of the following units: DDGS Dryer A (EP-30), DDGS Dryer B (EP-31), DDGS Dryer C (EP-32), or DDGS Dryer D (EP-33).
- (12) Four (4) DDGS dryers, identified as Dryer A (EP-30), Dryer B (EP-31), Dryer C (EP-32), and Dryer D (EP-33).

Thermal oxidizer C-6A exhausts to stack S-6A and thermal oxidizer C-6B exhausts to stack S-6B.

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

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

D.2.1 Prevention of Significant Deterioration (PSD) Minor VOC Limits [326 IAC 2-2]

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

- (a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33).
 - (1) The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.4 pounds per hour.
 - (2) The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.4 pounds per hour.
- (b) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33).
 - (1) The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer A, DDGS Dryer B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.40 pounds per hour.
 - (2) The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer C, DDGS Dryer D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.40 pounds per hour.
- (c) The VOC emissions from the DDGS Cooling Drum Baghouse (C-7C), shall not exceed 5.50 pounds per hour.
- (d) The VOC emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 1.85 pounds per hour.
- (e) The VOC emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 1.55 pounds per hour.

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- (f) DDGS Dryer #1 and DDGS Dryer #2, shall be decommissioned and permanently shut down prior to start up of the first of the following units: DDGS Dryer A (EP-30), DDGS Dryer B (EP-31), DDGS Dryer C (EP-32), or DDGS Dryer D (EP-33).

Compliance with with the above VOC emission limits and the VOC emission limits in Conditions D.3.1 and D.4.1, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide potential to emit of VOC to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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

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

- (a) Prior to startup of DDGS Dryers A - D (EP-30 - EP-33), the NOx emissions from the two (2) Thermal Oxidizers (C-6A and C-6B) stack exhaust shall not exceed 100 pounds per million cubic feet of natural gas burned by the two (2) DDGS Dryers #1 and #2 and two (2) RTOs (C-6A and C-6B).
- (b) Prior to startup of DDGS Dryers A - D (EP-30 - EP-33), the total throughput of natural gas to the two (2) DDGS dryers #1 and #2 and two (2) Thermal Oxidizers, C-6A and C-6B shall be limited to 1,892 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the NOx emissions from the two (2) Thermal Oxidizers (C-6A and C-6B) stack exhaust shall not exceed 100 pounds per million cubic feet of natural gas burned by the four (4) DDGS Dryers (A - D) and two (2) RTOs (C-6A and C-6B).
- (d) After startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the throughput of natural gas to the four (4) DDGS dryers (A - D) and two (2) Thermal Oxidizers, C-6A and C-6B, and the two (2) DDGS dryers #1 and #2, shall be limited to a total of 1,892 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above NOx emission limits and the NOx emission limits in Conditions D.4.3 and D.7.1, combined with the potential to emit NOx from all other emission units at this source, shall limit the source-wide potential to emit of NOx to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.2.3 Prevention of Significant Deterioration (PSD) Minor CO Limits [326 IAC 2-2]

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

- (a) Prior to startup of DDGS Dryers A - D (EP-30 - EP-33). the CO emissions from Thermal Oxidizer #1 (C-6A), which controls the CO emissions from the DDGS dryer #1, shall not exceed 7.1 pounds per hour.
- (b) Prior to startup of DDGS Dryers A - D (EP-30 - EP-33). the CO emissions from Thermal Oxidizer #2 (C-6B), which controls the CO emissions from the DDGS dryer #2, shall not exceed 7.1 pounds per hour.

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- (c) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the CO emissions from Thermal Oxidizer #1 (C-6A), which controls the CO emissions from the DDGS Dryers A and B, shall not exceed 7.1 pounds per hour.
- (d) After startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the CO emissions from Thermal Oxidizer #2 (C-6B), which controls the CO emissions from the DDGS Dryers C and D, shall not exceed 7.1 pounds per hour.

Compliance with the above CO emission limits and the CO emission limits in Conditions D.4.2 and D.7.1, combined with the potential to emit CO from all other emission units at this source, shall limit the source-wide potential to emit of CO to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.2.4 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Emission Limits [326 IAC 2-2]

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

- (a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33).
 - (1) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS dryer #1, shall not exceed 12.5 pounds per hour, each.
 - (2) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS dryer #2, shall not exceed 12.5 pounds per hour, each.
- (b) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33).
 - (1) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS Dryers A and B, shall not exceed 12.5 pounds per hour, each.
 - (2) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS Dryers C and D, shall not exceed 12.5 pounds per hour, each.
- (c) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 2.14 pounds per hour, each.
- (d) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 1.07 pounds per hour.
- (e) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 1.07 pounds per hour.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.3.2, D.4.4, and D.6.1, combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at this source, shall limit the source-wide potential to emit of PM, PM₁₀, and PM_{2.5} to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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D.2.5 Prevention of Significant Deterioration (PSD) Minor SO₂ Limits [326 IAC 2-2]

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

- (a) The sulfur dioxide (SO₂) emissions from the two (2) DDGS dryers (Dryers #1 and #2) shall not exceed 0.45 pound per ton of DDGS dried.
- (b) The total DDGS throughput to the two DDGS dryers (Dryers #1 and #2) shall not exceed 391,148 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The sulfur dioxide (SO₂) emissions from the four (4) DDGS dryers (Dryers A - D) shall not exceed 0.45 pound per ton of DDGS dried.
- (d) The DDGS throughput to the four (4) DDGS dryers (Dryers A - D) and the two (2) DDGS dryers #1 and #2 shall not exceed a total of 391,148 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit SO₂ from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ to less than two-hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.2.6 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

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

Process/Facility		Process Weight Rate (tons/hr)	Particulate Emissions Limit (lbs/hr)
EP-20	DDGS Dryer #1	22.3	32.85
EP-21	DDGS Dryer #2	22.3	32.85
EP-22	DDGS Cooler #1	22.3	32.85
EP-23	DDGS Cooler #2	22.3	32.85
EP-30	DDGS Dryer A	22.33	32.85
EP-31	DDGS Dryer B		
EP-32	DDGS Dryer C	22.33	32.85
EP-33	DDGS Dryer D		
EP-34	DDGS Cooling Drum	44.65	43.53

The pounds per hour limitations for the emissions units in the above table shall be calculated using the following equations:

Interpolation of the data for the process weight rate up to 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:

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

Where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.7 HAP Minor Limits [40 CFR 63]

In order to assure this source is an area source of HAPs under Section 112 of the Clean Air Act (CAA), the Permittee shall comply with the following:

- (a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33).
 - (1) The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (2) The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (3) The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
 - (4) The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
- (b) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33).
 - (1) The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A and B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (2) The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers C and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (3) The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A and B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
 - (4) The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers C and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
- (c) Prior to the startup of the DDGS Cooling Drum (EP-34).

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- (1) The single HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.20 pounds per hour.
 - (2) The single HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.20 pounds per hour.
 - (3) The total HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.34 pounds per hour.
 - (4) The total HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.34 pounds per hour.
- (d) On and after startup of the DDGS Cooling Drum (EP-34).
- (1) The single HAP emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 0.40 pounds per hour.
 - (2) The total HAP emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 0.68 pounds per hour.
- (e) DDGS Cooler #1 and DDGS Cooler #2, shall be decommissioned and permanently shut down prior to start up of the DDGS Cooling Drum (EP-34).

Compliance with the above HAP emission limits and the HAP emission limits in Condition D.3.3, 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 for any single HAP and twenty-five (25) tons for any combination of HAPS per twelve (12) consecutive month period and render this source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

D.2.8 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6(c):

- (a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33), the Permittee shall control the VOC emissions from the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer #1, DDGS Dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation using a thermal oxidation system with an overall control efficiency of not less than ninety-eight percent (98%), or the VOC outlet concentration shall not exceed ten (10) parts per million (ppm).
- (b) On and after the startup of the first of DDGS Dryers A - D (EP-33 - EP-33), the Permittee shall control the VOC emissions from the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A, B, C, and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation using a thermal oxidation system with an overall control efficiency of not less than ninety-eight percent (98%), or the VOC outlet concentration shall not exceed ten (10) parts per million (ppm).

D.2.9 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.2.10 VOC and HAP Control

In order to assure compliance with Conditions D.2.1 and D.2.7, the Thermal Oxidizers (C-6A and C-6B) for VOC and HAP control shall be in operation and control emissions from the Process P-4,

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Process P-6, Process P-7 facilities at all times the Process P-4, Process P-6, Process P-7 facilities are in operation.

D.2.11 Particulate Control

- (a) In order to assure compliance with Conditions D.2.4 and D.2.6, the control devices listed below for particulate control shall be in operation and control emissions from the associated processes at all times the facilities are in operation:

Process ID	Process Description	Control ID
DDGS Cooler #1	DDGS Cooler	Baghouse C-7A
DDGS Cooler #2	DDGS Cooler	Baghouse C-7B
DDGS Cooling Drum	DDGS Cooling Drum	Baghouse C-7C

- (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.2.12 Testing Requirements [326 IAC 2-1.1-11][326 IAC 8-5-6]

- (a) In order to demonstrate compliance with Conditions D.2.2(a) and D.2.3(a), the Permittee shall perform NO_x and CO testing of DDGS Dryers #1 and #2 and the Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (b) In order to demonstrate compliance with Condition D.2.5(a), the Permittee shall perform SO₂ testing of DDGS Dryers #1 and #2 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (c) In order to demonstrate compliance with Conditions D.2.1(a)(1), (a)(2), (d), and (e) and D.2.8(a), the Permittee shall perform VOC testing, including capture and destruction efficiency testing of the two (2) Thermal Oxidizers (C-6A and C-6B) and the two (2) the DDGS Cooler Baghouses (C-7A and C-7B), no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (d) In order to demonstrate compliance with Conditions D.2.4(a)(1) through (4) and D.2.6, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the two (2) Thermal Oxidizers (C-6A and C-6B) and the two (2) the DDGS Cooler Baghouses (C-7A and C-7B), no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM₁₀ and PM_{2.5} includes filterable and condensable PM.

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- (e) In order to demonstrate compliance with Condition D.2.7(a)(1) through (8), the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol), including capture and destruction efficiency testing of the two (2) Thermal Oxidizers (C-6A and C-6B) and the two (2) the DDGS Cooler Baghouses (C-7A and C-7B), no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (f) Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform NO_x and CO testing of the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (g) Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform SO₂ testing of the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (h) Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform VOC testing, including capture and destruction efficiency testing of the two (2) Thermal Oxidizers (C-6A and C-6B), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (i) Not later than 180 days after startup of the DDGS Cooling Drum, the Permittee shall perform VOC testing of the DDGS Cooling Drum Baghouse (C-7C), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (j) Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the two (2) Thermal Oxidizers (C-6A and C-6B), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM₁₀ and PM_{2.5} includes filterable and condensable PM.
- (k) Not later than 180 days after startup of the DDGS Cooling Drum, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the DDGS Cooling Drum Baghouse (C-7C), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM₁₀ and PM_{2.5} includes filterable and condensable PM.
- (l) Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol), including capture and destruction efficiency testing of the two (2) Thermal Oxidizers (C-6A and C-6B), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.
- (m) Not later than 180 days after startup of the DDGS Cooling Drum, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol) of the DDGS Cooling Drum Baghouse (C-7C), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.

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

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

D.2.13 Compliance Assurance Monitoring (CAM) Visible Emissions Notations [40 CFR 64]

Prior to startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):

- (a) Visible emission notations of the Thermal Oxidizers (C-6A and C-6B) stack exhausts, shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) Visible emission notations of the DDGS Cooler #1 and #2 baghouses (C-7A and C-7B) stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (f) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.14 Visible Emissions Notations

- (a) Upon startup of the first of the first of the DDGS Dryers A-D (EP-30 - EP-33) visible emission notations of the Thermal Oxidizers (C-6A and C-6B) stack exhausts, controlling shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) Upon startup of the DDGS Cooling Drum visible emission notations of the DDGS Cooling Drum Baghouse (C-7C) stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (c) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (d) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (e) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (f) If abnormal emissions are observed, the Permittee shall take a reasonable response.

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Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.15 Compliance Assurance Monitoring (CAM) Thermal Oxidizers Parametric Monitoring [326 IAC 8-5-6][40 CFR 64]

Prior to startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the two (2) Thermal Oxidizers (C-6A and C-6B) for measuring the duct pressure or fan amperage. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour average. From the date of startup until the stack test results are available, the Permittee shall maintain the 3-hour average duct pressure or fan amperage within the normal range.
- (b) The Permittee shall determine the appropriate 3-hour average duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1, D.2.3, and D.2.8.
- (c) On and after the date the stack test results are available, the 3-hour average duct pressure or fan amperage shall be maintained within the 3-hour average normal range as established in the latest compliant stack test.
- (d) When, for any one reading, the 3-hour average duct pressure or fan amperage is outside the above mentioned 3-hour average ranges, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.16 Thermal Oxidizers Parametric Monitoring [326 IAC 8-5-6]

Upon startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the two (2) Thermal Oxidizers (C-6A and C-6B) for measuring the duct pressure or fan amperage. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour average. From the date of startup until the stack test results are available, the Permittee shall maintain the 3-hour average duct pressure or fan amperage within the normal range.
- (b) The Permittee shall determine the appropriate 3-hour average duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1, D.2.3, and D.2.8.
- (c) On and after the date the stack test results are available, the 3-hour average duct pressure or fan amperage shall be maintained within the 3-hour average normal range as established in the latest compliant stack test.
- (d) When, for any one reading, the 3-hour average duct pressure or fan amperage is outside the above mentioned 3-hour average ranges, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

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D.2.17 Thermal Oxidizers Temperature [326 IAC 8-5-6]

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the two (2) Thermal Oxidizers (C-6A and C-6B) 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 a 3-hour average. From the date of startup until the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1,600°F.
- (b) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with the PSD minor limits in Conditions D.2.1 and D.2.3, and the requirements of 326 IAC 8-5-6 in Condition D.2.8.
- (c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average 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.2.18 Broken or Failed Bag Detection

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

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

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

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

D.2.19 Record Keeping Requirements

- (a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.2(b), the Permittee shall maintain a monthly record of the natural gas fuel usage from the two (2) DDGS dryers (#1 and #2) and from the two (2) Thermal Oxidizers (C-6A and C-6B).
- (b) After the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.2(d), the Permittee shall maintain a monthly record of the natural gas fuel usage from the four (4) DDGS dryers (A - D) and from the two (2) Thermal Oxidizers (C-6A and C-6B).

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- (c) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.5(b), the Permittee shall maintain a monthly record of the DDGS throughput to the two (2) DDGS dryers (#1 and #2).
- (d) After the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.5(d), the Permittee shall maintain a monthly record of the DDGS throughput of the four (4) DDGS dryers (A - D).
- (e) To document the compliance status with Condition D.2.13, the Permittee shall maintain a daily record of visible emission notations of the stacks exhaust from the Thermal Oxidizers (C-6A and C-6B) controlling DDGS dryers #1 and #2, respectively, and, prior to the startup of DDGS Dryers A - D and the DDGS Cooling Drum, from the Baghouses (C-7A and C-7B) controlling DDGS coolers #1 and #2, respectively. 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).
- (f) To document the compliance status with Condition D.2.14, the Permittee shall maintain records of daily visible emission notations of the DDGS Cooling Drum baghouse (C-7C) stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (g) To document the compliance status with Condition D.2.15, the Permittee shall maintain continuous duct pressure or fan amperage records for the Thermal Oxidizers (C-6A and C-6B) and the 3-hour average used to demonstrate compliance during the most recent compliant stack test.
- (h) To document the compliance status with Condition D.2.16, the Permittee shall maintain continuous duct pressure or fan amperage records for the Thermal Oxidizers (C-6A and C-6B) and the 3-hour average used to demonstrate compliance during the most recent compliant stack test.
- (i) To document the compliance status with Condition D.2.17, the Permittee shall maintain continuous temperature records for the Thermal Oxidizers (C-6A and C-6B) and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.
- (j) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

D.2.20 Reporting Requirements

A monthly summary of the information to document the compliance status with Conditions D.2.2 and D.2.5 shall be submitted quarterly using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting requirements of this permit.

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SECTION D.3 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (d) Fermentation operation, identified as process P-5, installed in 2008 and approved in 2016 for modification, with an average throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height. The average undenatured ethanol production rate is 13,302 gallons per hour and a maximum of 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:
- (1) Seven (7) fermenters tanks, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.
 - (2) One (1) beer well tank, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.

(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 Prevention of Significant Deterioration (PSD) Minor VOC Limit [326 IAC 2-2]

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

- (a) The VOC emissions from Fermentation, Scrubber C-5A, shall not exceed 8.23 pounds per hour.

Compliance with the above VOC emission limit and the VOC emission limits in Conditions D.2.1 and D.4.1, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide emissions of VOC to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.3.2 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Limits [326 IAC 2-2]

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

- (a) The PM emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pound per hour.
- (b) The PM₁₀ emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pound per hour.
- (c) The PM_{2.5} emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pound per hour.

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Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.2.4, D.4.4, and D.6.1, combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at this source, shall limit the source-wide emissions of PM, PM₁₀, and PM_{2.5} to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.3.3 HAP Minor Limits [40 CFR 63]

In order to assure this source is an area source of HAPs under Section 112 of the Clean Air Act (CAA), the Permittee shall comply with the following:

- (a) The single HAP emissions from the CO₂ Scrubber (C-5A) exhaust shall not exceed 1.35 pounds per hour.
- (b) The total HAP emissions from the CO₂ Scrubber (C-5A) exhaust shall not exceed 1.41 pounds per hour.

Compliance with the above HAP emission limits and the HAP emission limits in Condition D.2.7, 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 for any single HAP and twenty-five (25) tons for any combination of HAPS per twelve (12) consecutive month period and render this source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

D.3.4 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6(c), the Permittee shall control the VOC emissions from the Fermentation process using a wet scrubber system with an overall control efficiency of not less than ninety-eight percent (98%), or the VOC outlet concentration shall not exceed twenty (20) part per million (ppm).

D.3.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.3.6 Volatile Organic Compounds (VOC) Emissions Control

In order to comply with Condition D.3.1, and D.3.2, the Scrubber, C-5A, for VOC control shall be in operation at all times when the Fermentation process is in operation.

D.3.7 Testing Requirements [326 IAC 2-1.1-11][326 IAC 8-5-6]

- (a) In order to demonstrate compliance with Condition D.3.1, the Permittee shall perform VOC testing (including the capture and absorption efficiency) of Scrubber C-5A utilizing methods as approved by the Commissioner at least once every 5 years from the date of the most recent valid compliance demonstration.
- (b) In order to demonstrate compliance with Condition D.3.2, no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, the Permittee shall perform PM, PM₁₀ and PM_{2.5} testing of Scrubber C-5A utilizing methods as approved by the Commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. PM₁₀ and PM_{2.5} includes filterable and condensable PM.

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- (c) In order to demonstrate compliance with Condition D.3.3, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol) (including the capture and absorption efficiency and sodium bisulfite addition rate) of Scrubber C-5A utilizing methods as approved by the Commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. If the plant is operating, testing shall be performed no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051. If the plant is not operating and the Significant Source Modification is issued, testing shall be performed no later than 180 days after re-commencing operations.
- (d) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's 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.3.8 Compliance Assurance Monitoring (CAM) Scrubber Parametric Monitoring [326 IAC 8-5-6][40 CFR 64]

- (a) The Permittee shall monitor and record the flow rate of Scrubber C-5A at least once per day when the associated processes are in operation.
 - (1) The Permittee shall determine the minimum flow rate and sodium bisulfite injection rate from the latest valid stack test that demonstrates compliance with the PSD minor limits in Condition D.3.1 and the requirements of 326 IAC 8-5-6 in Condition D.3.2.
 - (2) 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. When for any one reading, the flow rate is below the above mentioned minimum, the Permittee shall take a reasonable response.
 - (3) On and after the date the stack test results are available, the Permittee shall maintain a sodium bisulfite injection rate at or above the minimum rate as observed during the latest compliant stack test. When for any one reading, the injection rate is below the above mentioned minimum, the Permittee shall take a reasonable response.
- (b) Pursuant to 326 IAC 8-5-6(e)(2)(A), the Permittee shall monitor and record the pressure drop across Scrubber C-5A 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 this unit is a pressure drop between 1.0 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.
- (c) The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.
- (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.3.9 Scrubber Failure Detection

In the event that malfunction has been observed:

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

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

D.3.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.8, the Permittee shall maintain once per day records of the scrubbing liquid, pressure drop, scrubbing liquid flow rate, and sodium bisulfite injection rate from scrubber C-5A. The Permittee shall include in its daily record when scrubbing liquid, pressure drop, scrubbing liquid flow rate, and sodium bisulfite injection rate notations are not taken and the reason for the lack of notations (e.g. the process did not operate that day, etc.). The Permittee shall include in its daily record whether the High Plume Exhaust System is in operation.
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

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SECTION D.4 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (h) Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, with a maximum capacity of 36,000 gallons per hour.
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, with a maximum capacity of 120,000 gallons per hour.
 - (3) Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.

These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.

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

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

D.4.1 Prevention of Significant Deterioration (PSD) Minor VOC Limits [326 IAC 2-2]

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

- (a) The VOC emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.00015 pound per gallon of ethanol loaded out.
- (b) The trucks and rail loading racks shall be limited to a combined throughput of 122,141,250 gallons of denatured and undenatured ethanol per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above VOC emission limits and the VOC emission limits in Conditions D.2.1 and D.3.1, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide potential to emit of VOC to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.4.2 Prevention of Significant Deterioration (PSD) Minor CO Limits [326 IAC 2-2]

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

- (a) The CO emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.0835 pound per kilogallon of ethanol loaded out.

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Compliance with the above CO emission limit and the CO emission limits in Conditions D.2.3 and D.7.1, combined with the potential to emit CO from all other emission units at this source, shall limit the source-wide potential to emit of CO to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.4.3 Prevention of Significant Deterioration (PSD) Minor NO_x Limits [326 IAC 2-2]

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

- (a) The NO_x emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.0334 pound per kilogallon of ethanol loaded out.

Compliance with the above NO_x emission limit and the NO_x emission limits in Conditions D.2.2 and D.7.1, combined with the potential to emit NO_x from all other emission units at this source, shall limit the source-wide potential to emit of NO_x to less than two hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.4.4 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Limits [326 IAC 2-2]

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

- (a) The PM, PM₁₀, and PM_{2.5} emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.000299 pound per kilogallon of ethanol loaded out.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limit and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.2.4, D.3.2, and D.6.1, combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at this source, shall limit the source-wide potential to emit of PM, PM₁₀, and PM_{2.5} to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.4.5 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6(c), the Permittee shall control the VOC emissions from the truck and rail loading racks using enclosed flare C-9 with an overall control efficiency of not less than ninety-eight percent (98%).

D.4.6 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.4.7 Volatile Organic Compounds (VOC)

In order to comply with Condition D.4.1(a), the enclosed Flare, C-9, shall be in operation at all times when denatured ethanol or undenatured ethanol is being loaded out.

D.4.8 Testing Requirements [326 IAC 2-1.1-11][326 IAC 8-5-6]

In order to determine compliance with Conditions D.4.1 and D.4.5, the Permittee shall perform VOC testing (including capture and destruction efficiency), on the enclosed Flare C-9 controlling the ethanol loading racks utilizing methods as approved by the Commissioner.

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Testing 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 obligations with regard to the testing required by this condition.

D.4.9 Flare Pilot Flame

The flare must be operated with a flame present at all times the ethanol loading racks are in operation and are loading ethanol to trucks or railcars.

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

D.4.10 Flare Pilot Flame [326 IAC 8-5-6]

In order to comply with Conditions D.4.1, D.4.2, D.4.3, D.4.4, and D.4.5, the Permittee shall monitor the presence of a flare pilot flame for enclosed flare C-9 using a thermocouple or any other equivalent device to detect the presence of a flame when the loading racks (EP-24 and EP-25) are in operation.

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

D.4.11 Record Keeping Requirements

- (a) To document the compliance status with Condition D.4.1(b), the Permittee shall maintain a monthly record of the denatured and undenatured ethanol loaded out into the loading racks.
- (b) To document the compliance status with Condition D.4.10, the Permittee shall maintain records of temperature or other parameters sufficient to demonstrate the presence of a pilot flame when loading racks (EP-24 and EP-25) are in operation. The Permittee shall include in its records when the presence of a pilot flame is not detected and the reason for the lack of detection (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

D.4.12 Reporting Requirements

A monthly summary of the information to document the compliance status with Condition D.4.1(b), shall be submitted quarterly using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of the each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting requirements of this permit.

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SECTION D.5 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (i) Product Storage, identified as P-10, consisting of the following emission units:
 - (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, with a capacity of 172,000 gallons, each.
 - (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, and a maximum design capacity less than 20,000 gallons per day throughput.
 - (3) Two (2) ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 and approved in 2016 for modification, each storing denatured or undenatured ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
 - (4) One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.

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

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

D.5.1 Volatile Organic Compounds (VOC) [326 IAC 8-4-3]

- (a) Pursuant to 326 IAC 8-4-3(b)(1)(B), denaturant storage tank Tk004 shall be maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.
 - (1) Pursuant to 326 IAC 8-4-3(b)(1)(C), all openings, except stub drains, are equipped with covers, lids, or seals such that:
 - (2) The cover, lid or seal in the closed position at all times except when in actual use;
 - (3) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;
 - (4) 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.
- (b) Pursuant to 326 IAC 8-4-3(d) (Petroleum Liquid Storage Facilities), the Permittee shall maintain the following records for a period of two (2) years for denaturant storage tank Tk004:
 - (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.

The above records shall be made available to the IDEM, OAQ upon written request.

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D.5.2 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 preventive maintenance plan required by this condition.

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

D.5.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.5.1, the Permittee shall maintain the following records for denaturant storage tank Tk004:
- (1) The types of volatile petroleum liquid stored;
 - (2) The maximum true vapor pressure of the liquids as stored; and
 - (3) The results of the inspections performed on the storage vessels.
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

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SECTION D.6 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

Insignificant Activity:

- (b) One (1) cooling tower with three (3) cells, identified as F-1, installed in 2008, with a total circulation rate of 2,256,000 gallons of water per hour.

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

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

D.6.1 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Emission Limits [326 IAC 2-2]

The PM, PM₁₀, and PM_{2.5} emissions from the cooling tower shall not exceed 0.38 pounds per hour, each, and it shall be designed with a drift rate of 0.0005% and circulation rate of 2,256,000 gallons of make up water per hour.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.2.4, D.3.2, and D.4. 4 combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at this source, shall limit the source-wide potential to emit of PM, PM₁₀, and PM_{2.5} to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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

D.6.2 Record Keeping Requirements

- (a) To document the compliance status with Condition D.6.1, the Permittee shall maintain on file vendor guarantees and/or certifications for the cooling tower drift rate and circulation rate.
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

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SECTION D.7 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (j) Natural gas combustion sources, identified as P-11, installed in 2008, consisting of four (4) natural gas-fired package boilers, identified as EP-26 through EP-29, installed in 2008, each with a heat input capacity of 92.4 MMBtu/hr.

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

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

D.7.1 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

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

- (a) The four (4) package boilers shall only combust natural gas. The natural gas throughput to the four package boilers shall be limited to 3,237.5 MMCF per twelve consecutive month period, with compliance determined at the end of each month.
- (b) The NO_x emissions from the four (4) package boilers shall not exceed 30.0 pounds per million cubic feet of natural gas.
- (c) The CO emissions from the four (4) package boilers shall not exceed 18 pounds per million cubic feet of natural gas.

Compliance with the above NO_x and CO limits shall limit the potential to emit NO_x and CO from the four (4) package boilers to less than 100 tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with the above NO_x and CO emission limits and the NO_x and CO emission limits in Conditions D.2.2, D.2.3, D.4.2, and D.4.3 combined with the potential to emit NO_x and CO from all other emission units at this source, shall limit the source-wide potential to emit of NO_x and CO to less than two hundred fifty (250) tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.7.2 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) the PM emissions from the four (4) package boilers shall be limited to 0.23 pound per million British thermal units (lb/MMBtu):

The limit shall be established using the following equation:

$$Pt = 1.09/(Q^{0.26})$$

Where: Pt = Pounds of particulate matter emitted per million BTU (lb/MMBtu) heat input
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr)
Q = 369.6 MMBtu heat input

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D.7.3 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 preventive maintenance plan required by this condition.

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

D.7.4 Testing Requirements [326 IAC 2-1.1-11]

In order to determine compliance with Conditions D.7.1, D.7.2, the Permittee shall conduct performance tests to measure CO and NOx, from two (2) package boilers utilizing methods as approved by the Commissioner: Testing of the package boilers shall be conducted such that every five (5) years a set of two (2) of the four (4) package boilers is tested. The source will test the two (2) boilers for which the longest period of time has passed since the last valid compliance test.

Testing 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 obligations with regard to the 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) To document the compliance status with Condition D.7.4, the Permittee shall maintain monthly records of the amount of natural gas combusted in the boilers.
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

D.7.6 Reporting Requirements

A monthly summary of the information to document the compliance status with Condition D.7.1, shall be submitted quarterly using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days following the end of the each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting requirements of this permit.

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SECTION E.1

NSPS

Emission Unit Descriptions:

- (i) Product Storage, identified as process P-10, consisting of the following emission units:
 - (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, each with a capacity of 172,000 gallons.
 - (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, and a maximum design capacity less than 20,000 gallons per day throughput.
 - (3) Two (2) ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 and approved in 2016 for modification, each storing denatured or undenatured ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.

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

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

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

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the above listed emissions units, 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. 1.2 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]

Pursuant to 40 CFR Part 60, Subpart Kb the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Kb, which are incorporated by reference as 326 IAC 12 (included as Attachment A to this permit), for the above listed emissions units as specified as follows.

- (a) 40 CFR 60.110b(a) and (e)
- (b) 40 CFR 60.111b
- (c) 40 CFR 60.112b(a)(1)
- (d) 40 CFR 60.113b and (a)
- (e) 40 CFR 60.115b and (a)
- (f) 40 CFR 60.116b(a), (b), (c), (d), and (e)
- (g) 40 CFR 60.117b

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SECTION E.2

NSPS

Emission Unit Descriptions:

- (j) Natural gas combustion sources, identified as P-11, installed in 2008, consisting of four (4) natural gas-fired package boilers, identified as EP-26 through EP-29, installed in 2008, each with a heat input capacity of 92.4 MMBtu/hr.

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

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

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

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the above listed emissions units, except as otherwise specified in 40 CFR Part 60, Subpart Dc.
- (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 Small Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12][40 CFR Part 60, Subpart Dc]

Pursuant to 40 CFR Part 60, Subpart Dc, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart Dc, which are incorporated by reference as 326 IAC 12 (included as Attachment B to this permit), for the above listed emissions units as specified as follows.

- (a) 40 CFR 60.40c(a)
(b) 40 CFR 60.40c(b)
(c) 40 CFR 60.41c
(d) 40 CFR 60.48c(a)(1)
(e) 40 CFR 60.48c(g)
(f) 40 CFR 60.48c(i)
(g) 40 CFR 60.48c(j)

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SECTION E.3

NSPS

Emission Unit Descriptions:

- (d) Fermentation operation, identified as process P-5, installed in 2008 and approved in 2016 for modification, with an average throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height. The average undenatured ethanol production rate is 13,302 gallons per hour and a maximum of 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:
 - (1) Seven (7) fermenters tanks, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.
 - (2) One (1) beer well tank, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.

- (e) Distillation and dehydration operations, identified as process P-6, with an average throughput of 13,302 gallons of undenatured ethanol per hour (a maximum of 116.5 million gallons of undenatured ethanol per year) consisting of the following emission units:
 - (1) Two (2) beer columns, #1 and #2, installed in 2008, with an extension to column #2 added in 2014, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) One (1) acid reduction column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (3) One (1) rectifier column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (4) Two (2) molecular sieves, installed in 2008.
 - (5) One (1) 200 proof condenser, installed in 2008.
 - (6) One (1) whole stillage tank, installed in 2008.

- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
 - (1) Four (4) centrifuges, installed in 2008.
 - (2) One (1) thin stillage tank, installed in 2008.
 - (3) Two (2) evaporator systems, installed in 2008.
 - (4) One (1) syrup tank, installed in 2008.
 - (5) One (1) wet cake pad, installed in 2008.

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- (6) DDGS drying, #1 and #2, installed in 2008, with a total drying rate of 391,148 tons (dry basis) of DDGS per year (44.65 tons per hour), with two (2) DDGS dryers, each with a heat input capacity of 90 MMBtu/hr. Dryer #1 is controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A, and Dryer #2 is controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and exhausts to stack S-7A. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and exhausts to stack S-7B.
 - (8) Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (9) One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - (10) Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
- (h) Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, with a maximum capacity of 36,000 gallons per hour.
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, with a maximum capacity of 120,000 gallons per hour.
 - (3) Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.
- These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.
- (i) Product Storage, identified as process P-10, consisting of the following emission units:
- (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, each with a capacity of 172,000 gallons.
 - (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, and a maximum design capacity less than 20,000 gallons per day throughput.
 - (3) Two (2) ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 and approved in 2016 for modification, each storing denatured or undenatured ethanol with a

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Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.

- (4) One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.

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

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

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

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the above listed emissions units, 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 [326 IAC 12][40 CFR Part 60, Subpart VVa]

Pursuant to 40 CFR Part 60, Subpart VVa, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VVa, which are incorporated by reference as 326 IAC 12 (included as Attachment C to this permit), for the above listed emissions units as specified as follows.

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

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- (22) 40 CFR 60.486a
- (23) 40 CFR 60.487a
- (24) 40 CFR 60.488a
- (25) 40 CFR 60.489a

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SECTION E.4

NSPS

Emission Unit Descriptions:

Insignificant Activities:

- (a) One (1) diesel-fired emergency fire pump, identified as process P-12, installed in 2008, with a capacity of 420 horsepower (HP).

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

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

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

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, for the above listed emissions units, 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 [40 CFR Part 60, Subpart IIII][326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart IIII, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart IIII, which are incorporated by reference as 326 IAC 12 (included as Attachment D to this permit), for the above listed emissions units as specified as follows.

- (1) 40 CFR 60.4200(a)(2)(i)
(2) 40 CFR 60.4200(c)
(3) 40 CFR 60.4205(b)
(4) 40 CFR 60.4206
(5) 40 CFR 60.4207(a)
(6) 40 CFR 60.4207(b)
(7) 40 CFR 60.4207(c)
(8) 40 CFR 60.4208
(9) 40 CFR 60.4209
(10) 40 CFR 60.4211(a)
(11) 40 CFR 60.4211(c)
(12) 40 CFR 60.4211(e)
(13) 40 CFR 60.4212
(14) 40 CFR 60.4214(b)
(15) 40 CFR 60.4214(c)
(16) 40 CFR 60.4218
(17) 40 CFR 60.4219
(18) Table 1 to 40 CFR 60, Subpart IIII
(19) Table 8 to 40 CFR 60, Subpart IIII

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SECTION E.5

NESHAP

Emission Unit Descriptions:

- (a) One (1) diesel-fired emergency fire pump, identified as process P-12, installed in 2008, with a capacity of 420 horsepower (HP).

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

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

**E.5.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under
40 CFR Part 63 [326 IAC 20-1][40 CFR Part 63, Subpart A]**

- a) Pursuant to 40 CFR 63.6665, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1-1, for the above listed emissions units, as specified in 40 CFR Part 63, Subpart ZZZZ, in accordance with the schedule in 40 CFR Part 63, Subpart ZZZZ.
- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

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

Pursuant to 40 CFR Part 63, Subpart ZZZZ, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZ, which are incorporated by reference as 326 IAC 20-82 (included as Attachment E to this permit), for the above listed emissions units, as specified as follows.

- (a) 40 CFR 63.6580
(b) 40 CFR 63.6585, (a), (c), and (d)
(c) 40 CFR 63.6590, (a), (a)(2)(iii), and (c)(1)
(d) 40 CFR 63.6595(a)(6), (b)
(e) 40 CFR 63.6665
(f) 40 CFR 636.6670
(g) 40 CFR 63.6675

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SECTION E.6

NESHAP

Emission Unit Descriptions:

(c) Fuel dispensing activities, as follows:

- (1) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons. Such storage tanks may be in a fixed location or on mobile equipment.
 - (A) One (1) gasoline dispensing operation for plant vehicles, installed in 2008, with a maximum throughput of 75 gallons per month.

Under the NESHAP 40 CFR 63, Subpart CCCCCC, this is a new affected source.

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

**National Emission Standards for Hazardous Air Pollutants (NESHAP) 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 63.11130, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1-1, for the above listed emissions units, as specified in 40 CFR Part 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.6.2 National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart CCCCCC]

Pursuant to 40 CFR Part 63, Subpart CCCCCC, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart CCCCCC, (included as Attachment F to this permit), for the above listed emissions units, as specified as follows.

- (a) 40 CFR 63.11110
- (b) 40 CFR 63.11111 (a), (b), (e), (f), (h), (i), (j), and (k)
- (c) 40 CFR 63.11112(a) and (b)
- (d) 40 CFR 63.11113(a), (a)(1), (d), (d)(1), (e), and (e)(1)
- (e) 40 CFR 63.11115
- (f) 40 CFR 63.11116
- (g) 40 CFR 63.11125(d)
- (h) 40 CFR 63.11126(b)
- (i) 40 CFR 63.11130
- (j) 40 CFR 63.11131
- (k) 40 CFR 63.11132

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- (I) Table 3 to 40 CFR 63 Subpart CCCCC

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SECTION E.7

NESHAP

Emission Unit Descriptions:

- (c) Milled grain cooking operation, identified as process P-4, which includes the following:
- (1) Milled grain cooking operation, consisting of the following major components:
 - (A) One (1) process condensate tank, installed in 2008,
 - (B) One (1) slurry mix tank, installed in 2008,
 - (C) Two (2) liquification tanks, installed in 2008, and
 - (D) Two (2) yeast tanks, permitted in 2014, each with a capacity of 20,000 gallons.
 - (E) One (1) yeast tank, installed in 2008, with a maximum capacity of 277,000 gallons. Decommissioned upon startup of the two (2) yeast tanks permitted in 2014.

The emissions from these tanks will be controlled by two (2) Thermal Oxidizers, C-6A and C-6B, exhausting to stacks S-6A and S-6B. Each thermal oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).

- (2) One (1) ammonia tank, installed in 2008.
- (d) Fermentation operation, identified as process P-5, installed in 2008 and approved in 2016 for modification, with an average throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height. The average undenatured ethanol production rate is 13,302 gallons per hour and a maximum of 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:
- (1) Seven (7) fermenters tanks, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.
 - (2) One (1) beer well tank, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.
- (e) Distillation and dehydration operations, identified as process P-6, with an average throughput of 13,302 gallons of undenatured ethanol per hour (a maximum of 116.5 million gallons of undenatured ethanol per year) consisting of the following emission units:
- (1) Two (2) beer columns, #1 and #2, installed in 2008, with an extension to column #2 added in 2014, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) One (1) acid reduction column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.
 - (3) One (1) rectifier column, #1, installed in 2008, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B.

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- (4) Two (2) molecular sieves, installed in 2008.
 - (5) One (1) 200 proof condenser, installed in 2008.
 - (6) One (1) whole stillage tank, installed in 2008.
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
- (1) Four (4) centrifuges, installed in 2008.
 - (2) One (1) thin stillage tank, installed in 2008.
 - (3) Two (2) evaporator systems, installed in 2008.
 - (4) One (1) syrup tank, installed in 2008.
 - (5) One (1) wet cake pad, installed in 2008.
 - (6) DDGS drying, #1 and #2, installed in 2008, with a total drying rate of 391,148 tons (dry basis) of DDGS per year (44.65 tons per hour), with two (2) DDGS dryers, each with a heat input capacity of 90 MMBtu/hr. Dryer #1 is controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A, and Dryer #2 is controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and exhausts to stack S-7A. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and exhausts to stack S-7B. DDGS Coolers #1 and #2 will be permanently shut down before startup of DDGS Cooling Drum EP-34 and removed after startup of the DDGS cooling drum, EP-34.
 - (8) Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - (9) One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - (10) Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
- (g) DDGS handling, storage and loadout operations, identified as process P-8, with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
- (1) One (1) DDGS storage building, installed in 2008, which includes supporting equipment; one (1) enclosed DDGS conveyor, identified as EP-09, with a maximum throughput capacity of 44.65 tons per hour. Particulate emissions between the DDGS storage building and DDGS loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8.

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- (2) One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. EP-10 is not controlled but is equipped with chute extensions and a funnel device to restrict the material flow rate.
 - (3) One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. EP-11 is not controlled but is equipped with chute extensions and a funnel device to restrict the material flow rate.
- (h) Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, with a maximum capacity of 36,000 gallons per hour.
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, with a maximum capacity of 120,000 gallons per hour.
 - (3) Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.
- These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.
- (i) Product Storage, identified as process P-10, consisting of the following emission units:
- (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, each with a capacity of 172,000 gallons.
 - (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, and a maximum design capacity less than 20,000 gallons per day throughput.
 - (3) Two (2) ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 and approved in 2016 for modification, each storing denatured or undenatured ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
 - (4) One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.

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

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

E.7.1 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 63.2540, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1-1, for the above listed emissions units, as specified in 40 CFR Part 63, Subpart FFFF, in accordance with the schedule in 40 CFR Part 63, Subpart FFFF.
- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.7.2 National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing [40 CFR 63, Subpart FFFF]

Pursuant to 40 CFR Part 63, Subpart FFFF, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart FFFF, which are incorporated by reference as 326 IAC 20-84 (included as Attachment G to this permit), for the above listed emissions units, as specified as follows.

- (1) 40 CFR 63.2430
- (2) 40 CFR 63.2435(a)
- (3) 40 CFR 63.2435(b)(1)(i)
- (4) 40 CFR 63.2435(b)(2)
- (5) 40 CFR 63.2435(b)(3)
- (6) 40 CFR 63.2435(d)
- (7) 40 CFR 63.2435(e)
- (8) 40 CFR 63.2440(a)
- (9) 40 CFR 63.2440(b)
- (10) 40 CFR 63.2440(c)(1)
- (11) 40 CFR 63.2445(a)(2)
- (12) 40 CFR 63.2445(c)
- (13) 40 CFR 63.2445(f)
- (14) 40 CFR 63.2450(a)
- (15) 40 CFR 63.2450(b)
- (16) 40 CFR 63.2450(c)(1)
- (17) 40 CFR 63.2450(c)(2)(i-iii)
- (18) 40 CFR 63.2450(e)(1-2)
- (19) 40 CFR 63.2450(f)
- (20) 40 CFR 63.2450(g)(1)
- (21) 40 CFR 63.2450(g)(2)
- (22) 40 CFR 63.2450(g)(4)
- (23) 40 CFR 63.2450(g)(5)
- (24) 40 CFR 63.2450(h)
- (25) 40 CFR 63.2450(i)
- (26) 40 CFR 63.2450(k)(1-3)
- (27) 40 CFR 63.2450(k)(5)
- (28) 40 CFR 63.2450(l)
- (29) 40 CFR 63.2450(m)
- (30) 40 CFR 63.2450(p)
- (31) 40 CFR 63.2450(r)
- (32) 40 CFR 63.2450(s)
- (33) 40 CFR 63.2455(a)
- (34) 40 CFR 63.2455(b)(1-3)
- (35) 40 CFR 63.2460(a)
- (36) 40 CFR 63.2460(b)(1-7)
- (37) 40 CFR 63.2470(a)
- (38) 40 CFR 63.2470(c)
- (39) 40 CFR 63.2470(e),
- (40) 40 CFR 63.2475(a)
- (41) 40 CFR 63.2475(b)
- (42) 40 CFR 63.2480(a)
- (43) 40 CFR 63.2485

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- (44) 40 CFR 63.2505(a)(1)(i)(A)
- (45) 40 CFR 63.2505(b)
- (46) 40 CFR 63.2515(a)
- (47) 40 CFR 63.2515(b)(2)
- (48) 40 CFR 63.2515(c)
- (49) 40 CFR 63.2520(a)
- (50) 40 CFR 63.2520(b)
- (51) 40 CFR 63.2520(c)
- (52) 40 CFR 63.2520(d)
- (63) 40 CFR 63.2520(e)
- (64) 40 CFR 63.2525(a)
- (64) 40 CFR 63.2525(b)
- (66) 40 CFR 63.2525(c)
- (67) 40 CFR 63.2525(d)
- (68) 40 CFR 63.2525(e)
- (69) 40 CFR 63.2525(f)
- (70) 40 CFR 63.2525(g)
- (71) 40 CFR 63.2525(h)
- (72) 40 CFR 63.2525(i)
- (73) 40 CFR 63.2525(j)
- (74) 40 CFR 63.2525(k)
- (75) 40 CFR 63.2535(a)
- (76) 40 CFR 63.2535(c)
- (77) 40 CFR 63.2540
- (78) 40 CFR 63.2545
- (79) 40 CFR 63.2550
- (80) Table 1 to Subpart FFF of Part 63
- (81) Table 2 to Subpart FFF of Part 63
- (82) Table 4 to Subpart FFF of Part 63
- (83) Table 5 to Subpart FFF of Part 63
- (84) Table 6 to Subpart FFF of Part 63
- (85) Table 7 to Subpart FFF of Part 63
- (86) Table 8 to Subpart FFF of Part 63
- (87) Table 9 to Subpart FFF of Part 63
- (88) Table 11 to Subpart FFF of Part 63
- (89) Table 12 to Subpart FFF of Part 63

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

Source Name: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051

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

Please check what document is being certified:

Annual Compliance Certification Letter

Test Result (specify): _____

Report (specify): _____

Notification (specify): _____

Affidavit (specify): _____

Other (specify): _____

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

Signature: _____

Printed Name: _____

Title/Position: _____

Phone: _____

Date: _____

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

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16. |
|--|

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

Facility/Equipment/Operation:

Control Equipment:

Permit Condition or Operation Limitation in Permit:

Description of the Emergency

Describe the cause of the Emergency

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

Page 2 of 2

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051
Facility: Four (4) corn storage bins, identified as EP-02a, EP-02b, EP-02c, and EP-02d
Parameter: Grain throughput
Total Limit: 1,252,371 tons of grain received per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1 Grain Received This Month (tons)	Column 2 Grain Received for Previous 11 Months (tons)	Column 1 + 2 Grain Received for 12- Month Period (tons)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

DRAFT

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051
Facility: Prior to Startup of DDGS Dryers A-D:
Two (2) DDGS Dryers (#1 and #2) and two (2) thermal oxidizers (C-6A and C-6B)
On and after startup of DDGS Dryers A-D:
Four (4) DDGS Dryers (A-D) and two (2) thermal oxidizers (C-6A and C-6B)
Parameter: Natural Gas Usage
Total Limit: 1,892 million cubic feet of natural gas usage per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1 <input type="checkbox"/> Natural Gas Usage for This Month (MMCF)	Column 2 Natural Gas Usage for Previous 11 Months (MMCF)	Column 1 + 2 Natural Gas Usage for 12-Month Period (MMCF)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

DRAFT

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051
Facility: Two (2) DDGS Dryers (#1 and #2)
Four (4) DDGS Dryers (A-D)
Parameter: SO₂ - DDGS Throughput
Limit: 391,148 tons of DDGS throughput to the dryers per twelve (12)
consecutive month period, with compliance determined at the end of
each month.

QUARTER: _____ YEAR: _____

Month	Column 1 DDGS Throughput for This Month (tons)	Column 2 DDGS Throughput for Previous 11 Months (tons)	Column 1 + 2 DDGS Throughput for 12-Month Period (tons)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051
Facility: Truck and rail loading racks
Parameter: Denatured Ethanol Loaded Out
Limit: Combined limit of 122,141,250 gallons of denatured or undenatured ethanol per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1 <input type="checkbox"/> Denatured and Undenatured Ethanol Loaded Out for This Month (gallons)	Column 2 <input type="checkbox"/> Denatured and Undenatured Ethanol Loaded Out for Previous 11 Months (gallons)	Column 1 + 2 Denatured and Undenatured Ethanol Loaded Out for 12-Month Period (gallons)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
 d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
 Part 70 Operating Permit No.: T129-31281-00051
 Facility: Four (4) Package Boilers
 Parameter: Natural Gas Usage to limit NO_x and CO
 Limit: 3,237.5 million cubic feet of natural gas usage per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1 <input type="checkbox"/> Natural Gas Usage for This Month (MMCF)	Column 2 Natural Gas Usage for Previous 11 Months (MMCF)	Column 1 + 2 Natural Gas Usage for 12-Month Period (MMCF)

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

Submitted By: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

DRAFT

**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: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051

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:

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

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

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

Source Description and Location

Source Name:	Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Location:	7201 Port Road, Mount Vernon, IN 47206
County:	Posey
SIC Code:	2869 (Industrial Organic Chemicals, Not Elsewhere Classified)
Operation Permit No.:	T 129-31281-00051
Operation Permit Issuance Date:	September 25, 2013
Significant Source Modification No.:	129-36200-00051
Significant Permit Modification No.:	129-36213-00051
Permit Reviewer:	Doug Logan

Source Definition

NOTE: The source name was changed from Aventine to Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant as described in Title V Administrative Amendment No. 129-34550-00051.

The Aventine ethanol plant (plant number 129-00051), the Consolidated Grain & Barge's (CGB) grain elevator (plant number 129-00014), and the Consolidated Terminals and Logistics (CTL) plant (plant number 129-00054) are all located at the Port of Indiana Maritime Center. In a prior permitting action IDEM, OAQ determined that the Aventine plant and the CGB grain elevator plant were one major source. After construction of the Aventine plant the relationship between those two plants changed from what the sources had planned. CGB has requested a review of the previous source determination. IDEM, OAQ has examined whether these three plants, or any combination of them, should be considered one "major source" as defined at 326 IAC 2-7-1(22). In order for two or more plants to be considered one major source, they must meet all three of the following criteria:

- (1) the plants must be under common ownership or common control;
- (2) the plants must have the same two-digit Standard Industrial Classification (SIC) Code or one must serve as a support facility for the other; and,
- (3) the plants must be located on contiguous or adjacent properties.

The CGB grain elevator is owned by Consolidated Grain and Barge Company. The CTL plant is owned by Consolidated Terminals and Logistics Company, which is a wholly owned subsidiary of Consolidated Grain and Barge Company. Therefore the CGB grain elevator and the CTL plant have common ownership, meeting the first element of the major source definition.

The Aventine ethanol plant is owned by Aventine Renewable Energy Holdings, Inc. Aventine Renewable Energy Holdings, Inc. and Consolidated Grain and Barge Company are unrelated corporations. They do not have common directors on their board of directors and they do not have any corporate officers in common. There is no common ownership between the Aventine plant and the other two plants.

IDEM's Nonrule Policy Document Air-005 applies to the definition of "major source" in 326 IAC 2-7-1(22). IDEM's Nonrule Policy Document Air-005 sets out two independent tests to determine if common control exists when there is no common ownership. The first test, the auxiliary activity test, determines whether one source performs an auxiliary activity which directly serves the purpose of the primary activity and whether the owner or operator of the primary activity has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Day-to-day control of the auxiliary activity by the primary activity may be evidenced by several factors, including:

- Is a majority of the output of the auxiliary activity provided to the primary activity?
- Can the auxiliary activity contract to provide its products/services to a third-party without the consent of the primary activity?
- Can the primary activity assume control of the auxiliary activity under certain circumstances?
- Is the auxiliary activity required to complete periodic reports to the primary activity?

If one or a combination of these questions is answered affirmatively, common control may exist.

The CGB grain elevator provides a necessary raw material, grain, to the Aventine plant. From June 1, 2011 to May 31, 2012 the CGB grain elevator sold approximately 32% of its total grain output to Aventine. This is less than a majority of the CGB grain elevator's output. It should be noted that other Consolidated Grain and Barge plants, such as Lyle Station (20 miles away) and three CGB plants in Illinois, also provide grain to the Aventine plant. However, under this test, it is only the relationship between this CGB grain elevator and Aventine that is examined.

The CGB grain elevator and Aventine are free to contract with third parties, neither plant can assume control of the other and neither is required to submit periodic reports to the other. The first common control test is therefore not met for the CGB grain elevator and the Aventine plant.

The second common control test in the nonrule policy is the but/for test. This test focuses on whether the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied. The CGB grain elevator does not supply a majority of its output to the Aventine plant. The CGB grain elevator was in operation prior to Aventine's construction and has many other customers. If the Aventine plant were to shut down the CGB grain elevator would be able to continue to operate. Therefore the second common control test is also not met. IDEM finds that the CGB grain elevator and the Aventine plant are not under common control. Since neither common ownership nor common control exists the first part of the definition of major source is not met for the CGB grain elevator and the Aventine plant.

IDEM now examines whether the CTL plant and the Aventine plant are under common control. Under the first common control test the CTL plant performs an integral part of the production process by shipping Aventine's ethanol and Dry Distillers Grain with Solubles (DDGS) products to market. However, the CTL plant does not provide a majority of its shipping services to Aventine. From June 1, 2011 to May 31, 2012, the CTL plant shipped a total of 279,795 tons of DDGS and ethanol for Aventine, approximately 47% of its total tonnage. CTL's operators expect this percentage to decline in the future, as the CTL plant has applied for a modification to its facility to add material handling for direct reduced iron. Therefore, the CTL plant and the Aventine plant do not meet the first common control test.

Under the second common control test IDEM focuses on whether the CTL plant, as the auxiliary activity, would exist absent the needs of the primary activity, the Aventine plant. The CTL plant does not supply a majority of its services to the Aventine plant. The CTL plant was in operation prior to Aventine's operation. If the Aventine plant were to shut down the CTL plant would be able to continue to operate. Therefore the second common control test is also not met and the CTL plant and the Aventine plant are not under common control. Since neither common ownership nor common control exists the first part of the definition of major source is not met for the CTL plant and the Aventine plant.

The SIC Code Manual of 1987 sets out how to determine the proper SIC Code for each type of business. More information about SIC Codes is available at http://www.osha.gov/pls/imis/sic_manual.html on the Internet. The CTL plant belongs to the two-digit Major Group 44, corresponding to SIC Code 4491 for marine cargo handling. The CGB grain elevator belongs to the two-digit Major Group 51, for Wholesale Trade-Nondurable Goods. The Aventine plant belongs to the two-digit Major Group 28, for Chemicals and Allied Products. None of the three plants has the same two-digit SIC Code.

A plant is a support facility to another plant if it dedicates 50% or more of its output to another plant. The CGB grain elevator supplies less than 50% of its output to the Aventine plant. The CTL plant provides less than 50% of its output to the Aventine plant. The CTL plant does not do any shipping for the CGB grain elevator. Since none of the three plants has a support relationship and all three plants have different SIC Codes, none of the three plants meet the second part of the major source definition.

The CGB grain elevator, the CTL plant and the Aventine plant are all on separate properties with no common boundary line. Since they are not on the same or contiguous properties, IDEM examined whether the plants are on adjacent properties.

The term "adjacent" is not defined in Indiana's air permitting rules. IDEM, OAQ has located a May 21, 1988 letter from U.S. EPA Region 8 to the Utah Division of Air Quality and a U.S. EPA Region 5 letter dated October 18, 2010 to Scott Huber at Summit Petroleum Corporation, that discuss the term "adjacent". These letters are in no way binding on IDEM, OAQ, but they are persuasive in that they illustrate a longstanding analysis used to determine if two sources are "adjacent"; going as far back as the preamble to the 1980 NSR program definition of a source. U.S. EPA's consistent approach is that any evaluation of what is "adjacent" must relate to the guiding principal of a common sense notion of "source". The evaluation should look at whether the distance between the plants is sufficiently small that it enables them to operate as a single source. Some sample questions are:

1. Are materials routinely transferred between the plants?
2. Do managers or other workers frequently shuttle back and forth to be involved actively in the plants?
3. Is the production process itself split in any way between the plants?

The CGB grain elevator property boundary is about 1,000 feet from the nearest Aventine plant boundary. Grain is frequently transferred from the CGB grain elevator to the Aventine plant. There are no conveyors or other direct connections between the plants. The grain is delivered by truck or railcar using the rail line that runs throughout the Port. Nothing is transferred from Aventine to the CGB grain elevator. The plants have separate managers and separate production staff with no managers or other workers shuttling back and forth to be actively involved in the other plant. The production process itself is not split between the two plants. The Aventine plant receives grain from other grain elevators located much farther away. The CGB grain elevator could be much further away and still function in the same way in relation to the Aventine plant. The CGB grain elevator and the Aventine plant are therefore not adjacent and do not meet the third part of the major source definition.

The CTL plant property is about 1,000 feet from the Aventine plant property. A dedicated pipeline transferring ethanol from the Aventine plant to the CTL plant directly connects the two plants. The plants have separate managers and separate production staff with no managers or other workers shuttling back and forth to be actively involved in the other plant. Part of any production process is the shipment of products to markets or customers. Although the Aventine plant is capable of shipping out its products by truck or railcar, the CTL plant performs most of the shipment function for the Aventine plant. The relatively short distance between the two plants enables them to operate in this manner, especially with respect to the dedicated pipeline. The CTL plant and the Aventine plant are therefore adjacent, meeting the third part of the major source definition.

The CGB grain elevator property and the CTL plant property are approximately 600 feet apart. No materials are transferred between the two plants. There are no direct connections between the two plants. The plants have separate managers and separate production staff with no managers or other workers shuttling back and forth to be actively involved in the other plant. There are no production processes split between the two plants. The CGB grain elevator and the CTL plant are therefore not adjacent and do not meet the third part of the major source definition.

Since the CGB grain elevator and the Aventine plant do not meet any of the three parts of the major source definition, IDEM, OAQ has determined that the Aventine plant and CGB grain elevator are not part of the same major source. The CTL plant and the Aventine plant do not meet all three parts of the major source definition and, therefore, IDEM, OAQ has determined that the CTL plant and the Aventine plant are not part of the same major source. The CGB grain elevator and the CTL plant do not meet all three parts of the major source definition and IDEM, OAQ has determined that the CGB grain elevator and the CTL plant are not part of the same major source.

Existing Approvals

Permit Type	Permit Number	Issuance Date
Part 70 Operating Permit	129-31281-00051	September 25, 2013
Administrative Amendment	129-34550-00051	July 10, 2014
Significant Source Modification	129-35199-00051	April 28, 2015
Significant Permit Modification	129-35226-00051	June 16, 2015

County Attainment Status

The source is located in Posey County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour 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.

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

- (a) Ozone Standards
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Posey County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x

emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
 Posey County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
 Posey County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

- (1) EPA published a final rule in the Federal Register on May 1, 2007, that excluded ethanol production facilities that produce ethanol through natural fermentation, from the major source category "Chemical Process Plants". Therefore, the fugitive emissions from ethanol production facilities are not counted toward determination of PSD, Emission Offset, and Part 70 Permit applicability.
- (2) The grain silos are not a grain terminal elevator which has permanent storage capacity of more than 88,100 m³ (ca. 2.5 million U.S. bushels.) or a grain storage elevator as the terms are defined at 40 CFR 60.301. Therefore, the source is not subject to 40 CFR 60, Subpart DD, and fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability..
- (3) The boilers, with a total heat input rating of greater than 250 MMBtu/hr are considered one of the 28 listed source categories, based on the EPA guidance for "nesting activities". Therefore, any fugitive emissions from these boilers are counted toward PSD, Emission Offset, and Part 70 Permit applicability.

Source Status - Existing Source
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The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (ton/yr)
<u>Nested Source (Utility Boilers)</u>	
PM	Less than 100
PM ₁₀	Less than 100
PM _{2.5}	Less than 100
SO ₂	Less than 100
NO _x	Less than 100
VOC	Less than 100
CO	Less than 100
<u>Entire Source</u>	
PM	Less than 250
PM ₁₀	Less than 250
PM _{2.5}	Less than 250
SO ₂	Less than 250
NO _x	Less than 250
VOC	Less than 250
CO	Less than 250

Pollutant	Emissions (ton/yr)
HAPs	
Acetaldehyde	Less than 10
Total	Less than 25

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

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

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant, is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

The nested source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant, is emitted at a rate of one (100) tons per year or more and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

- (b) These emissions are based upon Significant Source Modification No. 129-35199-00051, issued April 28, 2014.
- (c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant on August 27, 2015, relating to construction of new DDGS dryers and cooling drum to replace existing DDGS dryers and coolers, new grain truck unloading pit and storage silos, a new corn oil extraction process, new denatured ethanol blending skids, and a new CO₂ scrubber stack dilution blower, and modification of ethanol storage tanks. The source has not requested any changes to federally enforceable production or throughput limitations.

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

- Grain receiving and handling operations, identified as process P-1, with a maximum capacity of 1,120 tons of grain per hour and an annual throughput of 1,252,731 tons of grain. The grain when received from various sources is already dried and cleaned. These operations include the following:

- Grain Receiving 3, identified as EP-01c, approved in 2016 for construction, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1C, exhausting to stack S-1C.
- Two (2) corn storage silos, identified as EP-02c and EP-02d, approved in 2016 for construction, with a total storage capacity of 1,304,320 bushels with two (2) conveyor systems.
- Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
 - Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
- Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
 - Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.

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

- Fermentation operation, identified as process P-5, installed in 2008 and approved in 2016 for modification, with an average throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height. The average undenatured ethanol production rate is 13,302 gallons per hour and a maximum of 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber.
 - Two (2) beer columns, #1 and #2, installed in 2008, with an extension to column #2 added in 2014, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
- Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:

- DDGS drying, #1 and #2, installed in 2008, with a total drying rate of 391,148 tons (dry basis) of DDGS per year (44.65 tons per hour), with two (2) DDGS dryers, each with a heat input capacity of 90 MMBtu/hr. Dryer #1 is controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A, and Dryer #2 is controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
- Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and exhausts to stack S-7A. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and exhausts to stack S-7B.
- DDGS handling, storage and loadout operations, identified as process P-8, with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
 - One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour, and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.
 - One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour, and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.
- Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
 - One (1) truck loadout, identified as EP-24, installed in 2008, with a maximum capacity of 36,000 gallons per hour.
 - One (1) rail loadout, identified as EP-25, installed in 2008, with a maximum capacity of 120,000 gallons per hour.
- Product Storage, identified as process P-10, consisting of the following emission units:
 - Two (2) ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 and approved in 2016 for modification, each storing denatured or undenatured ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.

The following is a list of new insignificant activities:

- One (1) Corn Oil Separation System.
 - Four (4) corn oil storage tanks, identified as Tk008, Tk009, Tk010, and Tk011, approved in 2016 for construction, with a maximum capacity of 18,000 gallons, each.
 - One (1) truck loadout system.

In addition, the source requested removal of Operating Scenario 1 for DDGS Dryer #1 and #2 and DDGS Cooler #1 and #2 because the plant is no longer capable of operating in the manner described in the operating scenario. The source has also requested adjustment of various emissions limits based on stack testing at the source. The new equipment for grain receiving and storage and new DDGS dryers and cooling drum do not include additional potential to emit after issuance because the source will continue to operate under the same grain and DDGS throughput limits. Existing DGS dryers and coolers (Dryers #1 & #2 and Coolers #1 & #2) will be decommissioned and permanently shut down after startup of the new DDGS dryers and cooling drum.

Enforcement Issues

IDEM is aware that there is a pending enforcement action for possible violations of emission limitations. IDEM is reviewing this matter and will take the appropriate action.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
S-1C	Baghouse C-1C	10.00	2.80	24,000	60
S-7C	Baghouse C-7C	50.00	4.00	50,000	110

Emission Calculations

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

Permit Level Determination – Part 70 Modification to an Existing Source

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

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

Increase in PTE Before Controls of the Modification New Units	
Pollutant	Potential To Emit (ton/yr)
PM	1,331.24
PM ₁₀	1,223.51
PM _{2.5}	1,141.58
SO ₂	0.46
NOx	77.29
VOC	29.72
CO	64.93
Single HAPs	<10
Total HAPs	1.46

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

PTE Change of the Modified Process			
Pollutant	PTE Before Modification (ton/yr)	PTE After Modification (ton/yr)	Increase from Modification (ton/yr)

PTE Change of the Modified Process			
Pollutant	PTE Before Modification (ton/yr)	PTE After Modification (ton/yr)	Increase from Modification (ton/yr)
PM	4.29	8.58	4.29
PM ₁₀	0.96	1.91	0.96
PM _{2.5}	0.96	1.91	0.96
SO ₂	-	-	-
NO _x	-	-	-
VOC	-	-	-
CO	-	-	-
Total HAPs	-	-	-

Total PTE Increase due to the Modification			
Pollutant	PTE New Emission Units (ton/yr)	Net Increase to PTE of Modified Emission Units (ton/yr)	Total PTE for New and Modified Units (ton/yr)
PM	1,331.24	4.29	1,335.54
PM ₁₀	1,223.51	0.96	1,224.47
PM _{2.5}	1,141.58	0.96	1,142.54
SO ₂	0.46	-	0.46
NO _x	77.29	-	77.29
VOC	29.72	-	29.72
CO	64.93	-	64.93
Total HAPs	1.46	-	1.46

This source modification is subject to 326 IAC 2-7-10.5(g)(4) because the potential to emit PM, PM₁₀, PM_{2.5}, NO_x, and CO is each greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires adjustment of PSD limits and significant changes in existing Part 70 monitoring permit terms and conditions.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process / Emission Unit	Project Emissions (ton/yr)						
	PM	PM₁₀	PM_{2.5}¹	SO₂	NO_x	VOC	CO
EP-01c, Truck Dump Pit & Conveyors	2.01	2.01	2.01	-	-	-	-
EP-02c, Grain Storage Silo ²	15.66	3.95	0.69	-	-	-	-
EP-02d, Grain Storage Silo				-	-	-	-

Process / Emission Unit	Project Emissions (ton/yr)						
	PM	PM ₁₀	PM _{2.5} ¹	SO ₂	NO _x	VOC	CO
Storage silo conveyors (for EP-02c & EP-02d) ³	38.21	21.30	3.63	-	-	-	-
DDGS Dryers A-D ⁴	109.50	109.50	109.50	88.01	94.60	56.06	62.20
DDGS Cooling Drum Baghouse C-7c	9.37	9.37	9.37	-	-	-	-
DDGS Cooling Drum	-	-	-	-	-	24.09	-
Corn Oil Storage Tanks	-	-	-	-	-	1.05	-
Corn Oil Loadout	-	-	-	-	-	0.33	-
Total for Modification	174.75	146.13	125.20	88.01	94.60	81.53	62.20
PSD Major Source Thresholds	250	250	250	250	250	250	250

Notes:

1. PM_{2.5} listed is direct PM_{2.5}.
2. Grain throughput limit on EP-02c and EP-02d includes EP-02a and EP-02b
3. Grain throughput limit on EP-02c /EP-02d conveyors includes EP-02a/EP-02b conveyors
4. Limits shown for DDGS Dryers A-D are the limits on RTO's C-6A and C-6B

Potential to Emit of the Entire Source After Issuance

Nested Source							
Process/ Emission Unit	Potential To Emit of the Nested Source After Issuance (tons/year)						
	PM	PM ₁₀	PM _{2.5} ¹	SO ₂	NO _x	VOC	CO
EP-26, boiler	2.02	2.02	2.02	0.24	45.86	0.81	29.14
EP-27, boiler	2.02	2.02	2.02	0.24		0.81	
EP-28, boiler	2.02	2.02	2.02	0.24		0.81	
EP-29, boiler	2.02	2.02	2.02	0.24		0.81	
Total PTE of Nested Source	8.09	8.09	8.09	0.95	45.86	3.24	29.14
PSD Major Source Thresholds	100	100	100	100	100	100	100
negl. = negligible							

Entire Source							
Process / Emission Unit	Potential to Emit of The Entire Source After Issuance (ton/yr)						
	PM	PM ₁₀	PM _{2.5} ¹	SO ₂	NO _x	VOC	CO
Total PTE of Nested Source	8.09	8.09	8.09	0.95	45.86	3.24	29.14
EP-01a, Grain Receiving 1	2.01	2.01	2.01	-	-	-	-

Entire Source									
Process / Emission Unit	Potential to Emit of The Entire Source After Issuance (ton/yr)								
	PM	PM₁₀	PM_{2.5}¹	SO₂	NO_x	VOC	CO		
EP-01b, Grain Receiving 2				-	-	-	-		
EP-01c, Grain Receiving 3	2.01	2.01	2.01	-	-	-	-		
EP-02a, Grain Storage Silo	15.66	3.95	0.69	-	-	-	-		
EP-02b, Grain Storage Silo									
EP-02c, Grain Storage Silo									
EP-02d, Grain Storage Silo				-	-	-	-		
EP-02a/EP-02b Storage silo conveyors	38.21	21.30	3.63	-	-	-	-		
EP-02c/EP-02d Storage silo conveyors				-	-	-	-		
EP-03a, Grain Scalper	1.93	1.93	1.93	-	-	-	-		
EP-03b, Grain Scalper Surge Bin				-	-	-	-		
EP-05, Hammermill	1.31	1.31	1.31	-	-	-	-		
EP-06, Hammermill	1.31	1.31	1.31	-	-	-	-		
EP-07, Hammermill	1.31	1.31	1.31	-	-	-	-		
EP-08, Hammermill	1.31	1.31	1.31	-	-	-	-		
Milled grain cooking (RTO-C6A)	-	-	-	88.01	94.60	28.03	-		
Distillation & dehydration (RTO C-6A)	-	-	-				-		
EP-30/EP-31, DDGS Dryers A & B process emissions	54.75	54.75	54.75				-		
EP-30/EP-31, DDGS Dryers A & B NG combustion emissions							-		
RTO-C-6A, NG combustion emissions						-			
Milled grain cooking (RTO-C6B)	-	-	-			-	-	-	-
Distillation & dehydration (RTO C-6B)	-	-	-			-	-	-	-
EP-32/EP-33, DDGS Dryers C & D process emissions	54.75	54.75	54.75			-	-	28.03	-
EP-32/EP-33, DDGS Dryers C & D NG combustion emissions						-			
RTO-C-6B, NG combustion emissions						-			
EP-34, DDGS Cooling Drum				9.37	9.37	9.37	-	-	24.09

Entire Source							
Process / Emission Unit	Potential to Emit of The Entire Source After Issuance (ton/yr)						
	PM	PM₁₀	PM_{2.5}¹	SO₂	NO_x	VOC	CO
EP-15, Fermentation beer well	1.05	1.05	1.05	-	-	36.05	-
EP-19, Wet Distillers Grains & Solubles ²	-	-	-	-	-	-	-
EP-09, DDGS conveyor	0.35	0.35	0.35	-	-	-	-
EP-09a, DDGS Reclaim Conveyor #1	11.93	9.08E-03	8.64E-04	-	-	-	-
EP-09b, DDGS Reclaim Conveyor #2				-	-	-	-
EP-24/EP-25, Truck/Railcar Ethanol Loadout	1.83E-02	1.83E-02	1.83E-02	-	2.04	9.16	5.10
Flare C-9 pilot, NG combustion emissions	7.66E-04	3.06E-03	3.06E-03	2.42E-04	4.03E-02	2.22E-03	3.38E-02
P-12, emergency diesel fire pump	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.69	0.26	0.70
FS002 Grain receiving fugitives	1.10	0.24	0.24	-	-	-	-
FS003, DDGS storage fugitives	3.32E-02	7.82E-03	7.82E-03	-	-	-	-
FS004, DDGS loadout fugitives	9.76	2.37	2.37	-	-	-	-
F-1, Cooling Tower	1.66	1.66	1.66	-	-	-	-
Gasoline dispensing	-	-	-	-	-	1.04E-02	-
F-3, equipment leaks	-	-	-	-	-	6.73	-
Ethanol day tank, Tk001	-	-	-	-	-	0.20	-
Ethanol day tank, Tk002	-	-	-	-	-	0.20	-
Ethanol day tank, Tk003	-	-	-	-	-	0.20	-
Denaturant tank, Tk004	-	-	-	-	-	1.37	-
Ethanol tank, Tk005	-	-	-	-	-	0.57	-
Ethanol tank, Tk006	-	-	-	-	-		-
Corrosion inhibitor tank, Tk007	-	-	-	-	-	1.20E-02	-
Corn oil storage tanks, Tk008 - Tk011	-	-	-	-	-	1.05	-
Corn oil loadout	-	-	-	-	-	0.33	-
F-2, vehicle traffic on paved roads, fugitive emissions	10.20	2.04	0.50	-	-	-	-
Total for Entire Source	228.09	171.12	148.66	89.96	145.94	139.53	97.17

Entire Source							
Process / Emission Unit	Potential to Emit of The Entire Source After Issuance (ton/yr)						
	PM	PM₁₀	PM_{2.5}¹	SO₂	NO_x	VOC	CO
PSD Major Source Thresholds	250	250	250	250	250	250	250

Notes:

1. *PM_{2.5} listed is direct PM_{2.5}.*
2. *Source is capable of handling distillers grains & solubles in either wet or dry states. Worst-case PTE is dry (DDGS) so those processes are shown in this table, wet distillers grains and solubles (WDGS) are identified, but no values are shown in this table.*

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

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

This existing minor PSD stationary source is still not major because the emissions of all PSD regulated pollutant are less than the PSD major source thresholds.

Since the unrestricted potential to emit of this source is greater than two hundred fifty (250) tons, each, of PM, PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and CO per year, this source has elected to limit the potential to emit of this modification as follows:

- (a) PM, PM₁₀, and PM_{2.5}
 - (1) Grain receiving and handling operations
 - (A) The PM, PM₁₀, and PM_{2.5} emissions from the following processes shall not exceed the emission limits in the table below:.

Process ID	Process Description	Control ID	PM Emissions Limits (lbs/hr)	PM₁₀ Emissions Limits (lbs/hr)	PM_{2.5} Emissions Limits (lbs/hr)
EP-01a	Grain Receiving 1	Baghouse C-1A	0.46	0.46	0.46
EP-01b	Grain Receiving 2				
EP-01c	Grain Receiving 3	Baghouse C-1C	0.46	0.46	0.46
EP-05	Hammermill	Baghouse C-2A	0.30	0.30	0.30
EP-06	Hammermill	Baghouse C-2B	0.30	0.30	0.30
EP-07	Hammermill	Baghouse C-2C	0.30	0.30	0.30
EP-08	Hammermill	Baghouse C-2D	0.28	0.28	0.28
EP-03a	Grain Scalper	Baghouse C-1B	0.44	0.44	0.44
EP-09	DDGS conveyor	Baghouse C-8	0.08	0.08	0.08
	DDGS storage				

- (B) The annual grain throughput shall not exceed 1,252,731 tons per twelve (12) consecutive month period, and the pound/ton emission factors shall not exceed the emission limits in the table below:

Process ID	Process Description	PM Emissions Limits (lb/ton)	PM ₁₀ Emissions Limits (lb/ton)	PM _{2.5} Emissions Limits (lb/ton)
EP-02a	Corn storage bin	0.025	0.0063	0.0011
EP-02b	Corn storage bin			
EP-02c	Corn storage bin			
EP-02d	Corn storage bin			
na	Storage silo conveyors	0.061	0.034	0.0058

- (2) The PM, PM₁₀, and PM_{2.5} emissions from the following ethanol emissions units shall not exceed the following emission limits:
- (A) Prior to the startup of DDGS Dryers A - D and the DDGS Cooling Drum.
- (i) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS dryer #1, shall not exceed 12.5 pounds per hour.
 - (ii) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS dryer #2, shall not exceed 12.5 pounds per hour.
 - (iii) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 1.07 pounds per hour.
 - (iv) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 1.07 pounds per hour.
- (B) After startup of DDGS Dryer A - D (EP-30 - EP-33) and DDGS Cooling Drum (EP-34).
- (i) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS Dryers A and B, shall not exceed 12.5 pounds per hour, each.
 - (ii) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS Dryers C and D, shall not exceed 12.5 pounds per hour, each.
 - (iii) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 2.14 pounds per hour, each.
- (3) The PM, PM₁₀, and PM_{2.5} emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pounds per hour, each.

- (4) The PM, PM₁₀, and PM_{2.5} emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.000299 pound per kilogallon of ethanol loaded out. Note: combined throughput of the truck and rail loading racks is elsewhere limited to 122,141,250 gallons of denatured and undenatured alcohol per twelve (12) consecutive month period.
 - (5) The PM, PM₁₀, and PM_{2.5} emissions from the cooling tower shall not exceed 0.38 pounds per hour, each, and it shall be designed with a drift rate of 0.0005% and circulation rate of 2,256,000 gallons of make up water per hour.
- (b) SO₂
- (1) Prior to the startup of DDGS Dryers A - D, the sulfur dioxide (SO₂) emissions from the two (2) DDGS dryers #1 and #2 shall not exceed 0.45 pound per ton of DDGS dried.
 - (2) Prior to the startup of DDGS Dryers A - D, the total DDGS throughput to the two DDGS dryers shall not exceed 391,148 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (3) After the startup of DDGS Dryers A - D, the sulfur dioxide (SO₂) emissions from the four (4) DDGS dryers (A - D) shall not exceed 0.45 pound per ton of DDGS dried.
 - (4) After the startup of DDGS Dryers A - D, the total DDGS throughput to the four (4) DDGS dryers shall not exceed 391,148 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) NO_x
- (1) Prior to startup of DDGS Dryers A - D. the NO_x emissions from the two (2) Thermal Oxidizers (C-6A and C-6B) stack exhaust shall not exceed 100 pounds per million cubic feet of natural gas burned by the two (2) DDGS Dryers #1 and #2 and two (2) RTOs (C-6A and C-6B).
 - (2) Prior to startup of DDGS Dryers A - D. the total throughput of natural gas to the two (2) DDGS dryers #1 and #2 and two (2) Thermal Oxidizers, C-6A and C-6B shall be limited to 1,892 million cubic feet per twelve (12) month period, with compliance determined at the end of each month.
 - (3) After startup of DDGS Dryers A - D. the NO_x emissions from the two (2) Thermal Oxidizers (C-6A and C-6B) stack exhaust shall not exceed 100 pounds per million cubic feet of natural gas burned by the four (4) DDGS Dryers (A - D) and two (2) RTOs (C-6A and C-6B).
 - (4) After startup of DDGS Dryers A - D. the total throughput of natural gas to the four (4) DDGS dryers (A - D) and two (2) Thermal Oxidizers, C-6A and C-6B shall be limited to 1,892 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (5) The NO_x emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.0334 pound per kilogallon of ethanol loaded out. Note: combined throughput of the truck and rail loading racks is elsewhere limited to 122,141,250 gallons of denatured and undenatured alcohol per twelve (12) consecutive month period.

- (6) The four (4) package boilers shall only combust natural gas. The natural gas throughput to the four package boilers shall be limited to 3,237.5 MMCF per twelve consecutive month period, with compliance determined at the end of each month.
 - (7) The NO_x emissions from the four (4) package boilers shall not exceed 30.0 pounds per million cubic feet of natural gas.
- (d) VOC
- (1) Prior to the startup of DDGS Dryers A - D and the DDGS Cooling Drum.
 - (A) The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.4 pounds per hour.
 - (B) The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.4 pounds per hour.
 - (C) The VOC emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 1.85 pounds per hour.
 - (D) The VOC emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 1.55 pounds per hour.
 - (2) After startup of DDGS Dryer A - D (EP-30 - EP-33) and DDGS Cooling Drum (EP-34).
 - (A) The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer A, DDGS Dryer B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.40 pounds per hour.
 - (B) The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer C, DDGS Dryer D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.40 pounds per hour.
 - (C) The VOC emissions from the DDGS Cooling Drum Baghouse (C-7C), shall not exceed 5.50 pounds per hour.
 - (3) The VOC emissions from Fermentation, Scrubber C-5A, shall not exceed 8.23 pounds per hour.
 - (4) The VOC emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.00015 pound per gallon of ethanol loaded out.
 - (5) The trucks and rail loading racks shall be limited to a combined throughput of 122,141,250 gallons of denatured and undenatured ethanol per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (e) CO
- (1) Prior to startup of DDGS Dryers A - D. the CO emissions from Thermal Oxidizer #1 (C-6A), which controls the CO emissions from the DDGS dryer #1, shall not exceed 7.1 pounds per hour.
 - (2) Prior to startup of DDGS Dryers A - D. the CO emissions from Thermal Oxidizer #2 (C-6B), which controls the CO emissions from the DDGS dryer #2, shall not exceed 7.1 pounds per hour.
 - (3) After startup of DDGS Dryers A - D. the CO emissions from Thermal Oxidizer #1 (C-6A), which controls the CO emissions from the DDGS Dryers A and B, shall not exceed 7.1 pounds per hour.
 - (4) After startup of DDGS Dryers A - D. the CO emissions from Thermal Oxidizer #2 (C-6B), which controls the CO emissions from the DDGS Dryers C and D, shall not exceed 7.1 pounds per hour.
 - (5) The CO emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.0835 pound per kilogallon of ethanol loaded out. Note: combined throughput of the truck and rail loading racks is elsewhere limited to 122,141,250 gallons of denatured and undenatured alcohol per twelve (12) consecutive month period.
 - (6) The CO emissions from the four (4) package boilers shall not exceed 18 pounds per million cubic feet of natural gas. Note: the natural gas throughput to the four package boilers is elsewhere limited to 3,237.5 MMCF per twelve consecutive month period.

Compliance with these emission limits will ensure that the potential to emit from this source is less than two hundred fifty (250) tons, each, of PM, PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, and CO per year, and therefore will render the requirements of 326 IAC 2-2 not applicable to this source.

Compliance with these emission limits will ensure that the potential to emit from the four (4) package boilers is less than one hundred (100) tons, each, of NO_x and CO per year, and therefore will render the requirements of 326 IAC 2-2 not applicable to the package boilers.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

NSPS:

- (a) DDGS Dryers A - D are not subject to the requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60.40c, Subpart Dc), because the units are not steam generating units as defined at 40 CFR 60.41c. Therefore, the requirements of the NSPS are not included in the permit.
- (b) Grain Receiving 3 is not subject to the requirements of the New Source Performance Standard for Grain Elevators (40 CFR 60.300, Subpart DD), because the source is not a grain terminal elevator which has a permanent storage capacity of more than 88,100 m³ (ca. 2.5 million U.S. bushel) or a grain storage elevator which has a permanent grain storage capacity of 35,200 m³ (ca. 1 million bushels). The source has a permanent grain storage capacity of more than 1 million U.S. bushels, but is not a wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant. Therefore, the requirements of the NSPS are not included in the permit.

- (c) The denaturing skids are not subject to the requirements of the New Source Performance Standard for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (40 CFR 60.100a, Subpart Ja), because the source is not a petroleum refinery as defined at 40 CFR 60.101a. Therefore, the requirements of the NSPS are not included in the permit.
- (d) Corn Oil Tanks 1 - 4 (Tk008, Tk009, Tk010, and Tk011) are not subject to the requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR 60.110b, Subpart Kb), because the capacity of each vessel is less than 75 m³ (19,800 gallons). Therefore, the requirements of the NSPS are not included in the permit. Upon review, IDEM, OAQ has found that the corrosion inhibitor tank, Tk007, is not subject to Subpart Kb because the capacity of the vessel is less than 75 m³ (19,800 gallons.)
- (e) The four (4) DDGS dryers, one (1) DDGS cooling drum, and three (3) blending skids are subject to the New Source Performance Standards 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 60.480a, Subpart VVa), which is incorporated by reference as 326 IAC 12. The units subject to this rule include the following:
- Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
 - Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
 - Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
 - Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.

The four (4) DDGS dryers, one (1) DDGS cooling drum, six (6) centrifuges, and three (3) blending skids are subject to the following portions of Subpart VVa.

- (1) 40 CFR 60.480a(a)
- (2) 40 CFR 60.480a(b)
- (3) 40 CFR 60.480a(c)

- (4) 40 CFR 60.480a(d)
- (5) 40 CFR 60.480a(f)
- (6) 40 CFR 60.481a
- (7) 40 CFR 60.482-1a
- (8) 40 CFR 60.482-2a
- (9) 40 CFR 60.482-3a
- (10) 40 CFR 60.482-4a
- (11) 40 CFR 60.482-5a
- (12) 40 CFR 60.482-6a
- (13) 40 CFR 60.482-7a
- (14) 40 CFR 60.482-8a
- (15) 40 CFR 60.482-9a
- (16) 40 CFR 60.482-10a
- (17) 40 CFR 60.482-11a
- (18) 40 CFR 60.483-1a
- (19) 40 CFR 60.483-2a
- (20) 40 CFR 60.484a
- (21) 40 CFR 60.485a
- (22) 40 CFR 60.486a
- (23) 40 CFR 60.487a
- (24) 40 CFR 60.488a
- (25) 40 CFR 60.489a

NESHAP:

- (f) The denaturing skids are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) from Petroleum Refineries, 40 CFR 63, Subpart CC, because the source is not engaged in petroleum refining as defined in the Standard Industrial Classification code for petroleum refining (2911) . Therefore, the requirements of the NESHAP are not included in the permit.
- (g) The denaturing skids are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Organic Liquids Distribution (Non-Gasoline), 40 CFR 63, Subpart EEEE, because the source is not a major source of HAP emissions . Therefore, the requirements of the NESHAP are not included in the permit.
- (h) This source is subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP): Miscellaneous Organic Chemical Manufacturing, 40 CFR 63, Subpart FFFF (326 IAC 20-84), because this source operates miscellaneous organic chemical manufacturing process units and the source was considered a major source for HAPs on the "first compliance date" of NESHAP Subpart FFFF (May 10, 2008), and considered a new affected source that started up after November 10, 2003.

Even though this source now has the potential to emit HAPs less than 10 and 25 tons per year, it is still considered a "major source" under 40 CFR Part 63 (NESHAP), Subpart FFFF. The facilities at this source are still subject to the MACT standards under 40 CFR Part 63 (NESHAP), Subpart FFFF, because the source was considered a major source for HAPs on the "first compliance date" of NESHAP Subpart FFFF (May 10, 2008) and are required to comply permanently with the MACT standard (i.e., "Once in Always In"). These determinations are based on EPA's "Once in Always In Policy" (OIAI Policy).

For additional information on EPA's "Once in Always In Policy" (OIAI Policy), please refer to the EPA memo entitled "Potential to Emit for MACT Standards - Guidance on Timing Issues", May 16, 1995. This memo can be found at the following website:
<http://www.epa.gov/region07/air/title5/t5memos/pteguid.pdf>

The units subject to this rule include the following:

- Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (average of 44.65 tons per hour), consisting of the following emission units:
 - Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.
 - One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.
 - Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.
- Ethanol loadout, identified as P-9, with an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol consisting of the following emission units:
 - Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.

The four (4) DDGS dryers, one (1) DDGS cooling drum, six (6) centrifuges, and three (3) blending skids are subject to the following portions of Subpart FFFF:

- (1) 40 CFR 63.2430
- (2) 40 CFR 63.2435(a)
- (3) 40 CFR 63.2435(b)(1)(i)
- (4) 40 CFR 63.2435(b)(2)
- (5) 40 CFR 63.2435(b)(3)
- (6) 40 CFR 63.2435(d)
- (7) 40 CFR 63.2435(e)
- (8) 40 CFR 63.2440(a)
- (9) 40 CFR 63.2440(b)
- (10) 40 CFR 63.2440(c)(1)
- (11) 40 CFR 63.2445(a)(2)
- (12) 40 CFR 63.2445(c)
- (13) 40 CFR 63.2445(f)
- (14) 40 CFR 63.2450(a)
- (15) 40 CFR 63.2450(b)
- (16) 40 CFR 63.2450(c)(1)
- (17) 40 CFR 63.2450(c)(2)(i-iii)
- (18) 40 CFR 63.2450(e)(1-2)
- (19) 40 CFR 63.2450(f)
- (20) 40 CFR 63.2450(g)(1)
- (21) 40 CFR 63.2450(g)(2)
- (22) 40 CFR 63.2450(g)(4)
- (23) 40 CFR 63.2450(g)(5)
- (24) 40 CFR 63.2450(h)
- (25) 40 CFR 63.2450(i)
- (26) 40 CFR 63.2450(k)(1-3)

- (27) 40 CFR 63.2450(k)(5)
- (28) 40 CFR 63.2450(l)
- (29) 40 CFR 63.2450(m)
- (30) 40 CFR 63.2450(p)
- (31) 40 CFR 63.2450(r)
- (32) 40 CFR 63.2450(s)
- (33) 40 CFR 63.2455(a)
- (34) 40 CFR 63.2455(b)(1-3)
- (35) 40 CFR 63.2460(a)
- (36) 40 CFR 63.2460(b)(1-7)
- (37) 40 CFR 63.2470(a)
- (38) 40 CFR 63.2470(c)
- (39) 40 CFR 63.2470(e),
- (40) 40 CFR 63.2475(a)
- (41) 40 CFR 63.2475(b)
- (42) 40 CFR 63.2480(a)
- (43) 40 CFR 63.2485
- (44) 40 CFR 63.2505(a)(1)(i)(A)
- (45) 40 CFR 63.2505(b)
- (46) 40 CFR 63.2515(a)
- (47) 40 CFR 63.2515(b)(2)
- (48) 40 CFR 63.2515(c)
- (49) 40 CFR 63.2520(a)
- (50) 40 CFR 63.2520(b)
- (51) 40 CFR 63.2520(c)
- (52) 40 CFR 63.2520(d)
- (63) 40 CFR 63.2520(e)
- (64) 40 CFR 63.2525(a)
- (64) 40 CFR 63.2525(b)
- (66) 40 CFR 63.2525(c)
- (67) 40 CFR 63.2525(d)
- (68) 40 CFR 63.2525(e)
- (69) 40 CFR 63.2525(f)
- (70) 40 CFR 63.2525(g)
- (71) 40 CFR 63.2525(h)
- (72) 40 CFR 63.2525(i)
- (73) 40 CFR 63.2525(j)
- (74) 40 CFR 63.2525(k)
- (75) 40 CFR 63.2535(a)
- (76) 40 CFR 63.2535(c)
- (77) 40 CFR 63.2540
- (78) 40 CFR 63.2545
- (79) 40 CFR 63.2550
- (80) Table 1 to Subpart FFF of Part 63
- (81) Table 2 to Subpart FFF of Part 63
- (82) Table 4 to Subpart FFF of Part 63
- (83) Table 5 to Subpart FFF of Part 63
- (84) Table 6 to Subpart FFF of Part 63
- (85) Table 7 to Subpart FFF of Part 63
- (86) Table 8 to Subpart FFF of Part 63
- (87) Table 9 to Subpart FFF of Part 63
- (88) Table 11 to Subpart FFF of Part 63
- (89) Table 12 to Subpart FFF of Part 63

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

- (i) DDGS Dryers A - D are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD, because the units are not process heaters as defined at 40 CFR 63.7575 and the source is not a major source of HAP emissions. Therefore, the requirements of the NESHAP are not included in the permit.
- (j) The denaturing skids are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, 40 CFR 63, Subpart BBBB, because the source is not a bulk gasoline terminal, pipeline breakout station, pipeline pumping station, or bulk gasoline plant. The source does not receive gasoline by pipeline, ship or barge, or cargo tank. The product at the source has a Reid vapor pressure less than 27.6 kilopascals and is not gasoline as defined at 40 CFR 63.11100. Therefore, the requirements of the NESHAP are not included in the permit.
- (k) DDGS Dryers A - D are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJ, because the units are not boilers as defined at 40 CFR 63.11237. Therefore, the requirements of the NESHAP are not included in the permit.

CAM:

- (l) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:
 - (1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

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

CAM Applicability Analysis									
Process/ Emission Units	Pollutant	Control Device	Emission Limitation (Applicable Rule)	Control Device necessary to comply with limit?	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable		Large Unit
EP-01c	PM	BH C-1C	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-01c	PM	BH C-1C	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-01c	PM10	BH C-1C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-01c	PM2.5	BH C-1C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-34	PM	BH C-7C	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-34	PM	BH C-7C	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-34	PM10	BH C-7C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-34	PM2.5	BH C-7C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	PM	RTO C-6A	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-30/EP-31	PM	RTO C-6A	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-30/EP-31	PM10	RTO C-6A	326 IAC 2-2	Yes	>100	<100	Y		N

CAM Applicability Analysis									
Process/ Emission Units	Pollutant	Control Device	Emission Limitation (Applicable Rule)	Control Device necessary to comply with limit?	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable		Large Unit
EP-30/EP-31	PM2.5	RTO C-6A	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	VOC	RTO C-6A	326 IAC 2-2 326 IAC 8-5-6	Yes	>100	<100	Y		N
EP-30/EP-31	Single HAPs	RTO C-6A	326 IAC 2-7	Yes	>10	<10	Y		N
EP-30/EP-31	Total HAPs	RTO C-6A	326 IAC 2-7	Yes	>25	<25	Y		N
EP-32/EP-32	PM	RTO C-6B	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-32/EP-32	PM	RTO C-6B	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-32/EP-32	PM10	RTO C-6B	326 IAC 2-2	Yes	>100	<100	Y		N
EP-32/EP-32	PM2.5	RTO C-6B	326 IAC 2-2	Yes	>100	<100	Y		N
EP-32/EP-32	VOC	RTO C-6B	326 IAC 2-2 326 IAC 8-5-6	Yes	>100	<100	Y		N
EP-32/EP-32	Single HAPs	RTO C-6B	326 IAC 2-7	Yes	>10	<10	Y		N
EP-32/EP-32	Total HAPs	RTO C-6B	326 IAC 2-7	Yes	>25	<25	Y		N

Notes:

1. PM is not a regulated pollutant.
2. PM is not a regulated pollutant. However, under this rule PM is a surrogate for PM10. Therefore the uncontrolled PTE and controlled PTE were evaluated for PM10.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to Grain Receiving 3 (EP-01c), the DDGS Cooling Drum (EP-34), and the DDGS Dryers (EP-30 - EP-34) for PM10 and PM2.5; and to the DDGS Dryers (EP-30 - EP-34) for VOC, single HAPs, and total HAPs; upon issuance of the Title V Renewal. A CAM plan must be submitted as part of the Renewal application.

State Rule Applicability Determination

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

326 IAC 2-2 (PSD)

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

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

Since the unrestricted potential to emit HAPs of this source is greater than ten (10) ton per year of a single HAP and greater than twenty five (25) of a combination of HAPS, this source has elected to limit the potential to emit as follows:

- (a) Prior to the startup of DDGS Dryers A - D and the DDGS Cooling Drum.
 - (1) The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (2) The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (3) The single HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.20 pounds per hour.

- (4) The single HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.20 pounds per hour.
 - (5) The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
 - (6) The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
 - (7) The total HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.34 pounds per hour.
 - (8) The total HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.34 pounds per hour.
- (b) After startup of DDGS Dryer A - D (EP-30 - EP-33) and DDGS Cooling Drum (EP-34).
- (1) The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A and B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (2) The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers C and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.
 - (3) The single HAP emissions from the DDGS Cooling Drum Baghouse #1 (C-7C) shall not exceed 0.40 pounds per hour.
 - (4) The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A and B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
 - (5) The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers C and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.
 - (6) The total HAP emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 0.68 pounds per hour.
- (c) The single HAP emissions from the CO₂ Scrubber (C-5A) exhaust shall not exceed 1.35 pounds per hour.
- (d) The total HAP emissions from the CO₂ Scrubber (C-5A) exhaust shall not exceed 1.41 pounds per hour.

Compliance with these limits, combined with the potential to emit from 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 less than twenty-five (25) tons per twelve (12) consecutive month period for total HAPs. Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are not applicable to the ethanol emissions units described above, and the entire source is rendered an area source of HAP emissions under 40 CFR 63.

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

The following units are subject to 326 IAC 6-3-2 (e). The table below outlines the limits the source must comply with.

Process Description	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Limit (lb/hr)	Uncontrolled PM Emissions (lb/hr)	Capable of Compliance with 326 IAC 6-3-2
EP-01c	560.00	70.32	41.14	Yes, without Control
EP-02c/EP-02d	560.00	70.32	61.32	Yes, without Control
EP-30/EP-31	22.33	32.85	1,250.00	Yes, with Control
EP-32/EP-33	22.33	32.85	1,250.00	Yes, with Control
EP-34	44.65	43.53	214.00	Yes, with Control

Emission limitations for process weight rates greater than sixty thousand pounds per hour shall be calculated with the following equation:

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

The RTO C-6A shall be in operation at all times the DDGS Dryers A and B are in operation, in order to comply with this limit.

The RTO C-6B shall be in operation at all times the DDGS Dryers C and D in operation, in order to comply with this limit.

The baghouse C-7C shall be in operation at all times the DDGS Cooling Drum is in operation, in order to comply with this limit.

326 IAC 7 (Sulfur Dioxide Rules)

Pursuant to 326 IAC 7-1.1-1, the DDGS Dryers A, B, C, and D are subject to this rule because the units have the potential to emit twenty-five (25) tons per year of sulfur dioxide. The requirements of this section are:

- (a) Comply with the limitations in 326 IAC 7-1.1-2.

The requirements of 326 IAC 7-1.1-2 are not applicable to the source because the source does not operate fuel combustion units that burn coal, residual oil, distillate oil, or coal and oil simultaneously

- (b) Comply with the compliance test methods in 326 IAC 7-2.

Pursuant to 326 IAC 7-1-1-2(c)(3), all other fuel combustion sources shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate in pounds per MMBtu upon request. No language is included in the permit because the source is only required to submit a report under 326 IAC 7-2-1(c)(3) if specifically requested to do so by IDEM.

- (c) Comply with the sulfur dioxide emission limitations and other requirements of 326 IAC 2, 326 IAC 7-4, 326 IAC 7-4.1, and 326 IAC 12.
 - (1) The DDGS dryers are not subject to a SO₂ limitation pursuant to 326 IAC 2.
 - (2) 326 IAC 7-4 is not applicable to the source because the source is located in Posey County.
 - (3) 326 IAC 7-4.1 is not applicable to the source because the source is not located in Lake County.
 - (4) There are no NSPS requirements applicable to the DDGS dryers in 326 IAC 12.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

- (a) Pursuant to 326 IAC 8-1-6(1), the DDGS cooling drum is not subject to 326 IAC 8-1-6 because the potential to emit VOC of the facility is less than twenty-two and seven-tenths (22.7) megagrams (twenty-five (25) tons) per year.
- (b) Pursuant to 326 IAC 8-1-6(3)(A), DDGS Dryers A - D are not subject to 326 IAC 8-1-6 because the facilities are regulated by 326 IAC 8-5-6.

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

This ethanol production plant was constructed after April 1, 2007; is a dry mill; uses fermentation, distillation, and dehydration to produce ethanol and distillers grain and solubles (DDGS); and has combined potential VOC emissions from the fermentation process, distillation process, DDGS dryers, and ethanol load-out operation greater than 25 tons per year. Pursuant to 326 IAC 8-5-6(a), the four (4) DDGS Dryers (A - D), identified as EP-30 through EP-33, are subject to the following:

- (a) The Permittee shall install and operate a thermal oxidizer with an overall control efficiency of not less than ninety-eight percent (98%) or resulting in a volatile organic compound concentration of not more than ten (10) parts per million (ppm) for VOC emissions from the DDGS Dryers.
- (b) The Permittee shall determine initial compliance with the control efficiency requirement within sixty (60) days after achieving maximum production levels but no later than one hundred and eighty (180) days after startup.
- (c) The Permittee shall ensure and verify initial and continuing compliance with the control efficiency requirement by doing the following
 - (1) The three (3) hour average operating temperature of the oxidizer, as measured by a continuous temperature monitor, must be greater than or equal to the minimum operating temperature established during the most recent compliance demonstration.
 - (2) Maintain continuous temperature records for the thermal oxidizer and the three (3) hour average operating temperature used to demonstrate compliance during the most recent compliant stack test.
 - (3) The three (3) hour average duct pressure or fan amperage, as measured by a continuous parameter monitoring system, must be within the normal range established during the most recent compliance demonstration.
 - (4) Maintain daily records of the duct pressure or fan amperage for the thermal oxidizer.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance Determination Requirements applicable to this modification are as follows:

- (a) Grain Receiving 3 has applicable compliance determination conditions as specified below:
 - (1) Pursuant to 326 IAC 2-2 and 326 IAC 6-3-2(e), Baghouse C-1C must be in operation and control PM, PM₁₀, and PM_{2.5} emissions from Grain Receiving 3 at all time the unit is in operation
- (b) DDGS Dryers A and B (EP-30 and EP-31) have applicable compliance determination conditions as specified below:
 - (1) Pursuant to 326 IAC 2-2, 366 IAC 2-7, and 326 IAC 8-5-6, Thermal Oxidizer C-6A must be in operation and control VOC and HAP emissions from DDGS Dryers A and B at all time the unit s are in operation.
- (c) DDGS Dryers C and D (EP-32 and EP-33) have applicable compliance determination conditions as specified below:
 - (1) Pursuant to 326 IAC 2-2, 366 IAC 2-7, and 326 IAC 8-5-6, Thermal Oxidizer C-6B must be in operation and control VOC and HAP emissions from DDGS Dryers A and B at all time the unit s are in operation.
- (d) DDGS Cooling Drum (EP-34) has applicable compliance determination conditions as specified below:
 - (1) Pursuant to 326 IAC 2-2, Baghouse C-7C must be in operation and control PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooling Drum at all time the unit is in operation.

Summary of Testing Requirements					
Emission Unit	Control Device	Timeframe for Initial Testing ¹	Pollutant	Frequency of Testing	Authority
EP-01c	BH C-1C	180 days	PM, PM ₁₀ , and PM _{2.5}	Once every 5 years	326 IAC 2-7
EP-30/EP-31	RTO C-6A	180 days	VOC and HAPs ²	Once every 5 years	326 IAC 8-5-6

Summary of Testing Requirements					
Emission Unit	Control Device	Timeframe for Initial Testing ¹	Pollutant	Frequency of Testing	Authority
EP-33/EP-33	RTO C-6B	180 days	VOC and HAPs ²	Once every 5 years	326 IAC 8-5-6
EP-34	BH C-7C	180 days	PM, PM10, and PM2.5	Once every 5 years	326 IAC 2-7

Notes:
 1. 180 days is 180 days after startup.
 2. Includes capture and destruction efficiency

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
BH C-1C ^{1,2}	Visible Emissions	Daily	Normal-Abnormal	Response Steps
RTO C-6A ^{2,3}	Visible Emissions	Daily	Normal-Abnormal	Response Steps
	Temperature	Continuous	>1600°F	Response Steps
	Duct pressure or fan amperage	Continuous	Normal-Abnormal	Response Steps
RTO C-6A ^{2,3}	Visible Emissions	Daily	Normal-Abnormal	Response Steps
	Temperature	Continuous	>1600°F	Response Steps
	Duct pressure or fan amperage	Continuous	Normal-Abnormal	Response Steps
BH C-7C ^{1,2}	Visible Emissions	Daily	Normal-Abnormal	Response Steps

Notes:
 1. These monitoring conditions are necessary because the control devices must operate properly in order to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).
 2. These monitoring conditions are necessary because the control devices must operate properly in order to render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.
 3. These monitoring conditions are necessary because the control devices must operate properly in order to ensure compliance with 326 IAC 8-5-6 (Fuel Grade Ethanol Production).

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 129-31281-00051. Deleted language appears as ~~strike throughs~~ and new language appears in **bold**:

Summary of IDEM Updates Throughout the Permit

- (a) Descriptive information about new and modified emissions units and insignificant activities has been added or updated.
- (b) IDEM, OAQ revised the CAM portion of Condition C.14 - Response to Excursions or Exceedances to provide clarity.
 In paragraph (II)(c), the acronym QIP is being spelled out as Quality Improvement Plan (QIP) because this is the first time it is mentioned in the condition.
 In paragraphs (II)(f) and (II)(h)(1), the reference to paragraph (II)(a)(2) is being changed to paragraph (II)(c). Referencing paragraph (II)(a)(2) is correct, however IDEM, OAQ believes that referencing paragraph (II)(c) provides clarity.
- (c) IDEM added the rule citation 326 IAC 2-7-5(1) to the Compliance Determination

Requirements subsection title in Sections D.1 to D.4 and D.7 to clarify the authority of these conditions.

- (d) PSD minor limits have been revised to current model language.
- (e) Rule citations in the testing condition titles were updated

Section A - Revisions

- (a) The SIC Code description has been added in Condition A.1 - General Information.
- (b) The Source Status reference to greenhouse gas PTE in Condition A.1 - General Information was deleted because the source is not subject to PSD.
- (c) The nested source description was added to the Source Status in Condition A.1 - General Information.
- (d) A new Condition A.4 - Insignificant Activities has been added for activities not subject to NSPS, NESHAP, or other specific requirements. Subsequent conditions were renumbered.
- (e) Section A has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section A 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 plant.

Source Address:	7201 Port Road, Mount Vernon, Indiana 47620
General Source Phone Number:	(812) 833-3911
SIC Code:	2869 (Industrial Organic Chemicals, Not Elsewhere Classified)
County Location:	Posey
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD 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 (CO₂e) emissions per year 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, is 1 of 28 Source Categories, within a non-listed source

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

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

- (a) Grain receiving and handling operations, identified as process P-1, ~~installed in 2008~~ with a maximum capacity of ~~5601,120~~ tons of grain per hour and an annual throughput of 1,252,731 tons of grain. The grain when received from various sources is already dried and cleaned. These operations include the following:
 - (1) Grain Receiving 1, identified as EP-01a, installed in 2008, with one (1) conveyor and one (1) elevator system. The particulate emissions from the dump pit are controlled by one (1) baghouse, C-1A, exhausting to stack S-1A.
 - (2) Grain Receiving 2, identified as EP-01b, installed in 2008, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1A, exhausting to stack S-1A.

- (3) Two (2) corn storage silos, identified as EP-02a and EP-02b, installed in 2008, with a total storage capacity of 600,000 bushels with two (2) conveyor systems.
 - (4) One (1) grain scalper, identified as EP-03a installed in 2008, and one (1) surge bin, identified as EP-03b, installed in 2008, both units controlled by one (1) baghouse, C-1B, exhausting to stack S-1B.
 - (5) **Grain Receiving 3, identified as EP-01c, approved in 2016 for construction, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1C, exhausting to stack S-1C.**
 - (6) **Two (2) corn storage silos, identified as EP-02c and EP-02d, approved in 2016 for construction, with a total storage capacity of 1,304,320 bushels with two (2) conveyor systems.**
- (b) Grain milling operation, identified as process P-2, ~~installed in 2008~~, which include the following:
- (1) ...
- (c) Milled grain cooking operation, identified as process P-4, ~~installed in 2008~~, which includes the following:
- (1) ...
- (d) Fermentation operation, identified as process P-5, installed in 2008, ~~with a maximum and~~ **approved in 2016 for modification, with an average** throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. **Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height.** The ~~maximum average~~ undenatured ethanol production rate is 13,302 gallons per hour ~~or~~ **and a maximum of** 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:
- (1) Seven (7) fermenters tanks, installed in 2008, **controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.**
 - (2) ...
- (e) Distillation and dehydration operations, identified as process P-6, ~~installed in 2008~~, with ~~an average~~ **an average** throughput of 13,302 gallons of undenatured ethanol per hour (**a maximum of** 116.5 million gallons of undenatured ethanol per year) consisting of the following emission units:
- (1) Two (2) beer columns, #1 and #2, installed in 2008, with ~~extensions an~~ **extension to column #2** added in 2014, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) ...
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, ~~installed in 2008~~, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (**average of** 44.65 tons per hour), consisting of the following emission units:

- (1) ...
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and ~~may exhausts to stack S-7A when not being used as make-up air for DDGS Dryer #1.~~ Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and ~~may exhausts to stack S-7B when not being used as make-up air for DDGS Dryer #2.~~
 - (8) **Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.**
 - (9) **One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.**
 - (10) **Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.**
- (g) DDGS handling, storage and loadout operations, identified as process P-8, ~~installed in 2008,~~ with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
- (1) ...
 - (2) One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. ~~Particulate emissions from truck loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8, and equipped~~ **with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.**
 - (3) One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. ~~Particulate emissions from rail loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8, and equipped~~ **with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.**
- (h) ~~Denatured ethanol~~ **Ethanol** loadout, identified as P-9, ~~installed in 2008, with a total maximum throughput of 36,000 gallons per hour or an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol~~ consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, ~~and with a maximum capacity of 36,000 gallons per hour.~~
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, **with a maximum capacity of 120,000 gallons per hour.**

(3) Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.

These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.

- (i) Product Storage, identified as process P-10, ~~installed in 2008~~, consisting of the following emission units:
 - (1) ...
 - (3) Two (2) ~~denatured~~ ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 **and approved in 2016 for modification**, each storing a denatured **or undenatured** ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
 - (4) ...
- (j) Natural gas combustion sources, identified as P-11, **installed in 2008**, consisting of four (4) natural gas-fired package boilers, identified as EP-26 through EP-29, ~~installed in 2008~~, each with a heat input capacity of 92.4 MMBtu/hr.
- (k) Two (2) Thermal Oxidizers, C-6A and C-6B, installed in 2008, with a heat input capacity of 18 million British thermal units per hour (MMBtu/hr), each, controlling emissions from the following:
 - (A1) ...
 - (B2) ...
 - (C3) ...
 - (D4) ...
 - (E5) ...
 - (F6) ...
 - (G7) ...
 - (H8) ...
 - (I9) ...
 - (J10) ...
 - (K11) Two (2) DDGS dryers, identified as EP-20 and EP-21. **DDGS Dryer #1 and DDGS Dryer #2, shall be decommissioned and permanently shut down prior to start up of the first of the following units: DDGS Dryer A (EP-30), DDGS Dryer B (EP-31), DDGS Dryer C (EP-32), or DDGS Dryer D (EP-33).**
 - (12) **Four (4) DDGS dryers, identified as Dryer A (EP-30), Dryer B (EP-31), Dryer C (EP-32), and Dryer D (EP-33).**

Thermal oxidizer C-6A exhausts to stack S-6A and thermal oxidizer C-6B exhausts to stack S-6B.

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) One (1) diesel-fired emergency fire pump, identified as process P-12, installed in 2008, with a capacity of 420 horsepower (HP). ~~[40 CFR 60, Subpart IIII][40 CFR 63, Subpart ZZZZ]~~

Under the NSPS 40 CFR 60, Subpart IIII, this is an affected source.

Under the NESHAP 40 CFR 63, Subpart ZZZZ, this is a new affected source.

- (b) One (1) cooling tower with three (3) cells, identified as F-1, installed in 2008, with a total circulation rate of 2,256,000 gallons of water per hour.
- (c) Fuel dispensing activities, as follows:
- (1) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than ten thousand five hundred (10,500) gallons. Such storage tanks may be in a fixed location or on mobile equipment.

- (A) One (1) gasoline dispensing operation for plant vehicles, installed in 2008, with a maximum throughput of 75 gallons per month. ~~[40 CFR 63, Subpart BBBBBB][40 CFR 63, Subpart CCCCCC]~~

Under the NESHAP 40 CFR 63, Subpart CCCCCC, this is a new affected source.

- ~~(B) Vapor collection-equipped gasoline cargo tanks, installed in 2008. [40 CFR 63, Subpart BBBBBB]~~

- (d) Vehicular traffic on paved roads. ~~[326 IAC 6-4]~~

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

This stationary source also includes the following insignificant activities:

- (a) **One (1) Corn Oil Separation System.**
- (1) **Four (4) corn oil storage tanks, identified as Tk008, Tk009, Tk010, and Tk011, approved in 2015 for construction, with a maximum capacity of 18,000 gallons, each.**
- (2) **One (1) corn oil truck loadout system, approved in 2015 for construction.**

A.45 Part 70 Permit Applicability [326 IAC 2-7-2]

...

Section C - Revisions

Section C has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section C has been revised as follows:

...

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

- (I) ...
- (II)
 - (a) ...
 - (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~~ **Quality Improvement Plan (QIP)**. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
 - (d) ...
 - (f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)~~(a)(2)~~**(c)** of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
 - (1) ...
 - (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)~~**(c)** of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.
 - (2) ...

Section D.1 - Revisions

- (a) IDEM, OAQ has added PM, PM₁₀, and PM_{2.5} emission limits for new units in Condition D.1.1 - Prevention of Significant Deterioration (PSD) Minor Limits.
- (b) IDEM, OAQ added units EP-01c , EP-02c, and EP-02d to the table in Condition D.1.2 - Particulate Emission Limitations.
- (c) IDEM, OAQ added unit EP-01c to the table in Condition D.1.3 - Particulate Control.
- (d) Testing requirements for existing units were reformatted and a requirement for new unit EP-01c was added in Condition D.1.5 - Testing Requirements.
- (e) Condition D.1.7 - Compliance Assurance Monitoring (CAM) Baghouses Parametric Monitoring has been deleted because IDEM, OAQ has determined that a single form of compliance monitoring is sufficient for ambient temperature baghouses.
- (f) A new Condition D.1.7 - Visible Emissions Notations has been added for Baghouse C-1C because CAM requirements for the unit become effective with the next permit renewal. Subsequent conditions were renumbered.
- (g) Requirements for Baghouse C-1C were added to Condition D.1.10 - Record Keeping Requirements.
- (h) Section D.1 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.1 has been revised as follows:

SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (a) Grain receiving and handling operations, identified as process P-1, ~~installed in 2008~~ with a maximum capacity of ~~5601,120~~ tons of grain per hour and an annual throughput of 1,252,731 tons of grain. The grain when received from various sources is already dried and cleaned. These operations include the following:
- (1) Grain Receiving 1, identified as EP-01a, installed in 2008, with one (1) conveyor and one (1) elevator system. The particulate emissions from the dump pit are controlled by one (1) baghouse, C-1A, exhausting to stack S-1A.
 - (2) Grain Receiving 2, identified as EP-01b, installed in 2008, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1A, exhausting to stack S-1A.
 - (3) Two (2) corn storage silos, identified as EP-02a and EP-02b, installed in 2008, with a total storage capacity of 600,000 bushels with two (2) conveyor systems.
 - (4) One (1) grain scalper, identified as EP-03a installed in 2008, and one (1) surge bin, identified as EP-03b, installed in 2008, both units controlled by one (1) baghouse, C-1B, exhausting to stack S-1B.
 - (5) Grain Receiving 3, identified as EP-01c, approved in 2016 for construction, with conveyor system and elevator system. The particulate emissions from the dump pit are controlled by baghouse, C-1C, exhausting to stack S-1C.**
 - (6) Two (2) corn storage silos, identified as EP-02c and EP-02d, approved in 2016 for construction, with a total storage capacity of 1,304,320 bushels with two (2) conveyor systems.**
- (b) Grain milling operation, identified as process P-2, ~~installed in 2008~~, which include the following:
- (1) One (1) hammermill feed system, installed in 2008, with a maximum capacity of 6,000 bushels of grain per hour.
 - (2) Four (4) hammermills, identified as EP-05 through EP-08, installed in 2008, each has a capacity of 1,700 bushels per hour (7,000 bushels per hour total). The particulate emissions from these hammermills are controlled by four (4) baghouses, C-2A through C-2D, exhausting to stacks S-2A through S-2D.
- (g) DDGS handling, storage and loadout operations, identified as process P-8, ~~installed in 2008~~, with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
- (1) One (1) DDGS storage building, installed in 2008, which includes supporting equipment; one (1) enclosed DDGS conveyor, identified as EP-09, with a maximum throughput capacity of 44.65 tons per hour. Particulate emissions between the DDGS storage building and DDGS loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8.
 - (2) One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. ~~Particulate emissions from truck loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8,~~ **and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.**

(3) One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. ~~Particulate emissions from rail loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8,~~ **and equipped with chute extensions and a funnel device to restrict the material flow rate and reduce particulate emissions.**

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

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

D.1.1 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

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

- (a) The PM, PM₁₀, and PM_{2.5} emissions from the following processes shall not exceed the emission limits in the table below:

Process ID	Process Description	Control ID	PM Emissions Limits (lbs/hr)	PM ₁₀ Emissions Limits (lbs/hr)	PM _{2.5} Emissions Limits (lbs/hr)
EP-01a	Grain Receiving 1	Baghouse C-1A	0.46	0.46	0.46
EP-01b	Grain Receiving 2				
EP-01c	Grain Receiving 3	Baghouse C-1C	0.46	0.46	0.46
EP-05	Hammermill	Baghouse C-2A	0.30	0.30	0.30
EP-06	Hammermill	Baghouse C-2B	0.30	0.30	0.30
EP-07	Hammermill	Baghouse C-2C	0.30	0.30	0.30
EP-08	Hammermill	Baghouse C-2D	0.28	0.28	0.28
EP-03a	Grain Scalper	Baghouse C-1B	0.44	0.44	0.44
EP-09	DDGS conveyor	Baghouse C-8A	0.08	0.08	0.08
	DDGS storage				

- (b) The annual grain throughput shall not exceed 1,252,731 tons per twelve (12) consecutive month period, and the pound/ton emission factors shall not exceed the emission limits in the table below:

Process ID	Process Description	PM Emissions Limits (lb/ton)	PM ₁₀ Emissions Limits (lb/ton)	PM _{2.5} Emissions Limits (lb/ton)
EP-02a	Corn storage bin	0.025	0.0063	0.0011
EP-02b	Corn storage bin			
EP-02c	Corn storage bin			
EP-02d	Corn storage bin			
na	Storage silo conveyors	0.061	0.034	0.0058

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.2.4, D.3.2, D.4.4, and D.6.1, **combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at in conjunction with the unrestricted PTE from this source, shall limit the source-wide potential to emit of PM, PM₁₀, and PM_{2.5} emissions from the entire source to less than two hundred fifty (250) tons per year twelve (12) consecutive month period, each. Therefore, and shall render the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), are not applicable to the source for PM, PM₁₀, or PM_{2.5}.**

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 the following processes shall not exceed the pound per hour limits as follows:

Process ID	Process Description	Process Weight Rate (tons/hr)	Particulate Emissions Limits (lbs/hr)
EP-01a	Grain Receiving 1	560	70.32
EP-01b	Grain Receiving 2	560	70.32
EP-01c	Grain Receiving 3	560	70.32
EP-02a	Corn storage bin	560	70.32
EP-02b	Corn storage bin	560	70.32
EP-02c	Corn storage bin	560	70.32
EP-02d	Corn storage bin	560	70.32
EP-03b	Surge bin	350	64.76
EP-05	Hammermill	47.6	44.12
EP-06	Hammermill	47.6	44.12
EP-07	Hammermill	47.6	44.12
EP-08	Hammermill	47.6	44.12
EP-03a	Grain Scalper	196	58.29
EP-09	DDGS conveyor	44.65	43.55
	DDGS storage		
EP-10	DDGS truck loadout	225	59.79
EP-11	DDGS rail loadout	225	59.79

....

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

D.1.4 Particulate Control

- (a) ~~In order to comply with Conditions D.1.1 through D.1.2, each of the following emission units shall be controlled by the associated control device at all times the following units are operating:~~
In order to assure compliance with Conditions D.1.1 and D.1.2, the control devices listed below for particulate control shall be in operation and control emissions from the associated processes at all times the facilities are in operation.

Process ID	Process Description	Control ID
EP-01a and EP-01b	Grain Receiving 1	restricting vehicles unloading grain to trucks with choke unloading applications
	Grain Receiving 2	restricting vehicles unloading grain to trucks with choke unloading applications or rail cars unloading grain to hopper bottom
	Truck dump pit conveyance & elevators	Baghouse C-1A
	Rail dump pit conveyance & elevator	
EP-01c	Grain Receiving 3	restricting vehicles unloading grain to trucks with choke unloading applications
	Truck dump pit conveyance & elevators	Baghouse C-1C
EP-05	Hammermill	Baghouse C-2A
EP-06	Hammermill	Baghouse C-2B
EP-07	Hammermill	Baghouse C-2C
EP-08	Hammermill	Baghouse C-2D
EP-03a	Grain Scalper	Baghouse C-1B
EP-09	DDGS conveyor	Baghouse C-8
	DDGS storage	
EP-10	DDGS truck loadout	chute extension with a funnel device
EP-11	DDGS rail loadout	chute extension with a funnel device

- (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]

- (a) In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform the following testing utilizing methods as approved by the Commissioner:
- (a1) PM, PM₁₀ and PM_{2.5} testing for Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b).
 - (b2) PM, PM₁₀ and PM_{2.5} testing for one (1) of Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08). Repeat testing for the hammermills shall be conducted on a different baghouse than the one tested for the previous testing period.
 - (c3) PM, PM₁₀ and PM_{2.5} testing for Baghouse C-1B, controlling grain scalper (EP-03a).

- (d4) PM, PM₁₀ and PM_{2.5} testing for Baghouse C-8, controlling DDGS conveyor and DDGS storage (EP-09).

~~PM₁₀ and PM_{2.5} includes filterable and condensable PM.~~

Testing shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

- (b) **Not later than 180 days after the startup of Grain Receiving 3 (EP-01c), the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the Baghouse C-1C utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration.**
- (c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C — Performance Testing contains the ~~Permittee's obligations~~ **Permittee's obligation** with regard to the **performance** testing required by this condition. **PM₁₀ and PM_{2.5} includes filterable and condensable PM.**

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

D.1.6 Compliance Assurance Monitoring (CAM) Visible Emissions Notations [40 CFR 64]

- (a) Visible emission notations of the stacks exhausts from:
- (1) Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b),
 - (2) Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08),
 - (3) Baghouse C-1B, controlling grain scalper (EP-03a), **and**
 - (4) Baghouse C-8A, controlling DDGS conveyor and DDGS storage (EP-09),
- shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) ...

D.1.7 Compliance Assurance Monitoring (CAM) Baghouses Parametric Monitoring [40 CFR 64]

- (a) ~~The Permittee shall record the pressure drop across Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b) at least once per day when the emission unit is in operation. When, for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 6.0 inches of water unless a different upper bound or lower bound value for this range is determined during the latest stack test.~~
- (b) ~~The Permittee shall record the pressure drop across Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08) at least once per day when the respective emission units are in operation. When, for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 6.0 inches of water unless a different upper bound or lower bound value for this range is determined during the latest stack test.~~

- ~~(c) The Permittee shall record the pressure drop across Baghouse C-1B, controlling grain scalper (EP-03a) at least once per day when the respective emission units are in operation. When, for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 6.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.~~
- ~~(d) The Permittee shall record the pressure drop across Baghouse C-8A, controlling DDGS storage (EP-09) at least once per day when the respective emission units are in operation. When, for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 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 and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

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

D.1.7 Visible Emissions Notations

- (a) Visible emission notations of Baghouse C-1C stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.**
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.**
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.**
- (e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.**

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

D.1.9 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.6 and D.1.7, the Permittee shall maintain a daily record of visible emission notations of the stacks exhausts from:**
- (1) Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b),**
 - (2) Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08),**
 - (3) Baghouse C-1B, controlling grain scalper (EP-03a),**

(4) Baghouse C-8A, controlling DDGS conveyor and DDGS storage (EP-09),

(5) Baghouse C-1C, controlling Grain Receiving 3 (EP-01c),

The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

~~(b) To document the compliance status with Condition D.1.7, the Permittee shall maintain a daily record of the pressure drop across:~~

~~(1) Baghouse C-1A, controlling the truck/rail dump pit (EP-01a and EP-01b),~~

~~(2) Baghouses C-2A through C-2D, controlling four (4) hammermills (EP-05 through EP-08),~~

~~(3) Baghouse C-1B, controlling grain scalper (EP-03a),~~

~~(4) Baghouse C-8A, controlling DDGS conveyor and DDGS storage (EP-09).~~

~~The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).~~

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

...

Section D.2 - Revisions

- (a) Operating Scenario 1 has been deleted from Conditions D.2.1, D.2.4, D.2.7, and D.2.12 because the source is no longer capable of operating in that manner.
- (b) Operating Scenario 2 requirements in Conditions D.2.1, D.2.4, D.2.7, and D.2.12 have been reformatted to describe limits applicable prior to the startup of DDGS Dryers A - D.
- (c) The following additional changes were made in Condition D.2.1 - Prevention of Significant Deterioration (PSD) Minor VOC Limits:
- The VOC emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) in paragraph (a) of have been revised based on stack testing at the source.
 - VOC emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) after startup of DDGS Dryers A - D have been added in paragraph (b).
 - A new paragraph (c) has been added to incorporate VOC limits applicable to the DDGS Cooling Drum
 - A new paragraph (f) has been added to incorporate the requirement to shut down DDGS Dryers #1 and #2 before startup of the first of the new DDGS Dryers A-D.
- (d) The following changes were made in Condition D.2.2 - Prevention of Significant Deterioration (PSD) Minor NOx Limits :
- The phrase "Prior to startup of DDGS Dryers A - D (EP-30 - EP-33)..." has been added to paragraphs (a) and (b).
 - The NOx emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) in paragraph (a) have been revised based on stack testing at the source.
 - NOx emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) after startup of DDGS Dryers A - D have been added in paragraphs (c) and (d).
- (e) The following changes were made in Condition D.2.3 - Prevention of Significant Deterioration (PSD) Minor CO Limits:
- The phrase "Prior to startup of DDGS Dryers A - D (EP-30 - EP-33)..." has been added to paragraphs (a) and (b).
 - CO emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) after

- startup of DDGS Dryers A - D and the DDGS Cooling Drum have been added in paragraphs (c) and (d).
- (f) The following additional changes were made in Condition D.2.4 - Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Emission Limits:
- The PM, PM₁₀, and PM_{2.5} emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) in paragraph (a) have been revised based on stack testing at the source.
 - PM, PM₁₀, and PM_{2.5} emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) after startup of DDGS Dryers A - D have been added in paragraph (b).
 - PM, PM₁₀, and PM_{2.5} emissions limits for the DDGS Cooling Drum Baghouse (C-7C) have been added in paragraph (c).
- (g) The following changes were made in Condition D.2.5 - Prevention of Significant Deterioration (PSD) Minor SO₂ Limits:
- The SO₂ emissions limits for DDGS Dryers #1 and #2 in paragraph (a) have been revised based on stack testing at the source.
 - SO₂ emissions limits for DDGS Dryers A - D have been added in paragraphs (c) and (d).
- (h) DDGS Dryers A - D and the DDGS Cooling Drum have been added to the table and an explanation of the calculation method for process weight rates greater than or equal to 60,000 pounds per hour were added in Condition D.2.6 - Particulate Emission Limitations for Manufacturing Processes.
- (i) The following additional changes were made in Condition D.2.7 - HAP Minor Limits:
- The HAP emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) in paragraph (a) have been revised based on stack testing at the source.
 - HAP emissions limits for the two (2) thermal oxidizers (C-6A and C-6B) after startup of DDGS Dryers A - D have been added in paragraph (b) .
 - HAP emissions limits for the two (2) DDGS Cooler Baghouses, #1 and #2 (C-7A and C-7B), have been added in paragraph (c).
 - HAP emissions limits for the DDGS Cooling Drum Baghouse have been added in paragraph (d).
 - A requirement to shut down DDGS Dryers #1 and #2 has been added in paragraph (e).
- (j) The text of Condition D.2.8 - VOC Emissions has been reformatted as paragraph (a) and the phrases "Prior to startup of DDGS Dryers A - D (EP-30 - EP-33)" and "Dryer #2" were added. A new paragraph (b) was added for operations after startup of DDGS Dryers A - D.
- (k) IDEM, OAQ revised Condition D.2.10 - VOC and HAP Control to current model language and added a reference to Condition D.2.7.
- (l) The following changes were made in Condition D.2.11- Particulate Control:
- Paragraph (a) was revised to current model language.
 - The word "through" was changed to "and" in paragraph (a) of Condition D.2.11- Particulate Control
 - The DDGS Cooling Drum was added to the table
- (m) The following additional changes were made in Condition D.2.12 - Testing Requirements:
- Paragraph (a) through (e) have been updated to current model language.
 - Paragraph (f) through (m) been added with testing requirements for new equipment.
 - A new paragraph (n) has been added with general requirements applicable to testing.
- (n) The following changes were made in Condition D.2.13 - Compliance Assurance Monitoring (CAM) Visible Emissions Notations:
- The phrase "Prior to startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):" was added because CAM requirements will no longer be applicable when Dryers #1 and #2 and Coolers #1 and #2 are decommissioned.
 - Requirements for cooler baghouses were deleted from paragraph (a) and added in a new paragraph (b) for clarity.
- (o) A new Condition D.2.14- Visible Emissions Notations has been added for Baghouse C-

- 7C because CAM requirements for the unit become effective with the next permit renewal.
- (p) The phrase "Prior to startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):" was added to Condition D.2.15 - Compliance Assurance Monitoring (CAM) Thermal Oxidizers Parametric Monitoring because CAM requirements will no longer be applicable when Dryers #1 and #2 are decommissioned.
 - (q) Condition D.2.16 - Compliance Assurance Monitoring (CAM) Baghouses Parametric Monitoring has been deleted because IDEM, OAQ has determined that a single form of compliance monitoring is sufficient for ambient temperature baghouses.
 - (r) A new Condition D.2.16- Thermal Oxidizers Parametric Monitoring has been added for RTO's C-6A and C-6B because CAM requirements for new units become effective with the next permit renewal.
 - (s) References to requirements in paragraph (b) of Condition D.2.17 - Thermal Oxidizers Temperature were clarified.
 - (t) The following changes have been made to Condition D.2.19 - Record Keeping Requirements:
 - The phrase "Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33)," was added, and unit identification was clarified in paragraph (a)
 - A new paragraph (b) was added with requirements for DDGS Dryer A - D.
 - The phrase " Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33)," was added, and unit identification was clarified in paragraph (c) (formerly par. (b)).
 - A new paragraph (d) was added with requirements for DDGS Dryer A - D.
 - Unit identifications were clarified and requirements applicable prior to startup of new equipment were identified in paragraph (e) (formerly par. (c)).
 - A new paragraph (f) was added with requirements for Baghouse C-7C.
 - Paragraph (g) (formerly par. (d)) has been updated to current model language.
 - A new paragraph (h) was added to incorporated record keeping requirements for Condition D.2.16 - Thermal Oxidizers Parametric Monitoring.
 - Paragraph (i) (formerly par. (e)) has been updated to current model language.
 - Former paragraph (f) was deleted because the requirement cited was deleted.
 - Paragraphs were re-lettered as necessary to acomodate inserted material.
 - (u) Conditions were renumbered to accommodate inserted and deleted material.
 - (v) Section D.2 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.2 has been revised as follows:

SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (c) Milled grain cooking operation, identified as process P-4, ~~installed in 2008~~, which includes the following:
 - (1) Milled grain cooking operation, consisting of the following major components:
 - (A) ...
 - (E) **One (1) yeast tank, installed in 2008, with a maximum capacity of 277,000 gallons. Decommissioned upon startup of the two (2) yeast tanks permitted in 2014.**
- (e) Distillation and dehydration operations, identified as process P-6, ~~installed in 2008~~, with an **average** throughput of 13,302 gallons of undenatured ethanol per hour (**a maximum of 116.5 million gallons of undenatured ethanol per year**) consisting of the following emission units:
 - (1) Two (2) beer columns, #1 and #2, installed in 2008, **with an extension to column #2**

- added in 2014**, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
- (2) ...
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, ~~installed in 2008,~~ with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (**average of 44.65 tons per hour**), consisting of the following emission units:
- (1) ...
- (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and ~~may exhausts to stack S-7A when not being used as make-up air for DDGS Dryer #1.~~ Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and ~~may exhausts to stack S-7B when not being used as make-up air for DDGS Dryer #2.~~
- (8) **Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.**
- (9) **One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.**
- (10) **Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.**
- (k) Two (2) Thermal Oxidizers, C-6A and C-6B, installed in 2008, with a heat input capacity of 18 million British thermal units per hour (MMBtu/hr), each, controlling emissions from the following:
- (A1) ...
- (B2) ...
- (C3) ...
- (D4) ...
- (E5) ...
- (F6) ...
- (G7) ...
- (H8) ...
- (I9) ...
- (J10) ...

(K11) Two (2) DDGS dryers, identified as EP-20 and EP-21. **DDGS Dryer #1 and DDGS Dryer #2, shall be decommissioned and permanently shut down prior to start up of the first of the following units: DDGS Dryer A (EP-30), DDGS Dryer B (EP-31), DDGS Dryer C (EP-32), or DDGS Dryer D (EP-33).**

(12) **Four (4) DDGS dryers, identified as Dryer A (EP-30), Dryer B (EP-31), Dryer C (EP-32), and Dryer D (EP-33).**

Thermal oxidizer C-6A exhausts to stack S-6A and thermal oxidizer C-6B exhausts to stack S-6B.

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

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

D.2.1 Prevention of Significant Deterioration (PSD) Minor VOC Limits [326 IAC 2-2]

~~The VOC emissions from the following ethanol emissions units shall not exceed the following emission limits:~~

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

~~Operating Scenario One: DDGS Cooler Baghouse #1 (C-7A) exhausting into DDGS dryer #1 and DDGS Cooler Baghouse #2 (C-7B) exhausting into the DDGS dryer #2.~~

~~(a1) The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 8.77 pounds per hour.~~

~~(b1) The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 8.77 pounds per hour.~~

~~(c1) The VOC emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall exhaust to the DDGS dryer #1.~~

~~(d1) The VOC emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall exhaust to the DDGS dryer #2.~~

~~Operating Scenario Two: DDGS Cooler Baghouse #1 (C-7A) and DDGS Cooler Baghouse #2 (C-7B) exhausting to atmosphere.~~

(a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33).

~~(a21) The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.4 pounds per hour.~~

~~(b22) The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.4 pounds per hour.~~

(b) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33).

- (1) **The VOC emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer A, DDGS Dryer B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.40 pounds per hour.**
- (2) **The VOC emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryer C, DDGS Dryer D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 6.40 pounds per hour.**
- (c) **The VOC emissions from the DDGS Cooling Drum Baghouse (C-7C), shall not exceed 5.50 pounds per hour.**
- (e2d) The VOC emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 1.85 pounds per hour.
- (d2e) The VOC emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 1.55 pounds per hour.
- (f) **DDGS Dryer #1 and DDGS Dryer #2, shall be decommissioned and permanently shut down prior to start up of the first of the following units: DDGS Dryer A (EP-30), DDGS Dryer B (EP-31), DDGS Dryer C (EP-32), or DDGS Dryer D (EP-33).**

Compliance with the above VOC emission limits and the VOC emission limits in Conditions D.3.1 and D.4.1, ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit VOC from all other emission units at this source**, shall limit the **source-wide potential to emit of VOC emissions from the entire source to less than two hundred fifty (250) tons per year** ~~twelve (12) consecutive month period, and shall render~~ **Therefore, the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), are not applicable to the source for VOC.**

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

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

- (a) ~~The~~ **Prior to startup of DDGS Dryers A - D (EP-30 - EP-33), the NOx emissions from the two (2) Thermal Oxidizers (C-6A and C-6B) stack exhaust shall not exceed 86.4100 pounds per million cubic feet of natural gas burned by the two (2) DDGS Dryers #1 and #2 and two (2) RTOs (C-6A and C-6B).**
- (b) ~~The~~ **Prior to startup of DDGS Dryers A - D (EP-30 - EP-33), the total throughput of natural gas to the two (2) DDGS dryers #1 and #2 and two (2) Thermal Oxidizers, C-6A and C-6B shall be limited to 1,892 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (c) **On and after startup of DDGS Dryers A - D (EP-30 - EP-33), the NOx emissions from the two (2) Thermal Oxidizers (C-6A and C-6B) stack exhaust shall not exceed 100 pounds per million cubic feet of natural gas burned by the four (4) DDGS Dryers (A - D) and two (2) RTOs (C-6A and C-6B).**
- (d) **After startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the throughput of natural gas to the four (4) DDGS dryers (A - D) and two (2) Thermal Oxidizers, C-6A and C-6B, and the two (2) DDGS dryers #1 and #2, shall be limited to a total of 1,892 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month.**

Compliance with the above NOx emission limits and the NOx emission limits in Conditions D.4.3 and D.7.1, ~~in conjunction~~ **combined** with the ~~unrestricted PTE from~~ **potential to emit NOx from all other emission units at this source**, shall limit the **source-wide potential to emit of NOx emissions from the entire source to less than two hundred fifty (250) tons per year, each twelve (12) consecutive month period, and shall render** ~~Therefore,~~ the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), ~~are not applicable to the source for NOx.~~

D.2.3 Prevention of Significant Deterioration (PSD) Minor CO Limits [326 IAC 2-2]

~~The Carbon Monoxide (CO) emissions from the following ethanol emissions units shall not exceed the following emission limits:~~

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

- (a) ~~The~~**Prior to startup of DDGS Dryers A - D (EP-30 - EP-33), the** CO emissions from Thermal Oxidizer #1 (C-6A), which controls the CO emissions from the DDGS dryer #1, shall not exceed 7.1 pounds per hour.
- (b) ~~The~~**Prior to startup of DDGS Dryers A - D (EP-30 - EP-33), the** CO emissions from Thermal Oxidizer #2 (C-6B), which controls the CO emissions from the DDGS dryer #2, shall not exceed 7.1 pounds per hour.
- (c) **On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the CO emissions from Thermal Oxidizer #1 (C-6A), which controls the CO emissions from the DDGS Dryers A and B, shall not exceed 7.1 pounds per hour.**
- (d) **After startup of the first of DDGS Dryers A - D (EP-30 - EP-33), the CO emissions from Thermal Oxidizer #2 (C-6B), which controls the CO emissions from the DDGS Dryers C and D, shall not exceed 7.1 pounds per hour.**

Compliance with the above CO emission limits and the CO emission limit in Conditions D.4.2 and D.7.1, ~~in conjunction~~ **combined** with the ~~unrestricted PTE from~~ **potential to emit CO from all other emission units at this source**, shall limit the ~~CO emissions from the entire source~~ **source-wide potential to emit of CO to less than two hundred fifty (250) tons per year, each twelve (12) consecutive month period, and shall render** ~~Therefore,~~ the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), ~~are not applicable to the source for CO.~~

D.2.4 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Emission Limits [326 IAC 2-2]

~~The PM, PM₁₀, and PM_{2.5} emissions from the following ethanol emissions units shall not exceed the following emission limits:~~

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

~~Operating Scenario One: DDGS Cooler Baghouse #1 (C-7A) exhausting into the DDGS dryer #1 and DDGS Cooler Baghouse #2 (C-7B) exhausting into DDGS dryer #2.~~

- (a1) ~~The~~ PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS dryer #1, shall not exceed 11.75
- (b1) ~~The~~ PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS dryer #2, shall not exceed 11.68 pounds per hour.
- (c1) ~~The~~ PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall exhaust to the DDGS dryer #1.
- (d1) ~~The~~ PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall exhaust to the DDGS dryer #2.

~~Operating Scenario Two: DDGS Cooler Baghouse #1 (C-7A) and DDGS Cooler Baghouse #2 (C-7B) exhausting to atmosphere.~~

(a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33).

~~(a21)~~ The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS dryer #1, shall not exceed ~~44.2~~**12.5** pounds per hour, **each**.

~~(b22)~~ The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS dryer #2, shall not exceed ~~44.2~~**12.5** pounds per hour, **each**.

(b) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33).

(1) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #1 exhaust (C-6A), which controls the DDGS Dryers A and B, shall not exceed 12.5 pounds per hour, each.

(2) The PM, PM₁₀, and PM_{2.5} emissions from the Thermal Oxidizer #2 exhaust (C-6B), which controls the DDGS Dryers C and D, shall not exceed 12.5 pounds per hour, each.

(c) The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 2.14 pounds per hour, each.

~~(c2d)~~ The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed ~~0.56~~**1.07** pounds per hour.

~~(d2e)~~ The PM, PM₁₀, and PM_{2.5} emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed ~~0.48~~**1.07** pounds per hour.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.3.2, D.4.4, and D.6.1, ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at** this source, shall limit the **source-wide potential to emit of PM, PM₁₀, and PM_{2.5} emissions from the entire source to less than two hundred fifty (250) tons per year**~~twelve (12) consecutive month period, each, and shall render.~~ **Therefore, the requirements of 326 IAC 2-2; (Prevention of Significant Deterioration (PSD)), are not applicable to the source for PM, PM₁₀, or PM_{2.5}.**

D.2.5 Prevention of Significant Deterioration (PSD) Minor SO₂ Limits [326 IAC 2-2]

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

(a) The sulfur dioxide (SO₂) emissions from the two (2) DDGS dryers (Dryers #1 and #2) shall not exceed 0.05345 pound per ton of DDGS dried.

(b) The total DDGS throughput to the two DDGS dryers (Dryers #1 and #2) shall not exceed 391,148 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) After the startup of DDGS Dryers A - D, the sulfur dioxide (SO₂) emissions from the four (4) DDGS dryers (A - D) shall not exceed 0.45 pound per ton of DDGS dried.

(d) The DDGS throughput to the four (4) DDGS dryers (Dryers A - D) and the two (2) DDGS dryers #1 and #2 shall not exceed a total of 391,148 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above SO₂ emission ~~these~~ limits, in conjunction with the unrestricted PTE ~~from~~ **combined with the potential to emit SO₂ from all other emission units at this source**, shall limit the **source-wide potential to emit of SO₂ emissions from the entire source** to less than two hundred fifty (250) tons per year, ~~each~~ **twelve (12) consecutive month period, and shall render** ~~Therefore,~~ the requirements of 326 IAC 2-2₇ (Prevention of Significant Deterioration (PSD)), ~~are not applicable to the source for SO₂.~~

D.2.6 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

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

Process/Facility		Process Weight Rate (tons/hr)	Particulate Emissions Limit (lbs/hr)
EP-20	DDGS Dryer #1	22.3	32.85
EP-21	DDGS Dryer #2	22.3	32.85
EP-22	DDGS Cooler #1	22.3	32.85
EP-23	DDGS Cooler #2	22.3	32.85
EP-30	DDGS Dryer A	22.33	32.85
EP-31	DDGS Dryer B		
EP-32	DDGS Dryer C	22.33	32.85
EP-33	DDGS Dryer D		
EP-34	DDGS Cooling Drum	44.65	43.53

The pounds per hour limitations for the emissions units in the above table shall be calculated using the following ~~equation~~ **equations**:

Interpolation of the data for the process weight rate up to **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:

$$E = 4.10 P^{0.67} \text{ where } P > 40$$

Where ~~E =~~ **E =** rate of emission in pounds per hour; and
~~P =~~ **P =** process weight rate in tons per hour

D.2.7 HAP Minor Limits [40 CFR 63]

~~The HAP emissions from the following ethanol emissions units shall not exceed the following emission limits:~~

In order to assure this source is an area source of HAPs under Section 112 of the Clean Air Act (CAA), the Permittee shall comply with the following:

~~Operating Scenario One: DDGS Cooler Baghouse #1 (C-7A) exhausting into the DDGS dryer #1 and DDGS Cooler Baghouse #2 (C-7B) exhausting into DDGS dryer #2.~~

- (a1) ~~The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.~~
- (b1) ~~The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.33 pounds per hour.~~
- (c1) ~~The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.46 pounds per hour.~~
- (d1) ~~The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.57 pounds per hour.~~
- (e1) ~~The HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall exhaust to the DDGS dryer #1.~~
- (f1) ~~The HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall exhaust to the DDGS dryer #2.~~

~~Operating Scenario Two: DDGS Cooler Baghouse #1 (C-7A) and DDGS Cooler Baghouse #2 (C-7B) exhausting to atmosphere.~~

(a) Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33).

- (a21) The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed ~~0.18~~ **0.25** pounds per hour.
- (b22) The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed ~~0.20~~ **0.25** pounds per hour.
- (c2) ~~The single HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.07 pounds per hour.~~
- (d2) ~~The single HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.13 pounds per hour.~~
- (e23) The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #1, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed ~~0.35~~ **1.00** pounds per hour.

- (f24) The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, the DDGS dryer #2, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed ~~0.39~~ **1.00** pounds per hour.
- ~~(g2) The total HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.11 pounds per hour.~~
- ~~(h2) The total HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.18 pounds per hour.~~
- (b) On and after startup of the first of DDGS Dryers A - D (EP-30 - EP-33).**
- (1) The single HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A and B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.**
- (2) The single HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers C and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 0.25 pounds per hour.**
- (3) The total HAP emissions from the Thermal Oxidizer #1 (C-6A), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers A and B, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.**
- (4) The total HAP emissions from the Thermal Oxidizer #2 (C-6B), which controls the slurry mix tank and yeast tanks in the milled grain cooking operation, DDGS Dryers C and D, and the beer column, side stripper, and rectifier column in the distillation and evaporation operation, shall not exceed 1.00 pounds per hour.**
- (c) Prior to the startup of the DDGS Cooling Drum (EP-34).**
- (1) The single HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.20 pounds per hour.**
- (2) The single HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.20 pounds per hour.**
- (3) The total HAP emissions from the DDGS Cooler Baghouse #1 (C-7A), which controls the DDGS Cooler #1, shall not exceed 0.34 pounds per hour.**
- (4) The total HAP emissions from the DDGS Cooler Baghouse #2 (C-7B), which controls the DDGS Cooler #2, shall not exceed 0.34 pounds per hour.**
- (d) On and after startup startup of the DDGS Cooling Drum (EP-34).**
- (1) The single HAP emissions from the DDGS Cooling Drum Baghouse #1 (C-7C) shall not exceed 0.40 pounds per hour.**
- (2) The total HAP emissions from the DDGS Cooling Drum Baghouse (C-7C) shall not exceed 0.68 pounds per hour.**

- (e) **DDGS Cooler #1 and DDGS Cooler #2, shall be decommissioned and permanently shut down prior to start up of the DDGS Cooling Drum (EP-34).**

Compliance with the above HAP emission limits and the HAP emission limits in Condition D.3.3 ~~in conjunction with the unrestricted PTE from this source,~~ **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 year for any single HAP and ~~less than twenty-five (25) tons for any combination of HAPS per year~~ **twelve (12) consecutive month period and render this source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA) for total HAPs.** Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are not applicable to the ethanol emissions units described above, and the entire source is rendered an area source of HAP emissions under 40 CFR 63.

D.2.8 VOC Emissions [326 IAC 8-5-6]

Pursuant to 326 IAC 8-5-6(c):

- (a) **Prior to the startup of DDGS Dryers A - D (EP_30 - EP-33),** the Permittee shall control the VOC emissions from the slurry mix tank and yeast tanks in the milled grain cooking operation, ~~the DDGS dryer #1~~ **DDGS Dryer #1, DDGS Dryer #2,** and the beer column, side stripper, and rectifier column in the distillation and evaporation operation using a thermal oxidation system with an overall control efficiency of not less than ninety-eight percent (98%), or the VOC outlet concentration shall not exceed ten (10) parts per million (ppm).
- (b) **On and after the startup of the first of DDGS Dryers A - D (EP-33 - EP-33),** the Permittee shall control the VOC emissions from the slurry mix tank and yeast tanks in the milled grain cooking operation, **DDGS Dyers A, B, C, and D,** and the beer column, side stripper, and rectifier column in the distillation and evaporation operation using a thermal oxidation system with an overall control efficiency of not less than ninety-eight percent (98%), or the VOC outlet concentration shall not exceed ten (10) parts per million (ppm).

...

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

D.2.10 VOC and HAP Control

~~In order to comply with Condition D.2.1, both Thermal Oxidizers (C-6A and C-6B) used for VOC control, shall be in operation at all times when an emission unit that the Thermal Oxidizers control is in operation.~~ **In order to assure compliance with Conditions D.2.1 and D.2.7, the Thermal Oxidizers (C-6A and C-6B) for VOC and HAP control shall be in operation and control emissions from the Process P-4, Process P-6, Process P-7 facilities at all times the Process P-4, Process P-6, Process P-7 facilities are in operation.**

D.2.11 Particulate Control

- (a) ~~In order to comply~~ **assure compliance** with Conditions D.2.4 through and D.2.6, ~~each of the following emission units shall be controlled by the associated baghouses at all times the following units are operating~~ **the control devices listed below for particulate control shall be in operation and control emissions from the associated processes at all times the facilities are in operation:**

Process ID	Process Description	Control ID
DDGS Cooler #1	DDGS Cooler	Baghouse C-7A
DDGS Cooler #2	DDGS Cooler	Baghouse C-7B
DDGS Cooling Drum	DDGS Cooling Drum	Baghouse C-7C

(b) ...

D.2.12 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11][326 IAC 8-5-6]

- (a) In order to ~~verify~~ **demonstrate** compliance with Conditions D.2.2(a) and D.2.3(a), the Permittee shall perform NO_x and CO testing ~~for the of~~ DDGS Dryers #1 and #2 and the Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (b) In order to ~~verify~~ **demonstrate** compliance with Condition D.2.5, (a), the Permittee shall perform SO₂ testing ~~for the of~~ DDGS Dryers ~~to determine compliance with Condition D. #1 and #2.~~5 utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration.**

~~Operating Scenario One: DDGS Cooler Baghouse #1 (C-7A) exhausting into the DDGS dryer #1 and DDGS Cooler Baghouse #2 (C-7B) exhausting into DDGS dryer #2.~~

- ~~(c1) In order to verify compliance with Conditions D.2.1(a1) through (d1) and D.2.8, the Permittee shall perform VOC testing, including capture and destruction efficiency testing on the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner.~~
- ~~(d1) In order to verify compliance with Conditions D.2.4(a1) through (d1) and D.2.6, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing for the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner. PM₁₀ and PM_{2.5} includes filterable and condensable PM.~~
- ~~(e1) In order to verify compliance with Condition D.2.7(a1) through (f1), the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol), including capture and destruction efficiency testing on the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner.~~

~~Operating Scenario Two: DDGS Cooler Baghouse #1 (C-7A) and DDGS Cooler Baghouse #2 (C-7B) exhausting to atmosphere.~~

- (c2) In order to ~~verify~~ **demonstrate** compliance with Conditions D.2.1(a2)(1), (a)(2), (d), and (e) ~~through (d2)~~ and D.2.8(a), the Permittee shall perform VOC testing, including capture and destruction efficiency testing ~~on of~~ the two (2) Thermal Oxidizers (C-6A and C-6B) and the two (2) the DDGS Cooler Baghouses (C-7A and C-7B), no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (d2) In order to ~~verify~~ **demonstrate** compliance with Conditions D.2.4(a2)(1), (a)(2), (d), and (e) ~~through (d2)~~ and D.2.6, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing ~~for of~~ the two (2) Thermal Oxidizers (C-6A and C-6B) and the two (2) the DDGS Cooler Baghouses (C-7A and C-7B), no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration.** PM₁₀ and PM_{2.5} includes filterable and condensable PM.

- (e2) In order to ~~verify~~ **demonstrate** compliance with Condition D.2.7(a2)(1) through ~~(f2)~~ **(a)(4), (c), (d), and (e)**, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol), including capture and destruction efficiency testing ~~on~~ of the two (2) Thermal Oxidizers (C-6A and C-6B) and the two (2) the DDGS Cooler Baghouses (C-7A and C-7B), no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, utilizing methods as approved by the Commissioner **at least once every five (5) years from the date of the most recent valid compliance demonstration.**

~~Testing shall be 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 obligations with regard to the testing required by this condition.~~

- (f) **Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform NOx and CO testing of the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (g) **Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform SO₂ testing of the two (2) Thermal Oxidizers (C-6A and C-6B) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (h) **Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform VOC testing, including capture and destruction efficiency testing of the two (2) Thermal Oxidizers (C-6A and C-6B), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (i) **Not later than 180 days after startup of the DDGS Cooling Drum, the Permittee shall perform VOC testing of the DDGS Cooling Drum Baghouse (C-7C), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (j) **Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the two (2) Thermal Oxidizers (C-6A and C-6B), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM₁₀ and PM_{2.5} includes filterable and condensable PM.**
- (k) **Not later than 180 days after startup of the DDGS Cooling Drum, the Permittee shall perform PM, PM₁₀, and PM_{2.5} testing of the DDGS Cooling Drum Baghouse (C-7C), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. PM₁₀ and PM_{2.5} includes filterable and condensable PM.**
- (l) **Not later than 180 days after startup of the first of DDGS Dryers A-D, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol), including capture and destruction efficiency testing of the two (2) Thermal Oxidizers (C-6A and C-6B), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.**

- (m) **Not later than 180 days after startup of the DDGS Cooling Drum, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol) of the DDGS Cooling Drum Baghouse (C-7C), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration.**
- (n) **Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.**

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

D.2.13 Compliance Assurance Monitoring (CAM) Visible Emissions Notations [40 CFR 64]

Prior to startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):

- (a) Visible emission notations of the Thermal Oxidizers ~~stacks~~**(C-6A and Baghouses stacksC-6B) stack** exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) **Visible emission notations of the DDGS Cooler #1 and #2 baghouses (C-7A and C-7B) stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**
- ~~(c)~~ For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (ed) 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.
- (de) 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.
- (ef) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.14 Visible Emissions Notations

- (a) **Upon startup of the first of the first of the DDGS Dryers A-D (EP-30 - EP-33) visible emission notations of the Thermal Oxidizers (C-6A and C-6B) stack exhausts,controlling shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**
- (b) **Upon startup of the DDGS Cooling Drum visible emission notations of the DDGS Cooling Drum Baghouse (C-7C) stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.**
- (c) **For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.**
- (d) **In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest**

emissions.

- (e) **A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.**
- (f) **If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.**

D.2.4415 Compliance Assurance Monitoring (CAM) Thermal Oxidizers Parametric Monitoring [326 IAC 8-5-6][40 CFR 64]

Prior to startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):

- (a) ...

D.2.16 Thermal Oxidizers Parametric Monitoring [326 IAC 8-5-6]

Upon startup of the first of the DDGS Dryers A-D (EP-30 - EP-33):

- (a) **A continuous monitoring system shall be calibrated, maintained, and operated on the two (2) Thermal Oxidizers (C-6A and C-6B) for measuring the duct pressure or fan amperage. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour average. From the date of startup until the stack test results are available, the Permittee shall maintain the 3-hour average duct pressure or fan amperage within the normal range.**
- (b) **The Permittee shall determine the appropriate 3-hour average duct pressure or fan amperage from the latest valid stack test that demonstrates compliance with the limits in Conditions D.2.1, D.2.3, and D.2.8.**
- (c) **On and after the date the stack test results are available, the 3-hour average duct pressure or fan amperage shall be maintained within the 3-hour average normal range as established in the latest compliant stack test.**
- (d) **When, for any one reading, the 3-hour average duct pressure or fan amperage is outside the above mentioned 3-hour average ranges, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.**

D.2.4517 Thermal Oxidizers Temperature [326 IAC 8-5-6]

- (a) ...
- (b) **The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with the PSD minor limits in ~~Condition~~ Conditions D.2.1, and D.2.3, and the requirements of 326 IAC 8-5-6 in Condition D.2.8.**
- (c) ...

~~D.2.16 Compliance Assurance Monitoring (CAM) Baghouses Parametric Monitoring [40 CFR 64]~~

~~The Permittee shall record the pressure drop across cooler baghouses C-7A and C-7B controlling the DDGS Coolers #1 and #2, and at least once per day when the respective emission units are in operation. When, for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for each of these units is a pressure drop between 1.0 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 and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

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

~~D.2.4718 Broken or Failed Bag Detection~~

~~...~~

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

~~D.2.4819 Record Keeping Requirements~~

- ~~(a) **To Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.2(b), the Permittee shall maintain a monthly record of the natural gas fuel usage from the two (2) DDGS dryers (#1 and #2) and from the two (2) Thermal Oxidizers (C-6A and C-6B).**~~
- ~~(b) **After the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.2(d), the Permittee shall maintain a monthly record of the natural gas fuel usage from the four (4) DDGS dryers (A - D) and from the two (2) Thermal Oxidizers (C-6A and C-6B).**~~
- ~~(bc) **To Prior to the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.5(b), the Permittee shall maintain a monthly record of the DDGS throughput to the two (2) DDGS dryers (#1 and #2).**~~
- ~~(d) **After the startup of DDGS Dryers A - D (EP-30 - EP-33), to document the compliance status with Condition D.2.5(d), the Permittee shall maintain a monthly record of the DDGS throughput of the four (4) DDGS dryers (A - D).**~~
- ~~(ee) **To document the compliance status with Condition D.2.4213, the Permittee shall maintain a daily record of visible emission notations of the stacks exhaust from the Thermal Oxidizers (C-6A and C-6B) controlling the two (2) DDGS dryers and #1 and #2, respectively, and, prior to the startup of DDGS Dryers A - D and the DDGS Cooling Drum, from the Baghouses (C-7A and C-7B) controlling the two (2) DDGS coolers #1 and #2, respectively. 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).**~~
- ~~(f) **To document the compliance status with Condition D.2.14, the Permittee shall maintain records of daily visible emission notations of the DDGS Cooling Drum baghouse (C-7C) stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**~~

- (dg) To document the compliance status with Condition D.2.4415, the Permittee shall maintain continuous ~~Thermal Oxidizers~~ duct pressure or fan amperage records ~~(on a 3-hour average basis)~~ **for the Thermal Oxidizers (C-6A and C-6B)** and the 3-hour average used to ~~document~~ **demonstrate** compliance during the most recent compliant stack test.
- (h) **To document the compliance status with Condition D.2.16, the Permittee shall maintain continuous duct pressure or fan amperage records for the Thermal Oxidizers (C-6A and C-6B) and the 3-hour average used to demonstrate compliance during the most recent compliant stack test.**
- (ei) To document the compliance status with Condition D.2.4517, the Permittee shall maintain continuous temperature records ~~(on a three-hour average basis)~~ **of for the Thermal Oxidizers (C-6A and C-6B)** and the ~~three~~ **3-hour** average temperature used to demonstrate compliance during the most recent compliant stack test.
- ~~(f) To document the compliance status with Condition D.2.16, the Permittee shall maintain a daily record of the pressure drop across each of the baghouses controlling the DDGS coolers. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day, etc.).~~
- (gj) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

...

Section D.3 - Revisions

- (a) Condition D.3.3 - HAP Minor Limits has been revised based on stack testing at the source.
- (b) Condition D.3.7 - Testing Requirement has been updated to current model language.
- (c) Condition D.3.9 - Scrubber Failure Detection, was renamed and updated to current model language.
- (d) IDEM, OAQ added requirements concerning the high plume exhaust system to Condition D.3.10 - Record Keeping Requirements
- (e) Section D.3 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.3 has been revised as follows:

SECTION D.3

EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (d) Fermentation operation, identified as process P-5, installed in 2008 **and approved in 2016 for modification**, with ~~a maximum~~ **an average** throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. **Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height.** The ~~maximum average~~ undenatured ethanol production rate is 13,302 gallons per hour ~~or and a maximum of~~ 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:
 - (1) Seven (7) fermenters tanks, installed in 2008, **controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.**
 - (2) One (1) beer well tank, installed in 2008, controlled by the CO₂ scrubber, C-5A,

exhausting to stack S-5A.

(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 Prevention of Significant Deterioration (PSD) Minor VOC Limit [326 IAC 2-2]

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

- (a) The VOC emissions from Fermentation, Scrubber C-5A, shall not exceed 8.23 pounds per hour.

Compliance with the above VOC emission limit and the VOC emission limits in Conditions D.2.1 and D.4.1, ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit VOC from all other emission units at this source**, shall limit the ~~VOC emissions from the entire source~~ **source-wide emissions of VOC** to less than two hundred fifty (250) tons per year, ~~each. Therefore,~~ **twelve (12) consecutive month period, and shall render** the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), ~~are not applicable to the source for VOC.~~

D.3.2 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Limits [326 IAC 2-2]

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

- (a) The PM emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pound per hour.
- (b) The PM₁₀ emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pound per hour.
- (c) The PM_{2.5} emissions from Fermentation, Scrubber C-5A, shall not exceed 0.24 pound per hour.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.2.4, D.4.4, and D.6.1, ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at this source**, shall limit the ~~PM, PM₁₀, and PM_{2.5} emissions from the entire source~~ **source-wide emissions of PM, PM₁₀, and PM_{2.5}** to less than two hundred fifty (250) tons per year **twelve (12) consecutive month period, each. Therefore, and shall render** the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), ~~are not applicable to the source for PM, PM₁₀, or PM_{2.5}.~~

D.3.3 HAP Minor Limits [40 CFR 63]

In order to assure this source is an area source of HAPs under Section 112 of the Clean Air Act (CAA), the Permittee shall comply with the following:

- (a) The single HAP emissions from the CO₂ Scrubber (C-5A) exhaust shall not exceed ~~1.67~~**35** pounds per hour.
- (b) The total HAP emissions from the CO₂ Scrubber (C-5A) exhaust shall not exceed ~~1.75~~**41** pounds per hour.

Compliance with the above HAP emission limits and the HAP emission limits in Conditions D.2.7 ~~in conjunction with the unrestricted PTE from this source,~~ **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 year for any single HAP and ~~less than twenty-five (25) tons for any combination of HAPS per year~~ **twelve (12) consecutive month period and render this source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA) for total HAPs.** Therefore, the requirements of 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) are not applicable to the ethanol emissions units described above, and the entire source is rendered an area source of HAP emissions under 40 CFR 63.

...

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

...

D.3.7 Testing Requirements ~~[326 IAC 2-7-6(1), (6)]~~[326 IAC 2-1.1-11][326 IAC 8-5-6]

- (a) In order to ~~determine~~ **demonstrate** compliance with Condition D.3.1, the Permittee shall perform VOC testing (including the capture and absorption efficiency) ~~on~~ **of** Scrubber C-5A ~~for controlling the fermentation process~~ utilizing methods as approved by the Commissioner **at least once every 5 years from the date of the most recent valid compliance demonstration.**
- (b) In order to ~~determine~~ **demonstrate** compliance with Condition D.3.2, no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051 or no later than 180 days after re-start of the plant, whichever occurs later, the Permittee shall perform PM, PM₁₀ and PM_{2.5} testing ~~on~~ **of** Scrubber C-5A ~~for controlling the fermentation process~~ utilizing methods as approved by the Commissioner **at least once every 5 years from the date of the most recent valid compliance demonstration.** PM₁₀ and PM_{2.5} includes filterable and condensable PM.
- (c) In order to ~~determine~~ **demonstrate** compliance with Condition D.3.3, the Permittee shall perform HAP testing (acetaldehyde, acrolein, formaldehyde, and methanol) (including the capture and absorption efficiency and sodium bisulfite addition rate) ~~on~~ **of** Scrubber C-5A ~~for controlling the fermentation process~~ utilizing methods as approved by the Commissioner **at least once every 5 years from the date of the most recent valid compliance demonstration.** If the plant is operating, testing shall be performed no later than 180 days after issuance of Significant Source Modification No. 129-31693-00051. If the plant is not operating and the Significant Source Modification is issued, testing shall be performed no later than 180 days after re-commencing operations.

~~Testing 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 obligations with regard to the testing required by this condition.~~

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

...

D.3.9 Scrubber Failure Detection

In the event that malfunction has been observed:

- ~~Failed units~~ (a) **For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated fermentation process shall will be shut down immediately until the failed unit has been repaired or replaced.** Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). ~~Failure to take response steps in accordance with Section C~~

~~Response to Excursions or Exceedances shall be considered a deviation from this permit.~~

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

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

D.3.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.8, the Permittee shall maintain once per day records of the scrubbing liquid, pressure drop, scrubbing liquid flow rate, and sodium bisulfite injection rate from scrubber C-5A. The Permittee shall include in its daily record when scrubbing liquid, pressure drop, scrubbing liquid flow rate, and sodium bisulfite injection rate notations are not taken and the reason for the lack of notations (e.g. the process did not operate that day, etc.). **The Permittee shall include in its daily record whether the High Plume Exhaust System is in operation.**
- (b) ...

Section D.4 - Revisions

- (a) Paragraph (b) in Condition D.4.1 was revised because the source added the capability of shipping undenatured ethanol.
- (b) Section D.4 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.4 has been revised as follows:

SECTION D.4 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (h) ~~Denatured ethanol~~ **Ethanol** loadout, identified as P-9, ~~installed in 2008, with a total maximum throughput of 36,000 gallons per hour or an average throughput of 13,943 gallons per hour (maximum of 122.1 million gallons per year) of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol~~ consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, ~~and~~ **with a maximum capacity of 36,000 gallons per hour.**
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, **with a maximum capacity of 120,000 gallons per hour.**
 - (3) **Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.**

These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.

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

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

D.4.1 Prevention of Significant Deterioration (PSD) Minor VOC Limits [326 IAC 2-2]

~~The VOC emissions from the loading racks shall be limited as follows:~~

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

- (a) The VOC emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.00015 pound per gallon of ethanol loaded out.
- (b) The trucks and rail loading racks shall be limited to a combined throughput of 122,141,250 gallons of denatured **and undenatured** ethanol per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above VOC emission limits and the VOC emission limits in Conditions D.2.1 and D.3.1, ~~in conjunction~~ **combined** with the ~~unrestricted PTE from~~ **potential to emit VOC from all other emission units at** this source, shall limit the **source-wide potential to emit of VOC** to less than two hundred fifty (250) tons per year, ~~each~~ **twelve (12) consecutive month period, and shall render** ~~Therefore, the requirements of 326 IAC 2-2; (Prevention of Significant Deterioration (PSD)), are not applicable to the source for VOC.~~

D.4.2 Prevention of Significant Deterioration (PSD) Minor CO Limits [326 IAC 2-2]

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

- (a) The CO emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.0835 pound per kilogallon of ethanol loaded out.

Compliance with the above CO emission limit and the CO emission limits in Conditions D.2.3 and D.7.1, ~~in conjunction~~ **combined** with the ~~unrestricted PTE from~~ **potential to emit CO from all other emission units at** this source, shall limit the **CO emissions from the entire source source-wide potential to emit of CO** to less than two hundred fifty (250) tons per year, ~~each~~ **twelve (12) consecutive month period, and shall render** ~~Therefore, the requirements of 326 IAC 2-2; (Prevention of Significant Deterioration (PSD)), are not applicable to the source for CO.~~

D.4.3 Prevention of Significant Deterioration (PSD) Minor NO_x Limits [326 IAC 2-2]

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

- (a) The NO_x emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.0334 pound per kilogallon of ethanol loaded out.

Compliance with the above NO_x emission limit and the NO_x emission limits in Conditions D.2.2 and D.7.1, ~~in conjunction~~ **combined** with the ~~unrestricted PTE from~~ **potential to emit NO_x from all other emission units at** this source, shall limit the **source-wide potential to emit of NO_x emissions from the entire source** to less than two hundred fifty (250) tons per year, ~~each~~ **twelve (12) consecutive month period, and shall render** ~~Therefore, the requirements of 326 IAC 2-2; (Prevention of Significant Deterioration (PSD)), are not applicable to the source for NO_x.~~

D.4.4 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Limits [326 IAC 2-2]

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

- (a) The PM, PM₁₀, and PM_{2.5} emissions from the enclosed Flare, C-9, which controls one (1) truck ethanol loadout and one (1) rail ethanol loadout systems shall not exceed 0.000299 pound per kilogallon of ethanol loaded out.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limit and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.2.4, D.3.2, and D.6.1, ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at** this source, shall limit the **source-wide potential to emit of PM, PM₁₀, and PM_{2.5} emissions from the entire source** to less than two hundred fifty (250) tons per ~~year~~ **twelve (12) consecutive month period, each, and shall render.** Therefore, the requirements of 326 IAC 2-2.7 (Prevention of Significant Deterioration (PSD)), ~~are not applicable to the source for PM, PM₁₀, or PM_{2.5}.~~

...

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

...

D.4.8 Testing Requirements [326 IAC 2-1.1-14][326 IAC 8-5-6]

...

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

D.4.11 Record Keeping Requirements

- (a) To document the compliance status with Condition D.4.1(b), the Permittee shall maintain a monthly record of the denatured **and undenatured** ethanol loaded out into the loading racks.
- (b) ...

Section D.5 - Revisions

- (a) The identification of the denaturant storage tank was corrected in Conditions D.5.1 and D.5.3.
- (b) Section D.5 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.5 has been revised as follows:

SECTION D.5 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (i) Product Storage, identified as P-10, consisting of the following emission units:
 - (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, with a capacity of 172,000 gallons, each.
 - (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, **and a maximum design capacity less than 20,000 gallons per day throughput.**
 - (3) Two (2) ~~denatured~~ ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 **and approved in 2016 for modification**, each storing ~~a~~ **undenatured** ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
 - (4) One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.

(The information describing the process contained in this facility description box is descriptive information

and does not constitute enforceable conditions.)

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

D.5.1 Volatile Organic Compounds (VOC) [326 IAC 8-4-3]

- (a) Pursuant to 326 IAC 8-4-3(b)(1)(B), denaturant storage tank ~~Tk006~~**Tk004** shall be maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.
- (1) Pursuant to 326 IAC 8-4-3(b)(1)(C), all openings, except stub drains, are equipped with covers, lids, or seals such that:
 - (2) The cover, lid or seal in the closed portion at all times except when in actual use;
 - (3) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports;
 - (4) 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.
- (b) Pursuant to 326 IAC 8-4-3(d) (Petroleum Liquid Storage Facilities), the Permittee shall maintain the following records for a period of two (2) years for denaturant storage tank ~~Tk006~~**Tk004**:
- (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.

The above records shall be made available to the IDEM, OAQ upon written request.

...

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

D.5.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.5.1, the Permittee shall maintain the following records for denaturant storage tank ~~Tk006~~**Tk004**:
- (1) The types of volatile petroleum liquid stored;
 - (2) The maximum true vapor pressure of the liquids as stored; and
 - (3) The results of the inspections performed on the storage vessels.
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the record keeping requirements of this permit.

Section D.6 - Revisions

Section D.6 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.6 has been revised as follows:

...

D.6.1 Prevention of Significant Deterioration (PSD) Minor PM, PM₁₀, and PM_{2.5} Emission Limits [326 IAC 2-2]

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

- (a) The PM, PM₁₀, and PM_{2.5} emissions from the cooling tower shall not exceed 0.38 pounds per hour, **each**, and it shall be designed with a drift rate of 0.0005% and circulation rate of 2,256,000 gallons of make up water per hour.

Compliance with the above PM, PM₁₀, and PM_{2.5} emission limits and the PM, PM₁₀, and PM_{2.5} emission limits in Conditions D.1.1, D.2.4, D.3.2, and D.4.4, ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit PM, PM₁₀, and PM_{2.5} from all other emission units at** this source, shall limit the **source-wide potential to emit of PM, PM₁₀, and PM_{2.5} emissions from the entire source to less than two hundred fifty (250) tons per year twelve (12) consecutive month period, each, and shall render.** ~~Therefore, the requirements of 326 IAC 2-2, (Prevention of Significant Deterioration (PSD)), are not applicable to the source for PM, PM₁₀, or PM_{2.5}.~~

...

Section D.7 - Revisions

Section D.7 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section D.7 has been revised as follows:

SECTION D.7 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Descriptions:

- (j) Natural gas combustion sources, identified as P-11, **installed in 2008**, consisting of four (4) natural gas-fired package boilers, identified as EP-26 through EP-29, ~~installed in 2008~~, with a heat input capacity of 92.4 MMBtu/hr, each.

(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 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

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

- (a) The four (4) package boilers shall only combust natural gas. The natural gas throughput to the four package boilers shall be limited to 3,237.5 MMCF per twelve consecutive month period, with compliance determined at the end of each month.
- (b) The NO_x emissions from the four (4) package boilers shall not exceed 30.0 pounds per million cubic feet of natural gas.
- (c) The CO emissions from the four (4) package boilers shall not exceed 18 pounds per million cubic feet of natural gas.

Compliance with ~~these~~ **the above** NO_x and CO limits shall limit the **potential to emit** NO_x and CO emissions from the four (4) package boilers to less than 100 tons per year **twelve (12) consecutive month period, each, which renders and shall render** the requirements of 326 IAC 2-2; (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance with the above NO_x and CO emission limits and the NO_x and CO emission limits in Conditions D.2.2, D.2.3, D.4.2, and D.4.3 ~~in conjunction with the unrestricted PTE from~~ **combined with the potential to emit NO_x and CO from all other emission units at** this source, shall limit the **source-wide potential to emit of** NO_x and CO emissions from the entire source to less than two hundred fifty (250) tons per year **twelve (12) consecutive month period, each, and shall render**. ~~Therefore, the requirements of 326 IAC 2-2; (Prevention of Significant Deterioration (PSD)), are not applicable to the source for NO_x and CO.~~

...

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

...

D.7.4 Testing Requirements ~~[326 IAC 2-4.1-11]~~[326 IAC 8-5-6]

...

Section E.1 - Revisions

- (a) The identification of the applicable subpart has been corrected in Condition E.1.1 - General Provisions Relating to New Source Performance Standards.
- (b) Section E.1 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section E.1 has been revised as follows:

SECTION E.1

NSPS

Emissions Unit Descriptions:

- (i) Product Storage, identified as process P-10, ~~installed in 2008~~, consisting of the following emission units:
 - (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, each with a capacity of 172,000 gallons.
 - (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, **and a maximum design capacity less than 20,000 gallons per day throughput.**
 - (3) Two (2) ~~denatured~~ ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 **and approved in 2016 for modification**, each storing ~~a denatured~~ **undenatured** ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
 - (4) ~~One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.~~

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

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

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

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

Section E.2 - Revisions

Section E.2 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section E.2 has been revised as follows:

SECTION E.2 NSPS

Emission Unit Descriptions:

- (j) Natural gas combustion sources, identified as P-11, **installed in 2008**, consisting of four (4) natural gas-fired package boilers, identified as EP-26 through EP-29, ~~installed in 2008~~, each with a heat input capacity of 92.4 MMBtu/hr.

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

...

Section E.3 - Revisions

- (a) The list of applicable requirements in Condition 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 has been updated to the current model format.
- (b) Section E.3 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section E.3 has been revised as follows:

SECTION E.3 NSPS

Emission Unit Descriptions:

- (d) Fermentation operation, identified as process P-5, installed in 2008 **and approved in 2016 for modification**, with a ~~maximum~~ **average** throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. **Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height.** The ~~maximum average~~ **average** undenatured ethanol production rate is 13,302 gallons per hour ~~or and a maximum of~~ 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:

- (1) Seven (7) fermenters tanks, installed in 2008, **controlled by the CO₂ scrubber, C-5A,**

exhausting to stack S-5A.

- (2) One (1) beer well tank, installed in 2008, controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.
- (e) Distillation and dehydration operations, identified as process P-6, ~~installed in 2008~~, with ~~an~~ **average** throughput of 13,302 gallons **of undenatured ethanol** per hour (**a maximum of 116.5 million gallons of undenatured ethanol per year**) consisting of the following emission units:
 - (1) Two (2) beer columns, #1 and #2, installed in 2008, **with an extension to column #2 added in 2014**, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) ...
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, ~~installed in 2008~~, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (**average of 44.65 tons per hour**), consisting of the following emission units:
 - (1) ...
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and ~~may exhausts to stack S-7A when not being used as make-up air for DDGS Dryer #1~~. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and ~~may exhausts to stack S-7B when not being used as make-up air for DDGS Dryer #2~~.
 - (8) **Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.**
 - (9) **One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.**
 - (10) **Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.**
- (h) ~~Denatured ethanol~~ **Ethanol** loadout, identified as P-9, ~~installed in 2008~~, with a ~~total maximum throughput of 36,000 gallons per hour or an average throughput of 13,943 gallons per hour~~ (**maximum of 122.1 million gallons per year**) **of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol** consisting of the following emission units:
 - (1) One (1) truck loadout, identified as EP-24, installed in 2008, ~~and~~ **with a maximum capacity of 36,000 gallons per hour.**
 - (2) One (1) rail loadout, identified as EP-25, installed in 2008, **with a maximum capacity of 120,000 gallons per hour.**

(3) Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.

These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.

(i) Product Storage, identified as process P-10, ~~installed in 2008~~, consisting of the following emission units:

- (1) Three (3) 200 proof above ground storage tanks, identified as Tk001 through Tk003, installed in 2008, each with a capacity of 172,000 gallons.
- (2) One (1) denaturant storage tank, identified as Tk004, installed in 2008, with a capacity of 105,000 gallons, **and a maximum design capacity less than 20,000 gallons per day throughput.**
- (3) Two (2) ~~denatured~~ ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 **and approved in 2016 for modification**, each storing ~~a denatured~~ **or undenatured** ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.
- (4) One (1) corrosion inhibitor storage tank, identified as Tk007, installed in 2008, with a capacity of 6,392 gallons.

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

...

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 [326 IAC 12][40 CFR Part 60, Subpart VVa]

Pursuant to 40 CFR Part 60, Subpart VVa, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart VVa, which are incorporated by reference as 326 IAC 12 (included as Attachment C to this permit), for the above listed emissions units as specified as follows.

- (a) ~~40 CFR 60.480a(a), (b), (c), (d), and (f)~~
- (b) ~~40 CFR 60.481a~~
- (c) ~~40 CFR 60.482-1a~~
- (d) ~~40 CFR 60.482-2a~~
- (e) ~~40 CFR 60.482-3a~~
- (f) ~~40 CFR 60.482-4a~~
- (g) ~~40 CFR 60.482-5a~~
- (h) ~~40 CFR 60.482-6a~~
- (i) ~~40 CFR 60.482-7a~~
- (j) ~~40 CFR 60.482-8a~~
- (k) ~~40 CFR 60.482-9a~~
- (l) ~~40 CFR 60.482-10a~~
- (m) ~~40 CFR 60.482-11a~~
- (n) ~~40 CFR 60.483-1a~~
- (o) ~~40 CFR 60.483-2a~~
- (p) ~~40 CFR 60.484a~~
- (q) ~~40 CFR 60.485a~~
- (r) ~~40 CFR 60.486a~~
- (s) ~~40 CFR 60.487a~~
- (t) ~~40 CFR 60.488a~~
- (u) ~~40 CFR 60.489a~~
- (1) 40 CFR 60.480a(a)**

- (2) 40 CFR 60.480a(b)
- (3) 40 CFR 60.480a(c)
- (4) 40 CFR 60.480a(d)
- (5) 40 CFR 60.480a(f)
- (6) 40 CFR 60.481a
- (7) 40 CFR 60.482-1a
- (8) 40 CFR 60.482-2a
- (9) 40 CFR 60.482-3a
- (10) 40 CFR 60.482-4a
- (11) 40 CFR 60.482-5a
- (12) 40 CFR 60.482-6a
- (13) 40 CFR 60.482-7a
- (14) 40 CFR 60.482-8a
- (15) 40 CFR 60.482-9a
- (16) 40 CFR 60.482-10a
- (17) 40 CFR 60.482-11a
- (18) 40 CFR 60.483-1a
- (19) 40 CFR 60.483-2a
- (20) 40 CFR 60.484a
- (21) 40 CFR 60.485a
- (22) 40 CFR 60.486a
- (23) 40 CFR 60.487a
- (24) 40 CFR 60.488a
- (25) 40 CFR 60.489a

Section E.4 - Revisions

The list of applicable requirements in Condition E.4.2 - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines has been corrected.

Section E.4 has been revised as follows:

SECTION E.4

NSPS

Emission Unit Descriptions:

Insignificant Activities:

- (a) One (1) diesel-fired emergency fire pump, identified as process P-12, installed in 2008, with a capacity of 420 horsepower (HP).

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

...

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

Pursuant to 40 CFR Part 60, Subpart IIII, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart IIII, which are incorporated by reference as 326 IAC 12 (included as Attachment D to this permit), for the above listed emissions units as specified as follows.

- (a) ~~40 CFR 60.40c(a)~~
- (b) ~~40 CFR 60.40c(b)~~
- (c) ~~40 CFR 60.41c~~
- (d) ~~40 CFR 60.48c(a)(1)~~
- (e) ~~40 CFR 60.48c(g)~~

- (f) ~~40 CFR 60.48c(i)~~
- (g) ~~40 CFR 60.48c(j)~~
- (1) **40 CFR 60.4200(a)(2)(i)**
- (2) **40 CFR 60.4200(c)**
- (3) **40 CFR 60.4205(b)**
- (4) **40 CFR 60.4206**
- (5) **40 CFR 60.4207(a)**
- (6) **40 CFR 60.4207(b)**
- (7) **40 CFR 60.4207(c)**
- (8) **40 CFR 60.4208**
- (9) **40 CFR 60.4209**
- (10) **40 CFR 60.4211(a)**
- (11) **40 CFR 60.4211(c)**
- (12) **40 CFR 60.4211(e)**
- (13) **40 CFR 60.4212**
- (14) **40 CFR 60.4214(b)**
- (15) **40 CFR 60.4214(c)**
- (16) **40 CFR 60.4218**
- (17) **40 CFR 60.4219**
- (18) **Table 1 to 40 CFR 60, Subpart IIII**
- (19) **Table 8 to 40 CFR 60, Subpart IIII**

Section E.5 - Revisions

The emissions unit descriptions box header was updated to current model language.

Section E.5 has been revised as follows:

SECTION E.5

NESHAP

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

- (a) One (1) diesel-fired emergency fire pump, identified as process P-12, installed in 2008, with a capacity of 420 horsepower (HP).

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

...

Section E.6 - Revisions

- (a) The emissions unit descriptions box header was updated to current model language.
- (b) Section E.6 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section E.6 has been revised as follows:

SECTION E.6

NESHAP

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

- (c) Fuel dispensing activities, as follows:

- (1) A gasoline fuel transfer dispensing operation handling less than or equal to one thousand three hundred (1,300) gallons per day and filling storage tanks having a capacity equal to or less than

ten thousand five hundred (10,500) gallons. Such storage tanks may be in a fixed location or on mobile equipment.

- (A) One (1) gasoline dispensing operation for plant vehicles, installed in 2008, with a maximum throughput of 75 gallons per month.

Under the NESHAP 40 CFR 63, Subpart CCCCC, this is a new affected source.

- ~~(B) Vapor collection-equipped gasoline cargo tanks, installed in 2008.~~

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

...

Section E.7 - Revisions

- (a) The emissions unit descriptions box header was updated to current model language.
(b) The list of applicable requirements in Condition E.7.2 - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing has been updated to the current model format.
(c) Section E.7 has been revised to incorporate the appropriate IDEM updates detailed above under "Summary of IDEM Updates Throughout the Permit."

Section E.7 has been revised as follows:

SECTION E.7

NESHAP

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

- (c) Milled grain cooking operation, identified as process P-4, ~~installed in 2008~~, which includes the following:

- (1) Milled grain cooking operation, consisting of the following major components:

(A) ...

- (E) **One (1) yeast tank, installed in 2008, with a maximum capacity of 277,000 gallons. Decommissioned upon startup of the two (2) yeast tanks permitted in 2014.**

...

- (d) Fermentation operation, identified as process P-5, installed in 2008, ~~with a maximum~~ **and approved in 2016 for modification, with an average** throughput of 87,000 gallons of beer per hour or 13,302 gallons of ethanol per hour, controlled by one (1) CO₂ scrubber, C-5A, exhausting to stack S-5A. **Stack S-5A is equipped with a high plume exhaust system, operated when necessary, to increase the CO₂ exhaust stream discharge height.** The ~~maximum average~~ undenatured ethanol production rate is 13,302 gallons per hour ~~and a maximum of~~ 116.5 million gallons per year. The exhaust gas stream from the scrubber may be sent to an offsite company for further processing of the CO₂ gas stream or vented directly to the atmosphere. The source has the option to use a supplemental additive, such as sodium bisulfite, in the CO₂ scrubber. This operation includes the following:

- (1) Seven (7) fermenters tanks, installed in 2008, **controlled by the CO₂ scrubber, C-5A, exhausting to stack S-5A.**

(2) ...

- (e) Distillation and dehydration operations, identified as process P-6, ~~installed in 2008~~, with ~~an average~~ **an average** throughput of 13,302 gallons of undenatured ethanol per hour **(a maximum of 116.5 million gallons of**

undenatured ethanol per year) consisting of the following emission units:

- (1) Two (2) beer columns, #1 and #2, installed in 2008, **with an extension to column #2 added in 2014**, controlled by either of the two (2) Thermal Oxidizers, C-6A, exhausting to stack S-6A, or C-6B, exhausting to stack S-6B. Each Thermal Oxidizer has a heat input capacity of 18 million British thermal units per hour (MMBtu/hr).
 - (2) ...
- (f) Non fermentable, Dry Distillers Grain Solubles (DDGS) operation, identified as process P-7, ~~installed in 2008~~, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year (**average of 44.65 tons per hour**), consisting of the following emission units:
- (1) ...
 - (7) Two (2) DDGS coolers, identified as EP-22 (#1) and EP-23 (#2), installed in 2008, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. Cooler #1 is controlled by Cooler Baghouse #1, C-7A, installed in 2008, and ~~may exhausts to stack S-7A when not being used as make-up air for DDGS-Dryer #4~~. Cooler #2 is controlled by Cooler Baghouse #2, C-7B, installed in 2008, and ~~may exhausts to stack S-7B when not being used as make-up air for DDGS-Dryer #2~~.
 - (8) **Four (4) DDGS dryers A, B, C, and D, identified as EP30 - EP33, approved in 2016 for construction, with a total drying rate of 391,148 tons (dry basis) of DDGS per year. The maximum heat input capacity of Dryers A - D is 45.00 MMBtu/hr, each. Dryers A and B operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #1, C-6A, exhausting to stack S-6A. Dryers C and D operate in series, have a maximum throughput capacity of 22.33 tons per hour, and are controlled by Thermal Oxidizer #2, C-6B, exhausting to stack S-6B.**
 - (9) **One (1) DDGS cooling drum, identified as EP-34, approved in 2016 for construction, with a maximum throughput of 391,148 tons (dry basis) of DDGS per year. The cooling drum is controlled by the Cooling Drum Baghouse, identified as C-7C, exhausting to stack S-7C.**
 - (10) **Six (6) centrifuges, approved in 2016 for construction, replacing the four (4) centrifuges installed in 2008.**
- (g) DDGS handling, storage and loadout operations, identified as process P-8, ~~installed in 2008~~, with a rate of 391,148 tons (dry basis) of DDGS per year, consisting of the following emission units:
- (1) ...
 - (2) One (1) truck loadout, identified as EP-10, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. ~~Particulate emissions from truck loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8~~**EP-10 is not controlled but is equipped with chute extensions and a funnel device to restrict the material flow rate.**
 - (3) One (1) rail loadout, identified as EP-11, installed in 2008, with a maximum rate of 225 tons (dry basis) per hour. ~~Particulate emissions from rail loadout are controlled by one (1) baghouse, C-8, exhausting to stack S-8~~**EP-11 is not controlled but is equipped with chute extensions and a funnel device to restrict the material flow rate.**
- (h) ~~Denatured ethanol~~**Ethanol** loadout, identified as P-9, ~~installed in 2008~~, with a ~~total maximum throughput of 36,000 gallons per hour or an average throughput of 13,943 gallons per hour~~ (**maximum of 122.1 million gallons per year**) **of denatured ethanol or an average throughput of 13,300 gallons per hour (maximum of 116.5 million gallons per year) of undenatured ethanol** consisting of the following emission units:
- (1) One (1) truck loadout, identified as EP-24, installed in 2008, ~~and~~ **with a maximum capacity of**

36,000 gallons per hour.

(2) One (1) rail loadout, identified as EP-25, installed in 2008, **with a maximum capacity of 120,000 gallons per hour.**

(3) **Three (3) blending skids to mix denaturant with ethanol at the loadout point, one skid, each, for truck, rail, and barge loading, approved in 2016 for construction.**

These two (2) loading racks are controlled by enclosed Flare system C-9, installed in 2008. The flare is fueled by natural gas and has a pilot gas flare heat input capacity of 0.092 MMBtu/hr.

(i) Product Storage, identified as process P-10, ~~installed in 2008~~, consisting of the following emission units:

(1) ...

(3) Two (2) ~~denatured~~ ethanol storage tanks, identified as Tk005 and Tk006, installed in 2008 **and approved in 2016 for modification**, each storing a ~~denatured~~ **or undenatured** ethanol with a Reid Vapor Pressure less than 27.6 kilopascals, each with a capacity of 1,406,000 gallons.

(4) ...

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

...

E.7.2 National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing [40 CFR 63, Subpart FFFF]

Pursuant to 40 CFR Part 63, Subpart FFFF, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart FFFF, which are incorporated by reference as 326 IAC 20-84 (included as Attachment G to this permit), for the above listed emissions units, as specified as follows.

- ~~(a) 40 CFR 63.2430~~
- ~~(b) 40 CFR 63.2435 (a), (b)(1)(i), (b)(2), (b)(3), (d), (e)~~
- ~~(c) 40 CFR 63.2440 (a), (b), (c)(1)~~
- ~~(d) 40 CFR 63.2445 (a)(2), (c), (f)~~
- ~~(e) 40 CFR 63.2450 (a), (b), (c)(1), (c)(2)(i-iii), (e)(1-2), (f), (g)(1), (g)(2), (g)(4), (g)(5), (h), (i), (k)(1-3), (k)(5), (l), (m), (p), (r), (s)~~
- ~~(f) 40 CFR 63.2455 (a), (b)(1-3)~~
- ~~(g) 40 CFR 63.2460 (a), (b)(1-7)~~
- ~~(h) 40 CFR 63.2470 (a), (c), (e)~~
- ~~(i) 40 CFR 63.2475 (a), (b)~~
- ~~(j) 40 CFR 63.2480 (a)~~
- ~~(k) 40 CFR 63.2485~~
- ~~(l) 40 CFR 63.2505 (a)(1)(i)(A), (b)~~
- ~~(m) 40 CFR 63.2515 (a), (b)(2), (c)~~
- ~~(n) 40 CFR 63.2520 (a), (b), (c), (d), (e)~~
- ~~(o) 40 CFR 63.2525 (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k)~~
- ~~(p) 40 CFR 63.2535 (a), (c)~~
- ~~(q) 40 CFR 63.2540~~
- ~~(r) 40 CFR 63.2545~~
- ~~(s) 40 CFR 63.2550~~
- ~~(t) 40 CFR 63, Subpart FFFF Table 1, 2, 4, 5, 6, 7, 8, 9, 11, 12~~
- (1) 40 CFR 63.2430**
- (2) 40 CFR 63.2435(a)**
- (3) 40 CFR 63.2435(b)(1)(i)**
- (4) 40 CFR 63.2435(b)(2)**
- (5) 40 CFR 63.2435(b)(3)**

- (6) 40 CFR 63.2435(d)
- (7) 40 CFR 63.2435(e)
- (8) 40 CFR 63.2440(a)
- (9) 40 CFR 63.2440(b)
- (10) 40 CFR 63.2440(c)(1)
- (11) 40 CFR 63.2445(a)(2)
- (12) 40 CFR 63.2445(c)
- (13) 40 CFR 63.2445(f)
- (14) 40 CFR 63.2450(a)
- (15) 40 CFR 63.2450(b)
- (16) 40 CFR 63.2450(c)(1)
- (17) 40 CFR 63.2450(c)(2)(i-iii)
- (18) 40 CFR 63.2450(e)(1-2)
- (19) 40 CFR 63.2450(f)
- (20) 40 CFR 63.2450(g)(1)
- (21) 40 CFR 63.2450(g)(2)
- (22) 40 CFR 63.2450(g)(4)
- (23) 40 CFR 63.2450(g)(5)
- (24) 40 CFR 63.2450(h)
- (25) 40 CFR 63.2450(i)
- (26) 40 CFR 63.2450(k)(1-3)
- (27) 40 CFR 63.2450(k)(5)
- (28) 40 CFR 63.2450(l)
- (29) 40 CFR 63.2450(m)
- (30) 40 CFR 63.2450(p)
- (31) 40 CFR 63.2450(r)
- (32) 40 CFR 63.2450(s)
- (33) 40 CFR 63.2455(a)
- (34) 40 CFR 63.2455(b)(1-3)
- (35) 40 CFR 63.2460(a)
- (36) 40 CFR 63.2460(b)(1-7)
- (37) 40 CFR 63.2470(a)
- (38) 40 CFR 63.2470(c)
- (39) 40 CFR 63.2470(e),
- (40) 40 CFR 63.2475(a)
- (41) 40 CFR 63.2475(b)
- (42) 40 CFR 63.2480(a)
- (43) 40 CFR 63.2485
- (44) 40 CFR 63.2505(a)(1)(i)(A)
- (45) 40 CFR 63.2505(b)
- (46) 40 CFR 63.2515(a)
- (47) 40 CFR 63.2515(b)(2)
- (48) 40 CFR 63.2515(c)
- (49) 40 CFR 63.2520(a)
- (50) 40 CFR 63.2520(b)
- (51) 40 CFR 63.2520(c)
- (52) 40 CFR 63.2520(d)
- (63) 40 CFR 63.2520(e)
- (64) 40 CFR 63.2525(a)
- (64) 40 CFR 63.2525(b)
- (66) 40 CFR 63.2525(c)
- (67) 40 CFR 63.2525(d)
- (68) 40 CFR 63.2525(e)
- (69) 40 CFR 63.2525(f)
- (70) 40 CFR 63.2525(g)
- (71) 40 CFR 63.2525(h)
- (72) 40 CFR 63.2525(i)
- (73) 40 CFR 63.2525(j)
- (74) 40 CFR 63.2525(k)

- (75) 40 CFR 63.2535(a)
- (76) 40 CFR 63.2535(c)
- (77) 40 CFR 63.2540
- (78) 40 CFR 63.2545
- (79) 40 CFR 63.2550
- (80) Table 1 to Subpart FFF of Part 63
- (81) Table 2 to Subpart FFF of Part 63
- (82) Table 4 to Subpart FFF of Part 63
- (83) Table 5 to Subpart FFF of Part 63
- (84) Table 6 to Subpart FFF of Part 63
- (85) Table 7 to Subpart FFF of Part 63
- (86) Table 8 to Subpart FFF of Part 63
- (87) Table 9 to Subpart FFF of Part 63
- (88) Table 11 to Subpart FFF of Part 63
- (89) Table 12 to Subpart FFF of Part 63

Reporting Forms - Revisions

- (a) The Emergency Occurrence Report has been updated to current model language.
- (b) New units were incorporated into the Part 70 Quarterly Report for the corn storage bins and the units in the table were corrected.
- (c) New units were incorporated into the Part 70 Quarterly Report for natural gas usage in the DDGS dryers and thermal oxidizers.
- (d) New units were incorporated into the Part 70 Quarterly Report for DDGS throughput in the DDGS dryers.
- (e) The Part 70 Quarterly Report for ethanol loadout was revised to include undenatured ethanol.

Reporting Forms have been revised as follows:

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: Valero Renewable Fuels Company, LLC
d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
Part 70 Operating Permit No.: T129-31281-00051

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.

...

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
 d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
 Part 70 Operating Permit No.: T129-31281-00051
 Facility: ~~Two (2)~~ **Four (4)** corn storage bins, identified as EP-02a, **EP-02b, EP-02c,**
 and EP-02**d**
 Parameter: Grain throughput
 Total Limit: 1,252,371 tons of grain received per twelve (12) consecutive month
 period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1 Grain Received This Month (MMCFtons)	Column 2 Grain Received for Previous 11 Months (MMCFtons)	Column 1 + 2 Grain Received for 12- Month Period (MMCFtons)
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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
 d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
 Part 70 Operating Permit No.: T129-31281-00051
 Facility: ~~Two (2) Dryers and Two (2) Thermal Oxidizers~~
Prior to Startup of DDGS Dryers (A-D):
Two (2) DDGS Dryers (#1 and #2) and two (2) thermal oxidizers (C-6A and C-6B)
On and after startup of DDGS Dryers (A-D):
Four (4) DDGS Dryers (A-D) and two (2) thermal oxidizers (C-6A and C-6B)
 Parameter: Natural Gas Usage
 Total Limit: 1,892 million cubic feet of natural gas usage per twelve (12) consecutive
 month period, with compliance determined at the end of each month.

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

COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
 d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
 Part 70 Operating Permit No.: T129-31281-00051
 Facility: Two (2) DDGS Dryers (#1 and #2)
Four (4) DDGS Dryers (A-D)
 Parameter: SO₂ - DDGS Throughput
 Limit: 391,148 tons of DDGS throughput to the ~~two (2)~~ dryers per twelve (12) consecutive month period, with compliance determined at the end of each month.

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

Part 70 Quarterly Report

Source Name: Valero Renewable Fuels Company, LLC
 d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana 47620
 Part 70 Operating Permit No.: T129-31281-00051
 Facility: Truck and rail loading racks
 Parameter: Denatured Ethanol Loaded Out
 Limit: Combined limit of 122,141,250 gallons of denatured **or undenatured** ethanol per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Column 1 <input type="checkbox"/> Denatured and Undenatured Ethanol Loaded Out for This Month (gallons)	Column 2 <input type="checkbox"/> Denatured and Undenatured Ethanol Loaded Out for Previous 11 Months (gallons)	Column 1 + 2 Denatured and Undenatured Ethanol Loaded Out for 12-Month Period (gallons)

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Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 129-36200-00051 and Significant Permit Modification No. 129-36213-00051. The staff recommend to the Commissioner that this Part 70 Significant Source Modification and Significant Permit Modification be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Doug Logan at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCM 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5328 or toll free at 1-800-451-6027 extension 4-5328.
- (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: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
 Significant Source Modification No.: 129-36200-00051
 Significant Permit Modification No.: 129-36213-00051
 Permit Reviewer: Doug Logan
 Date: 11/30/2015

Potential to Emit After Issuance (tons/yr)

Process	Unit ID	Control Device	Stack ID	Description	CO	NO _x	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	Acetaldehyde	Acrolein	Formaldehyde	n-Hexane	Manganese	Methanol	Methyl-cyclo-hexane	Total HAP														
P-1	EP-01a	BH C-1A	S-1A	Grain Receiving 1 (truck dump pit, conveyors, & elevators)	--	--	2.01	2.01	2.01	--	--	--	--	--	--	--	--	--	--														
	EP-01b			Grain Receiving 2 (rail dump pit, conveyors, & elevators)	--	--														--	--	--	--	--	--	--	--	--	--	--	--	--	
	EP-01c	BH C-1C	S-1C	Grain Receiving 3 (truck dump pit, conveyors, & elevators)	--	--	2.01	2.01	2.01	--	--	--	--	--	--	--	--	--	--	--													
	EP-02a	na	na	Corn Storage Silo	--	--	15.66	3.95	0.69	--	--	--	--	--	--	--	--	--	--	--													
	EP-02b	na	na	Corn Storage Silo	--	--															--	--	--	--	--	--	--	--	--	--	--	--	
	EP-02c	na	na	Corn Storage Silo	--	--															--	--	--	--	--	--	--	--	--	--	--	--	--
	EP-02d	na	na	Corn Storage Silo	--	--															--	--	--	--	--	--	--	--	--	--	--	--	--
	na	na	na	EP-02a/EP02b Storage Silo Conveyors	--	--	38.21	21.30	3.63	--	--	--	--	--	--	--	--	--	--	--													
	na	na	na	EP-02c/EP02d Storage Silo Conveyors	--	--															--	--	--	--	--	--	--	--	--	--	--	--	
EP-03a	BH C-1B	S-1B	Grain Scalper	--	--	1.93	1.93	1.93	--	--	--	--	--	--	--	--	--	--	--														
EP-03b			Grain Scalper Surge Bin	--	--															--	--	--	--	--	--	--	--	--	--	--	--	--	
P-2	EP-05	BH C-2A	S-2A	Hammermill	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--	--													
	EP-06	BH C-2B	S-2B	Hammermill	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--	--													
	EP-07	BH C-2C	S-2C	Hammermill	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--	--													
	EP-08	BH C-2D	S-2D	Hammermill	--	--	1.23	1.23	1.23	--	--	--	--	--	--	--	--	--	--	--													

P-4	note 1	RTO C-6A	S-6A	Milled Grain Cooking (RTO C-6A)	--	94.60	--	--	--	88.01	28.03	1.10	1.10	1.10	--	--	1.10	--	--
P-6	note 1			Distillation & Dehydration (RTO C-6A)	--		--	--	--						--	--		--	--
P-7	EP-30/EP-31	RTO C-6A	S-6A	DDGS Dryer (process emissions)	31.10	94.60	54.75	54.75	54.75	88.01	28.03	1.10	1.10	1.10	0.83	1.76E-04	1.10	--	--
	RTO #1			Thermal Oxidizer C-6A (NG combustion)															
P-4	note 1	RTO C-6B	S-6B	Milled Grain Cooking (RTO C-6B)	--	94.60	--	--	--	88.01	28.03	1.10	1.10	1.10	--	--	1.10	--	--
P-6	note 1			Distillation & Dehydration (RTO C-6B)	--		--	--	--						--	--		--	--
P-7	EP-32/EP-33	RTO C-6B	S-6B	DDGS Dryer (process emissions)	31.10	94.60	54.75	54.75	54.75	88.01	28.03	1.10	1.10	1.10	0.83	1.76E-04	1.10	--	--
	RTO #2			Thermal Oxidizer C-6B (NG combustion)															
P-7	EP-34	BH C-7C	S-7C	DDGS Cooling Drum	--	--	9.37	9.37	9.37	--	24.09	1.75	1.75	1.75	--	--	1.75	--	2.98
Subtotal					62.20	94.60	183.87	155.24	134.32	88.01	80.15	3.94	3.94	3.94	1.67	3.52E-04	3.94	0	11.74

P-5	EP-15	SC C-5A	V-5	Fermentation Beer Well	--	--	1.05	1.05	1.05	--	36.05	5.91	5.91	5.91	--	--	5.91	--	6.18
P-7	EP-19	na	na	Wet Distillers Grain Solubles (WDGS)	<i>The Distillers Grains and Solubles (DGS) is either being dried (Dry Distillers Grains Solubles (DDGS) or is not dried (Wet Distillers Grains Solubles (WDGS)). The worse case emission rate is DDGS; therefore, no emissions are shown for WDGS.</i>														
P-8	EP-09	BH C-8	S-8	Enclosed DDGS Conveyor (DDGS Storage BLDG)	--	--	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--	--
	EP-09a/EP-09b	na	S-8A	DDGS Reclaim Conveyor #1/2	--	--	11.93	9.08E-03	8.64E-04	--	--	--	--	--	--	--	--	--	--
P-9	EP-24 & EP-25	F C-9	na	Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading	5.10	2.04	1.83E-02	1.83E-02	1.83E-02	--	9.16	--	--	--	0.11	--	--	1.86E-02	0.19
	F C-9	na	na	Flare Pilot Flame (NG combustion)	3.4E-02	4.0E-02	7.7E-04	3.1E-03	3.1E-03	2.4E-04	2.2E-03	--	--	2.96E-05	7.11E-04	1.50E-07	--	--	7.46E-04
P-11	EP-26	na	S-13	Boiler (NG Combustion)	29.14	48.56	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75
	EP-27			2.02			2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
	EP-28			2.02			2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
	EP-29			2.02			2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
P-12	na	S-12	Fire Pump	0.70	0.69	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.26	5.64E-04	6.80E-05	8.7E-04	--	--	--	--	2.85E-03	
Total PTE (excluding fugitives)					97.17	145.94	205.35	164.80	143.87	88.96	128.87	9.86	9.86	9.97	4.64	9.56E-04	9.86	1.86E-02	21.10

Appendix A: Emission Calculations
PTE Summary

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
 Significant Source Modification No.: 129-36200-00051
 Significant Permit Modification No.: 129-36213-00051
 Permit Reviewer: Doug Logan
 Date: 11/30/2015

Potential to Emit After Controls (tons/yr)

Process	Unit ID	Control Device	Stack ID	Description	CO	NO _x	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	Acetaldehyde	Acrolein	Formaldehyde	n-Hexane	Manganese	Methanol	Methyl-cyclo-hexane	Total HAP														
P-1	EP-01a	BH C-1A	S-1A	Grain Receiving 1 (truck dump pit, conveyors, & elevators)	--	--	2.02	2.02	2.02	--	--	--	--	--	--	--	--	--	--														
	EP-01b			Grain Receiving 2 (rail dump pit, conveyors, & elevators)	--	--														--	--	--	--	--	--	--	--	--	--	--	--	--	
	EP-01c	BH C-1C	S-1C	Grain Receiving 3 (truck dump pit, conveyors, & elevators)	--	--	1.98	1.98	1.98	--	--	--	--	--	--	--	--	--	--	--													
	EP-02a	na	na	Corn Storage Silo	--	--	15.66	3.95	0.69	--	--	--	--	--	--	--	--	--	--	--													
	EP-02b	na	na	Corn Storage Silo	--	--															--	--	--	--	--	--	--	--	--	--	--	--	
	EP-02c	na	na	Corn Storage Silo	--	--															--	--	--	--	--	--	--	--	--	--	--	--	--
	EP-02d	na	na	Corn Storage Silo	--	--															--	--	--	--	--	--	--	--	--	--	--	--	--
		na	na	na	EU-02a/EU02b Storage Silo Conveyors	--	--	38.21	21.30	3.63	--	--	--	--	--	--	--	--	--	--													
		na	na	na	EP-02c/EP02d Storage Silo Conveyors	--	--														--	--	--	--	--	--	--	--	--	--	--	--	
	EP-03a	BH C-1B	S-1B	Grain Scalper	--	--	1.95	1.95	1.95	--	--	--	--	--	--	--	--	--	--														
	EP-03b			Grain Scalper Surge Bin	--	--														--	--	--	--	--	--	--	--	--	--	--	--	--	
P-2	EP-05	BH C-2A	S-2A	Hammermill	--	--	1.30	1.30	1.30	--	--	--	--	--	--	--	--	--	--														
	EP-06	BH C-2B	S-2B	Hammermill	--	--	1.30	1.30	1.30	--	--	--	--	--	--	--	--	--	--														
	EP-07	BH C-2C	S-2C	Hammermill	--	--	1.30	1.30	1.30	--	--	--	--	--	--	--	--	--	--														
	EP-08	BH C-2D	S-2D	Hammermill	--	--	1.23	1.23	1.23	--	--	--	--	--	--	--	--	--	--														
P-4	note 1	RTO C-6A	S-6A	Milled Grain Cooking (RTO C-6A)	--	--	--	--	--	--	28.03	1.10	1.10	1.10	--	--	1.10	--	--														
P-6	note 1			Distillation & Dehydration (RTO C-6A)	--	--	--	--	--	--										--	--	--	--	--	--	--	--	--					
P-7	EP-30/EP-31			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	44.00										--	--	--	--	--	--	--	--	--	--				
	RTO #1			DDGS Dryer (NG combustion)																										Thermal Oxidizer C-6A (NG combustion)	--	--	--
P-4	note 1	RTO C-6B	S-6B	Milled Grain Cooking (RTO C-6B)	--	--	--	--	--	--	28.03	1.10	1.10	1.10	--	--	1.10	--	--														
P-6	note 1			Distillation & Dehydration (RTO C-6B)	--	--	--	--	--	--										--	--	--	--	--	--	--	--	--					
P-7	EP-32/EP-33			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	44.00										--	--	--	--	--	--	--	--	--	--				
	RTO #2			DDGS Dryer (NG combustion)																										Thermal Oxidizer C-6B (NG combustion)	--	--	--
P-7	EP-34	BH C-7C	S-7C	DDGS Cooling Drum	--	--	9.39	9.39	9.39	--	24.09	1.75	0.88	0.18	--	--	0.18	--	2.98														
Subtotal					62.20	94.61	118.89	118.89	118.89	88.01	80.15	3.94	3.07	2.37	1.67	3.52E-04	2.37	0	11.74														
P-5	EP-15	SC C-5A	V-5	Fermentation Beer Well	--	--	1.05	1.05	1.05	--	36.05	5.91	0.18	0.04	--	--	0.04	--	6.18														
P-7	EP-19	na	na	Wet Distillers Grain Solubles (WDGS)	<i>The Distillers Grains and Solubles (DGS) is either being dried (Dry Distillers Grains Solubles (DDGS) or is not dried (Wet Distillers Grains Solubles (WDGS)). The worse case emission rate is DDGS; therefore, no emissions are shown for WDGS.</i>																												
P-8	EP-09	BH C-8	S-8	Enclosed DDGS Conveyor (DDGS Storage BLDG)	--	--	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--	--														
	EP-09a/EP-09b	na	S-8A	DDGS Reclaim Conveyor #1 DDGS Reclaim Conveyor #2	--	--	11.93	9.08E-03	8.64E-04	--	--	--	--	--	--	--	--	--	--														
P-9	EP-24 & EP-25	F C-9	na	Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading	5.10	2.04	1.83E-02	1.83E-02	1.83E-02	--	8.87	--	--	--	0.11	--	--	1.86E-02	0.19														
	F C-9	na	na	Flare Pilot Flame (NG combustion)	3.38E-02	4.03E-02	7.66E-04	3.06E-03	3.06E-03	2.42E-04	2.22E-03	--	--	2.96E-05	7.11E-04	1.50E-07	--	--	7.46E-04														
P-11	EP-26	na	S-13	Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75														
	EP-27			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75														
	EP-28			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75														
	EP-29			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75														
P-12	na	S-12	Fire Pump	0.70	0.69	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.26	5.6E-04	6.8E-05	8.67E-04	--	--	--	--	2.85E-03															
Total PTE (excluding fugitives)					97.17	145.95	205.32	164.78	143.85	88.96	128.58	9.86	3.24	2.53	4.64	9.56E-04	2.41	1.86E-02	21.10														

**Appendix A: Emission Calculations
PTE Summary**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Uncontrolled Potential to Emit (tons/yr)

Process	Unit ID	Control Device	Stack ID	Description	CO	NO _x	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	Acetaldehyde	Acrolein	Formaldehyde	n-Hexane	Manganese	Methanol	Methyl-cyclohexane	Total HAP		
P-1	EP-01a	BH C-1A	S-1A	Grain Receiving 1 (truck dump pit, conveyors, & elevators)	--	--	183.89	183.89	183.89	--	--	--	--	--	--	--	--	--	--		
	EP-01b			Grain Receiving 2 (rail dump pit, conveyors, & elevators)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	EP-01c	BH C-1C	S-1C	Grain Receiving 3 (truck dump pit, conveyors, & elevators)	--	--	180.21	180.21	180.21	--	--	--	--	--	--	--	--	--	--		
	EP-02a	na	na	Corn Storage Silo	--	--	61.32	15.45	2.70	--	--	--	--	--	--	--	--	--	--		
	EP-02b	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-02c	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-02d	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	na	na	na	EU-02a/EU02b Storage Silo Conveyors	--	--	149.62	83.40	14.23	--	--	--	--	--	--	--	--	--	--	--	
	na	na	na	EP-02c/EP02d Storage Silo Conveyors	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-03a	BH C-1B	S-1B	Grain Scalper	--	--	176.86	176.86	176.86	--	--	--	--	--	--	--	--	--	--	--	
EP-03b	Grain Scalper Surge Bin			--	--	--				--	--	--	--	--	--	--	--	--	--	--	--
P-2	EP-05	BH C-2A	S-2A	Hammermill	--	--	118.40	118.40	118.40	--	--	--	--	--	--	--	--	--	--		
	EP-06	BH C-2B	S-2B	Hammermill	--	--	118.40	118.40	118.40	--	--	--	--	--	--	--	--	--	--		
	EP-07	BH C-2C	S-2C	Hammermill	--	--	118.40	118.40	118.40	--	--	--	--	--	--	--	--	--	--		
	EP-08	BH C-2D	S-2D	Hammermill	--	--	111.71	111.71	111.71	--	--	--	--	--	--	--	--	--	--		
P-4	<i>note 1</i>	RTO C-6A	S-6A	Milled Grain Cooking (RTO C-6A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-6	<i>note 1</i>			Distillation & Dehydration (RTO C-6A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-7	EP-30/ EP-31			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	54.75	44.00	1,402	54.75	54.75	54.75	0.83	1.76E-04	54.75	--	--	
	RTO #1			DDGS Dryer (NG combustion)																	Thermal Oxidizer C-6A (NG combustion)
P-4	<i>note 1</i>	RTO C-6B	S-6B	Milled Grain Cooking (RTO C-6B)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-6	<i>note 1</i>			Distillation & Dehydration (RTO C-6B)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-7	EP-32/ EP-33			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	54.75	44.00	1,402	54.75	54.75	54.75	0.83	1.76E-04	54.75	--	--	
	RTO #2			DDGS Dryer (NG combustion)																	Thermal Oxidizer C-6B (NG combustion)
P-7	EP-34	BH C-7C	S-7C	DDGS Cooling Drum	--	--	938.57	938.57	938.57	--	24.09	1.75	0.88	0.18	--	--	0.18	--	2.98		
Subtotal					62.20	94.61	1048.07	1048.07	1048.07	88.01	2,827	111.25	110.38	109.68	1.67	3.52E-04	109.68	0	440.98		
P-5	EP-15	SC C-5A	V-5	Fermentation Beer Well	--	--	17.52	17.52	17.52	--	1,802	492.75	162.06	120.45	--	--	120.45	--	895.71		
P-7	EP-19	na	na	Wet Distillers Grain Solubles (WDGS)	<i>The Distillers Grains and Solubles (DGS) is either being dried (Dry Distillers Grains Solubles (DDGS) or is not dried (Wet Distillers Grains Solubles (WDGS)). The worst case emission rate is DDGS; therefore, no emissions are shown for WDGS.</i>																
P-8	EP-09	BH C-8	S-8	Enclosed DDGS Conveyor (DDGS Storage BLDG)	--	--	32.13	32.13	32.13	--	--	--	--	--	--	--	--	--	--		
	EP-09a	na	S-8A	DDGS Reclaim Conveyor #1	--	--	11.93	9.08E-03	8.64E-04	--	--	--	--	--	--	--	--	--	--		
	EP-09b			DDGS Reclaim Conveyor #2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-9	EP-24 & EP-25	F C-9	na	Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading	5.10	2.04	1.83E-02	1.83E-02	1.83E-02	--	8.87	--	--	--	0.11	--	--	1.86E-02	0.19		
	F C-9	na	na	Flare Pilot Flame (NG combustion)	3.4E-02	4.0E-02	7.7E-04	3.1E-03	3.1E-03	2.4E-04	2.2E-03	--	--	2.96E-05	7.11E-04	1.50E-07	--	--	7.46E-04		
P-11	EP-26	na	S-13	Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-27			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-28			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-29			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
P-12	na	S-12	Fire Pump	0.70	0.69	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.26	5.64E-04	6.80E-05	8.7E-04	--	--	--	--	2.85E-03			
Total PTE (excluding fugitives)					97.17	145.95	2336.59	2212.58	2130.65	88.96	4642.04	604.00	272.44	230.25	4.64	9.56E-04	230.13	1.86E-02	1339.87		

**Appendix A: Emission Calculations
Modification Summary**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Potential to Emit of the Modified Units Before this Modification (tons/yr) ¹										
Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs	
Fugitive Emissions										
FS002	Grain Receiving - Fugitive	4.29	0.96	0.96	-	-	-	-	-	

Potential to Emit of the Modified Units After this Modification (tons/yr) ³										
Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs	
Fugitive Emissions										
FS-002	Grain Receiving - Fugitive	8.58	1.91	1.91	-	-	-	-	-	

Uncontrolled Potential to Emit of the New Units (tons/yr)										
Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs	
EP-01c	EP-01c, Truck Dump Pit & Conveyors	180.21	180.21	180.21	-	-	-	-	-	
EP-02c	EP-02c, Grain Storage Silo	61.32	15.45	2.70	-	-	-	-	-	
EP-02d	EP-02d, Grain Storage Silo	-	-	-	-	-	-	-	-	
none	Storage silo conveyors (for EP-02c & EP-02d)	149.62	83.40	14.23	-	-	-	-	-	
EP-30, EP-31, EP-32, EP-33	DDGS Dryers (A-D), NG combustion	1.47	5.87	5.87	0.46	77.29	4.25	64.93	1.46	
EP-34	DDGS Cooling Drum	938.57	938.57	938.57	-	-	24.09	-	-	
	Corn Oil Storage Tanks	-	-	-	-	-	1.05	-	-	
	Corn Oil Loadout	-	-	-	-	-	0.33	-	-	
Total not including Fugitives		1331.19	1223.50	1141.58	0.46	77.29	29.72	64.93	1.46	
Fugitive Emissions										
	Corn Oil Shipping (fugitive)	5.64E-02	1.13E-02	2.77E-03	-	-	-	-	-	
Total including Fugitives		1,331.24	1,223.51	1,141.58	0.46	77.29	29.72	64.93	1.46	

Uncontrolled Potential to Emit of this Modification (tons/yr)										
Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs	
	PTE of new units (including fugitives)	1331.24	1223.51	1141.58	0.46	77.29	29.72	64.93	1.46	
	Increased PTE of the existing units ⁴	4.29	0.96	0.96	-	-	-	-	-	
Total PTE of this Modification		1335.54	1224.47	1142.54	0.46	77.29	29.72	64.93	1.46	

Notes:

1. Source: TSD App A, T129-35199-00051, issued December 24, 2014
2. PM2.5 listed is direct PM2.5
3. Increased fugitive PTE for grain receiving is based on adding grain receiving capacity.
4. Increased PTE of the existing units equals the greater of 0 or [PTE After - PTE Before]

**Appendix A: Emissions Calculations
Corn Oil Storage Tanks VOC Emissions**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/15

Single Tank Emissions, AP-42, Chapter 7 (calculation method for TANKS)

Indianapolis Meteorological Data (Tbl 7.1-7)

T_{AX} = 62.0 °F, daily maximum ambient temperature
 T_{AN} = 42.2 °F, daily minimum ambient temperature
 I = 1165 Btu/ft²-day, daily total solar insolation factor

α = tank paint solar absorptance, Tbl 7.1-6 (light gray, good condition)

Vertical tank H_S = ft D = ft *Tank dimensions provided by the source*

T_{AA} = 512.1 °R, daily average ambient temperature, Eqn 1-27, Ch 7
 T_B = 514.3 °R, liquid bulk temperature, Eqn 1-28, Ch 7
 T_{LA} = 518.3 °R, daily average liquid surface temperature, Eqn 1-26, Ch 7

M = lb/lb-mole, triglyceride with average fatty acid content in Table 28.1, Shreve & Brink, Chemical Process Industries, 3rd Ed., McGraw-Hill, New York, 1977
 Q = gal/yr = 16,667 bbl/yr where Q = corn oil capacity (2.8 MM gal/yr) / number of tanks (4)
Note: petroleum barrel is 42 gallons

August Equation coefficients:

A = 13.06 Regression of NOAA data from CHRIS manual (vegetable oil, edible) <http://www.cameochemicals.noaa.gov/chris/OVG.pdf>
 B = 8604

P_{VA} = 0.029 psia, true vapor pressure at T_{LA} , Eqn 1-24, Ch 7

D = 12.00 ft given above
 $H_S - H_L$ = 11.00 ft average value, 1/2 H_S
 R_S = 6.00 ft tank shell radius, $D/2$
 S_R = 0.2679 ft/ft tank cone roof slope, $\tan(15^\circ)$ (roof slope provided by the source)
 H_R = 1.608 ft tank roof height, Eqn 1-17
 H_{RO} = 0.536 roof outage, Eqn 1-16 (cone roof)
 H_{VO} = 11.54 ft vapor space outage, Eqn 1-15

T_{LX} = 528.2 °R T_{LN} = 508.4 °R Eqn 1-26, liquid surface temperatures at T_{AX} and T_{AN}
 P_{VX} = 0.04 psia P_{VN} = 0.02 psia Eqn 1-24, liquid vapor pressure at T_{AX} and T_{AN}

ΔT_V = 31.9 °R, daily vapor temperature range, Eqn 1-8, AP-42 Ch 7

ΔP_B = psia, assumed breather vent pressure setting range

K_E = 0.06 vapor space expansion factor, Eqn 1-7, AP-42 Ch 7
 K_S = 0.98 vented vapor saturation factor, Eqn 1-20, AP-42 Ch 7
 W_V = 0.0046 lb/ft³, stock vapor density, Eqn 1-21, AP-42 Ch 7

Storage Losses (breathing losses), single tank

L_S = 126 lb/yr, Eqn 1-4, AP-42 Ch 7

Working Losses, single tank

turnovers = 39 per year (nominal tank capacity provided by the source)

K_N = working loss turnover (saturation) factor, Fig 7.1-18, notes to Eqn 1-35

K_P = working loss product factor, organic liquids other than crude oil, notes to Eqn 1-35

L_W = 397.97 lb/yr, Eqn 1-29, AP-42 Ch 7

Total Losses, single tank

L_T = 524 lb/yr, Eqn 1-1, AP-42 Ch 7

PTE of the 4-tank Facility

Tank Description	Capacity (gal)	Dimensions	VOC Emissions		
			PTE (tpy)	PTE (lb/day) ¹	PTE (lb/hr) ¹
Corn Oil Storage Tank 1	18,000	12' x 22'	0.26	1.43	5.98E-02
Corn Oil Storage Tank 2	18,000	12' x 22'	0.26	1.43	5.98E-02
Corn Oil Storage Tank 3	18,000	12' x 22'	0.26	1.43	5.98E-02
Corn Oil Storage Tank 4	18,000	12' x 22'	0.26	1.43	5.98E-02
TOTAL			1.05	5.74	0.24

Notes:

1. Short-term PTE based on annual emissions distributed equally on daily basis throughout the yr.

Appendix A: Emissions Calculations
Corn Oil Loadout Emissions

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/15

According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids (June 2008), the VOC emission factors for the truck and rail loading rack can be estimated from the following equation:

where: $L_L = 12.46 \times (SPM)/T$ Eqn (1)

L_L = loading loss (lbs/kgal)
 S = a saturation factor
 P = true vapor pressure of the liquid loaded (psia)
 M = molecular weight of vapors (lb/lb-mole)
 T = temperature of the bulk liquid loaded (°R)

Long-term PTE						Uncontrolled Potential to Emit		
Loadout Rate ¹ (kgal/yr)	S ²	T (°R) ³	P (psia) ⁴	M (lb/lb-mole) ⁵	L _L (lb/kgal)	(lb/day)	(lb/yr)	(tons/yr)
2,800	0.6	514.34	0.052	310	0.234	1.80	656.06	0.33

Short-term PTE

Loadout Rate ⁶ (kgal/hr)	(lb/hr)
21	4.92

Notes:

- 100% loadout to trucks. Worst case is trucks in biodiesel service, picking up corn oil for transport to biodiesel plant after delivering biodiesel to a third location. VOC losses calculated based on the product last contained.
- Saturation factor obtained from AP-42 Ch.5 - Table 5.2-1, for submerged loading of trucks in dedicated normal service.
- Bulk liquid temperature from storage tank PTE calculations.
- Vapor pressure calculated at bulk liquid temperature using August equation coefficients from regression of data for soybean oil fatty acid ethyl ester (FAEE) from http://www.researchgate.net/publication/231536019_Vapor_Pressure_Data_of_Soybean_Oil_Castor_Oil_and_Their_Fatty_Acid_Ethyl_Ester_Derivatives
- Molecular weight for ethyl ester of oleic acid, representative of vegetable oil FAEE (biodiesel)
- Hourly loading loss based on loadout pump capacity (300 gpm = 18,000 gph), as worst case analysis.

Methodology

PTE (lb/yr) = Loadout Rate (kgal/yr) x Loading Loss, L_L (lb/kgal)
 PTE (lb/day) = PTE (lb/yr) / 365 (days/yr)
 PTE (tons/yr) = PTE (lb/yr) / 2,000 (lb/ton)
 PTE (lb/hr) = Loadout Rate (kgal/hr) x Loading Loss, L_L (lb/kgal)

**Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads
Corn Oil Shipping**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

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)
Corn oil truck entering, empty	1.23	1.0	1.2	15.0	18.5	2798	0.530	0.65	238.1
Corn oil truck leaving, loaded	1.23	1.0	1.2	39.0	48.0	2798	0.530	0.65	238.1
Totals			2.5		66.5			1.30	476.3

Average Vehicle Weight Per Trip =

27.0

 tons/trip
 Average Miles Per Trip =

0.53

 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 =	27.0	27.0	27.0	tons = average vehicle weight
sL =	0.8	0.8	0.8	g/m ³ = silt loading value for paved roads at corn wet mills - 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 =

125

 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 =	0.259	0.052	0.0127	lb/mile
Mitigated Emission Factor, Eext =	0.237	0.047	0.0116	lb/mile
Dust Control Efficiency =	0%	0%	0%	(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)
Corn oil truck entering, empty	3.08E-02	6.17E-03	1.51E-03	2.82E-02	5.64E-03	1.38E-03	2.82E-02	5.64E-03	1.38E-03
Corn oil truck leaving, loaded	3.08E-02	6.17E-03	1.51E-03	2.82E-02	5.64E-03	1.38E-03	2.82E-02	5.64E-03	1.38E-03
Totals	6.17E-02	1.23E-02	3.03E-03	5.64E-02	1.13E-02	2.77E-03	5.64E-02	1.13E-02	2.77E-03

Methodology

Maximum Number of Vehicles per Day = 2,800,000 (gal/yr) x 7.70 (lb/gal) / 2,000 (lb/ton) / 24 (tons/trip) / 365 (days/yr)
 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
Natural Gas Combustion Only
MM BTU/HR <100
Uncontrolled PTE of New DDGS Dryers for Source Modification**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Includes:	Unit	Capacity (MMBtu/hr)	Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
Dryer A		45	180.0	1020	1545.9
Dryer B		45			
Dryer C		45			
Dryer D		45			
Total		180			

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	1.47	5.87	5.87	0.46	77.29	4.25	64.93

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 PM2.5 emission factor is filterable and condensable PM2.5 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Total - Organics
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.6E-03	9.3E-04	5.8E-02	1.39	2.6E-03	1.45

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	3.9E-04	8.5E-04	1.1E-03	2.9E-04	1.6E-03	4.2E-03
					Total HAPs	1.46
					Worst HAP	1.39

Methodology is the same as above.
 The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Grain - DDGS Handling

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Summary of Estimated Potential PM and PM₁₀/PM_{2.5} Emission Rates - Grain Receiving, Handling, Milling, and Storage Operations

Emission Unit ID	Emission Source	Throughput (tons/hr)	Throughput (tons/yr)	PM Emissions						PM ₁₀ /PM _{2.5} Emissions					
				AP-42 Emission Factor (lb/ton) ¹	Uncaptured Emissions		Capture Efficiency	Fugitive Emissions		Emission Factor (lb/ton)	Uncaptured Emissions		Capture Efficiency	Fugitive Emissions	
				lb/hr	tpy		lb/hr	tpy		lb/hr	tpy		lb/hr	tpy	
Fugitive Type Releases															
FS002	Grain Receiving (P-1)- Fugitive ²	1,120	1,252,731	0.035	39.20	21.92	95%	1.960	1.10	0.0078	8.74	4.89	95%	0.437	0.24
FS003	DDGS Storage Building - Fugitive	44.65	391,148	0.0033	0.15	0.65	95%	7.37E-03	3.23E-02	0.0008	3.57E-02	0.16	95%	1.79E-03	7.82E-03
FS004	DDGS Loadout - Fugitives ³	225	1,971,000	0.0099	2.23	9.76	95%	0.111	0.49	0.0024	0.54	2.37	95%	0.027	0.12
Subtotal									1.62	0.37					

Process Data											
Grain Required for 116.325 MMgal ethanol:	44.7	MM bushels/yr	44,740,385	bushels/yr	DDGS Solids Rate (solids only - no moisture included)					89,303	lbs/hr
Ethanol Grain Density	56	lb/bushel	DDGS Handling (solids only)					44.65	tons/hr		
Total Grain Receiving Throughput	1,252,731	ton/yr	143.01	tons/hr							

Methodology:
 Uncaptured Emissions (lb/hr) = Throughput (tons/hr) x AP-42 Emission Factor (lb/ton)
 Uncaptured Emissions (tpy) = Throughput (tons/yr) x AP-42 Emission Factor (lb/ton) / 2,000 (lb/ton) *Note: for FS002 and FS003 the tons per year throughput are limited values, uncaptured emissions (tpy) is an "after issuance" value*
 Fugitive Emissions = Uncaptured Emissions x (100% - Capture Efficiency (%)) / 100%
 FS004 Throughput (tons/yr) = FS004 Throughput (tons/hr) x 8,760 (hr/yr)

Emission Unit ID	Emission Source	Flow (dscfm) ⁴	Emission Factor (gr/dscf) ⁵	Operation Time (hr/yr)	PM/PM ₁₀ /PM _{2.5} Emissions			Control Efficiency (%)	Safety Factor (%)	Controlled Emissions + Safety Factor	
					Controlled Emissions (lb/hr)	Controlled Emissions (tpy)	Uncontrolled Emissions (tpy)			lb/hr	tpy
EP-01	Grain Receiving Baghouse, C-1A for 1 truck / 1 rail dump pit	26,193	0.00187	8760	0.42	1.84	183.89	99%	10%	0.46	2.02
EP-01C	Grain Receiving Baghouse, C-1C for 1 truck dump pit	24,000	0.002	8760	0.41	1.80	180.21	99%	10%	0.45	1.98
EP-03a	Grain Scalper Baghouse, C-1B	14,406	0.00327	8760	0.40	1.77	176.86	99%	10%	0.44	1.95
EP-05	Hammermill Baghouse #1, C-2A	10,306	0.00306	8760	0.27	1.18	118.40	99%	10%	0.30	1.30
EP-06	Hammermill Baghouse #2, C-2B	10,306	0.00306	8760	0.27	1.18	118.40	99%	10%	0.30	1.30
EP-07	Hammermill Baghouse #3, C-2C	10,306	0.00306	8760	0.27	1.18	118.40	99%	10%	0.30	1.30
EP-08	Hammermill Baghouse #4, C-2D	9,820	0.00303	8760	0.26	1.12	111.71	99%	10%	0.28	1.23
Total PTE From Grain Receiving, Handling and Milling					2.30	10.08	1007.85	--	--	2.53	11.09
EP-09	DDGS Conveyor Baghouse, C-8	2,510	0.00341	8760	0.07	0.32	32.13	99%	10%	0.08	0.35
Total PTE From DDGS Handling					0.07	0.32	32.13	--	--	0.08	0.35
EP-34	DDGS Cooling Drum Baghouse C-7C	50,000	0.005	8760	2.14	9.39	938.57	99%	0%	2.14	9.39
Total PTE From DDGS Cooling					2.14	9.39	938.57	--	--	2.14	9.39
Subtotal					19.79	93.99	1,978.55	--	--	20.83	20.83

Methodology:
 Controlled Emissions (lb/hr) = Flow (dscfm) x Emission Factor (gr/dscf) x 60 (min/hr) / 7,000 (gr/lb)
 Controlled Emissions (tpy) = Controlled Emissions (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)
 Uncontrolled Emissions (tpy) = Controlled Emissions (tpy) / [(100% - Control Efficiency (%)) / 100%]
 Controlled Emissions + Safety Factor = Controlled Emissions x [(100% + Safety Factor (%)) / 100%]

Uncontrolled Total PTE	1978.55	PM
	1978.55	PM₁₀/PM_{2.5}
Controlled Total PTE	19.79	PM
	19.79	PM₁₀/PM_{2.5}

- Notes:**
- Worst case emission factors for grain receiving by hopper truck (SCC 3-02-005-52) Table 9.9.1-1, AP-42, March 2003. Worst case analysis treats PM₁₀=PM_{2.5}.
 - DDGS storage and loadout use emission factors for feed shipping (SCC 3-02-008-16) Table 9.9.1-2, AP-42, March 2003
 - Grain receiving operation - Majority of potential PMPM₁₀/PM_{2.5} emissions will be captured by a dry filtration device. Uncaptured emissions have been identified as a fugitive source.
 - The DDGS Loadout operation uses chute extension with a funnel device such that the loadout system operates similar to a choked flow system; therefore, 95% capture is assumed.
 - Conservatively using acfm to represent dscfm.
 - Emission factors for baghouse based on manufacturer's specifications. Testing is required to demonstrate that these factors are achievable.

Appendix A: Emission Calculations
Grain Storage and DDGS Loadout Conveyors

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

1. Unrestricted PTE (based on maximum hourly capacity)

Emission Unit ID	Emission Source	Hourly Throughput ton/hr	Emission Factors ¹			Uncontrolled Emissions					
			PM lb/ton	PM ₁₀ lb/ton	PM _{2.5} lb/ton	PM lb/hr	PM ₁₀ lb/hr	PM _{2.5} lb/hr	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy
EP-02a	Corn Storage Silo	560.0	0.025	0.0063	0.0011	14.00	3.53	0.616	61.32	15.45	2.70
EP-02b	Corn Storage Silo										
EP-02c	Corn Storage Silo										
EP-02d	Corn Storage Silo										
na	Storage Silo Conveyor (EP-02a/EP-02b)	560.0	0.061	0.034	0.0058	34.16	19.04	3.248	149.62	83.40	14.23
na	Storage Silo Conveyor (EP-02c/EP-02d)	560.0	0.061	0.034	0.0058	34.16	19.04	3.248	149.62	83.40	14.23
TOTAL PTE FROM GRAIN STORAGE & HANDLING						96.32	45.14	7.73	421.88	197.70	33.85
EP-09a	DDGS Reclaim Conveyor #1	44.65	0.061	0.034	0.0058	2.72	2.1E-03	2.0E-04	11.93	9.1E-03	8.6E-04
EP-09b	DDGS Reclaim Conveyor #2										
TOTAL PTE FROM DDGS HANDLING						2.72	2.1E-03	2.0E-04	11.93	9.1E-03	8.6E-04

2. PTE After Issuance (based on bottlenecked annual throughput)

Emission Unit ID	Emission Source	Annual Throughput ton/year	Emission Factors			Uncontrolled Emissions		
			PM lb/ton	PM ₁₀ lb/ton	PM _{2.5} lb/ton	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy
EP-02a	Corn Storage Silo	1,252,731	0.025	0.0063	0.0011	15.66	3.95	0.69
EP-02b	Corn Storage Silo							
EP-02c	Corn Storage Silo							
EP-02d	Corn Storage Silo							
na	Storage Silo Conveyor (EP-02a/EP-02b)	1,252,731	0.061	0.034	0.0058	38.21	21.30	3.63
na	Storage Silo Conveyor (EP-02c/EP-02d)	1,252,731	0.061	0.034	0.0058	38.21	21.30	3.63
TOTAL PTE FROM GRAIN STORAGE & HANDLING						53.87	25.24	4.32
EP-09a	DDGS Reclaim Conveyor #1	391,148	0.061	0.034	0.0058	11.93	6.65	1.13
EP-09b	DDGS Reclaim Conveyor #2							

Notes:

1. Uncontrolled Emission Factors are from AP-42, Chapter 9.9.1, Table 9.9.1-1. Silos use storage bin (vent), SCC 3-02-005-40, grain and DDGS conveyors use headhouse and grain handling, SCC 3-02-005-30.

Methodology:

Uncontrolled Emissions (tpy) = Emission Factor (lb/ton) x Hourly Throughput (ton/hr) x 8760 (hrs/yr) / 2000 (lb/ton)
PTE After Issuance (tpy) = Emission Factor (lb/ton) x Annual Throughput (ton/yr) / 2000 (lb/ton)

Appendix A: Emission Calculations

Estimated Potential Emissions from DDGS Drying, Distillation and Evaporation - Routed to Regenerative Thermal Oxidizer (RTO)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

DDGS Drying Rate (Total):	44.65 tons/hr	391,148 tons/year
DDGS Drying Rate per dryer system (2)	22.33 tons/hr	195,567 tons/year

PM/PM ₁₀ /PM _{2.5} Emissions ¹			
Limited PTE from 1 RTO Stack (lb/hr) ²	Total Limited PTE from 1 RTO Stack (tons/yr)	Limited PTE from 2 RTO Stacks (lbs/hr)	Limited PTE from 2 RTO Stacks (tons/yr)
12.5	54.75	25.0	109.50

VOC Emissions						
Emission Factor (lb/hr) ⁴	Uncontrolled Emissions from 1 RTO Stack (tons/yr)	Total Uncontrolled Emissions from 2 RTO Stacks (tons/yr)	RTO Control Efficiency	PTE After Control from 1 RTO Stack (lb/hr)	PTE After Controls from 1 RTO Stack (tons/yr)	Total Limited PTE from 2 RTO Stacks (tons/yr)
6.40	1401.60	2803.20	98%	6.40	28.03	56.06

CO Emissions			
Controlled Emissions from 1 RTO Stack (lb/hr) ³	Controlled Emissions from 1 RTO Stack (tons/yr)	Controlled Emissions from 2 RTO Stacks (lbs/hr)	Total Controlled Emissions from 2 RTO Stacks (tons/yr)
7.10	31.10	14.20	62.20

SO ₂ Emissions			
Emission Factor (lb/ton) ²	Uncontrolled PTE from 1 Stack (lb/hr)	Uncontrolled PTE from 1 Stack (tons/yr)	Limited PTE from 2 Stacks (tons/yr)
0.450	10.05	44.00	88.01

NO _x Emissions - Natural Gas Combustion & Thermal NO _x						
Firing Rate (90 MMBtu/hr Dryer Capacity + 18 MMBtu/hr each RTO)	Emission Factor (lb/MMBtu) ²	Limited PTE from 1 Stack (tons/yr)	Limited PTE from 2 Stacks (tons/yr)	Limited Emissions from 1 Stack (tons/yr)	Limited Emissions from 1 Stack (lb/hr)	Limited Emissions from 2 Stacks (tons/yr)
108	0.10	47.30	94.61	47.30	10.80	94.6
Dryers Natural Gas Usage Limit (MMCF/Year)			1577			
RTOs Natural gas Usage Limit (MMCF/Year)			315			
Dryer & RTO Natural Gas Usage Limit (MMCF/Year)			1892			

Notes:

- The emission factor for PM_{2.5} is assumed to be the same as PM and PM₁₀.
 - Emission factors based on recommendations from equipment manufacturer.
 - Emission factors based on on August 2011 stack test data from the source plus a 10% Safety Factor.
 - VOC emissions based on the limit in SSM 129-36200-00051
- Limited emission rates are based on test data plus a safety factor.

Ethanol distillation and evaporation emissions sources are ducted to regenerative thermal oxidizer (RTO) #1 or #2. RTO #1 is connected to exhaust gas stream from DDGS #1, and RTO #2 is connected to exhaust gas stream from DDGS #2.

The NO_x emissions are generated primarily by the natural gas combustion from the dryers and oxidizers.

There are 2 stacks, which represent 2 RTOs (C-6A and C-6B). Each RTO is controlling one DDGS dryer train (2 dryers), distillation and evaporation processes. There are a total of 4 DDGS dryers, each rated 45 MMBtu/hr..

The PM, NO_x and SO₂ are not controlled by the RTOs.

Methodology:

NO_x EF = 0.10 lb/MMBtu * 1000 MMBtu/MMCF = 100 lb/MMCF

Dryers natural gas throughput limit = 45 MMBtu/hr * 4 dryers * 8760 hrs/yr * 1 MMCF/1000 MMBtu = 1,577 MMCF/yr

RTOs natural gas throughput limit = 18 MMBtu/hr * 2 RTOs * 8760 hrs/yr * 1 MMCF/1000 MMBtu = 315 MMCF/yr

Uncontrolled Emissions (tons/yr) = EF (lb/ton) * DDGS dried (tons/yr) * ton/2000 lb

NO_x Emissions (tons/yr) = Firing Rate (MMBtu/hr) * EF (lbs/MMBtu) * 8760 hrs/yr * ton/2000 lbs

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

DDGS Drying is controlled by the two (2) RTOs.

Appendix A: Emission Calculations
Estimated Potential Emissions from DDGS Cooling

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Emission Unit	VOC Emissions		Safety Factor	Emission Limit	PTE
	Emission Rate				
	(lb/hr)	(tons/yr)			
DDGS Cooling Drum	5.50	24.09	0%	5.50	24.09

Notes:

The DDGS Cooling Emission rate is a conservative estimate based on similar facilities and 2015 stack testing at the Valero Mt. Vernon Plant.

**Appendix A: Emission Calculations
Fermentation**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Maximum Throughput: 116.5 MMgal/year
13,302 gal/hour
Control Equipment: 1 Scrubber (C-5A) with 98% efficiency

Pollutant	Emission Factor* (lb/MMgal)	PTE After Control 1 Scrubber (tons/year)	PTE After Control 1 Scrubber (lbs/hr)	Control Efficiency*** (%)	PTE Before Controls 1 Scrubber (tons/year)	Safety Factor (%)	Limited Emission Rate	
							lb/hr	tpy
VOC**	618.7	36.05	8.23	98.0%	1802.37	0%	8.23	36.05
PM	15.0	0.88	0.20	95.0%	17.52	20%	0.24	1.05
PM ₁₀ /PM _{2.5}	15.0	0.88	0.20	95.0%	17.52	20%	0.24	1.05

Notes:

*Stack Testing was performed at the Mount Vernon, Indiana plant in 2011. This stack testing was used to confirm the VOC emission factor and to revise the PM/PM₁₀/PM_{2.5} emission factors used in the calculations. These emission factors were previously based on previous stack testing of a similar source.

**VOC lb/hr number based on the stack testing performed at the Mount Vernon plant in 2011.

***Control efficiency of 98% for emissions of VOC from the Scrubber required based on 326 IAC Article 8, Rule 5. Assumed control efficiency of 95% for emissions of PM/PM₁₀/PM_{2.5} from the Scrubber.

Methodology:

PTE After Control (tons/yr) = Throughput rate (MMgal/yr) * EF (lb/Mmgal) * 1 ton/2000 lbs

PTE Before Control (tons/yr) = PTE After Control (tons/yr) / (1-Control Efficiency)

Appendix A: Emission Calculations
Process HAPs from Fermentation, DDGS Dryers and DDGS Coolers

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Hazardous Air Pollutant (HAP)	CO ₂ Scrubber (lb/hr)	RTO #1 (lb/hr)	RTO #2 (lb/hr)	Cooling Drum (lb/hr)	TOTAL (lbs/hr)	Maximum Total Emissions (tons/yr)
Acetaldehyde	1.35	0.25	0.25	0.40	2.25	9.86
Acrolein	0.04	0.25	0.25	0.20	0.74	3.24
Formaldehyde	0.01	0.25	0.25	0.04	0.55	2.41
Methanol	0.01	0.25	0.25	0.04	0.55	2.41
TOTAL	1.41	1.00	1.00	0.68	4.09	17.91

Controlled Emissions (98%)					
HAP	CO ₂ Scrubber (ton/yr)	RTO #1 (ton/yr)	RTO #2 (ton/yr)	Cooling Drum (ton/yr)	TOTAL (ton/yr)
Acetaldehyde	5.91	1.10	1.10	1.75	9.86
Acrolein	0.18	1.10	1.10	0.88	3.24
Formaldehyde	0.04	1.10	1.10	0.18	2.41
Methanol	0.04	1.10	1.10	0.18	2.41
TOTAL	6.18	4.38	4.38	2.98	17.91

Uncontrolled Emissions					
HAP	CO ₂ Scrubber (ton/yr)	RTO #1 (ton/yr)	RTO #2 (ton/yr)	Cooling Drum (ton/yr)	TOTAL (ton/yr)
Acetaldehyde	295.65	54.75	54.75	1.75	492.75
Acrolein	8.76	54.75	54.75	0.88	162.06
Formaldehyde	2.19	54.75	54.75	0.18	120.45
Methanol	2.19	54.75	54.75	0.18	120.45
TOTAL	308.79	219.00	219.00	2.98	895.71

Note:

*Emission rates based on compliance emission testing performed at the Mount Vernon plant in 2015 and proposed emission limit reallocation to remain area source of HAP.

**Valero will be pumping sodium bisulfite into the CO₂ scrubber in order to reduce potential HAP emissions, primarily acetaldehyde.

***Cooling drum emission rates based on manufacturers specifications

Appendix A: Emission Calculations
Summary of Estimated Potential Air Pollutant Emission Rates - Utility Boilers (4 @ 92.4 MMBtu/hr each)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Emission Source	Max. Heat Input (MMBtu/ hr)	NO _x			SO ₂			VOC			PMPM ₁₀ /PM _{2.5}			CO		
		Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)
Proposed Utility Boiler #1	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Proposed Utility Boiler #2	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Proposed Utility Boiler #3	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Proposed Utility Boiler #4	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Total (tons/year)				48.57			0.95			3.24			8.09			29.14

Calculation Method:

92.4 MMBtu/hr heat input * 0.03 lbs NO_x/MMBtu = 2.772 lb/hr
2.772 lbs/hr * 8760 hours/year * 1/2000 = 12.14136 tons/yr

Notes:

(1) Emission factors updated to reflect manufacturer's guarantee. Testing of CO and NO_x is required by the draft permit to demonstrate compliance with the CO and NO_x emission limits based on these guaranteed emission rates.

Appendix A: Emission Calculations
Summary of Estimated Potential VOC/HAP Emission Rates - Piping and Pumping Equipment (Potential Equipment Leaks)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

ESTIMATED REGULATED CRITERIA AIR POLLUTANT EMISSION RATE

	Emission Source	# of sources	Leak Rate (kg/hr/source)	VOC Emissions				
				Uncontrolled VOC		LDAR Control Percent (%)	Controlled VOC	
			(lb/hr)	(tpy)	(%)	(lb/hr)	(ton/yr)	
Fermentation	Gas/Vapor Valves	0	0.00597	0	0	87%	0	0
	Light Liquid Valves	146	0.00403	1.30	5.68	84%	0.21	0.91
	Light Liquid Pumps	12	0.0199	0.53	2.31	69%	0.16	0.71
	Compressor Seals	0	0.228	0	0	75%	0	0
	Pressure Relief Valves	8	0.104	1.83	8.03	87%	0.24	1.04
	Sample Connections	0	0.015	0	0	87%	0	0
	Open-ended Lines	14	0.0017	0.05	0.23	84%	0.01	0.04
	Flanges (Connectors)	164	0.00183	0.66	2.90	84%	0.11	0.46
	TOTAL	878	--	9.42	19.15	--	1.54	6.73
Distillation	Gas/Vapor Valves	206	0.00597	2.71	11.88	87%	0.35	1.54
	Light Liquid Valves	0	0.00403	0	0	84%	0	0
	Light Liquid Pumps	9	0.0199	0.39	1.73	69%	0.12	0.54
	Compressor Seals	0	0.228	0	0	75%	0	0
	Pressure Relief Valves	1	0.104	0.23	1.00	87%	0.03	0.13
	Sample Connections	0	0.015	0	0	87%	0	0
	Open-ended Lines	70	0.0017	0.26	1.15	84%	0.04	0.18
	Flanges (Connectors)	115	0.00183	0.46	2.03	84%	0.07	0.33
Tank Farm	Gas/Vapor Valves	0	0.00597	0	0	87%	0	0
	Light Liquid Valves	53	0.00403	0.47	2.06	84%	0.08	0.33
	Light Liquid Pumps	5	0.0199	0.22	0.96	69%	0.07	0.30
	Compressor Seals	0	0.228	0	0	75%	0	0
	Pressure Relief Valves	0	0.104	0	0	87%	0	0
	Sample Connections	0	0.015	0	0	87%	0	0
	Open-ended Lines	14	0.0017	0.05	0.23	84%	0.01	0.04
	Flanges (Connectors)	61	0.00183	0.25	1.08	84%	0.04	0.17

Calculation Method:

Uncontrolled VOC (lb/hr) = No. of Emission Source x Leak Rate (kg/hr/source) x 2.2 lb/kg
 Uncontrolled VOC (ton/yr) = Uncontrolled VOC (lb/hr) x 8760 hr/yr / 2000 lb/ton
 Controlled VOC (lb/hr) = Uncontrolled VOC (lb/hr) x (1 - LDAR Control Percent (%))
 Controlled VOC (ton/yr) = Controlled VOC (lb/hr) x 8760 hr/yr / 2000 lb/ton

ESTIMATED REGULATED HAP EMISSION RATES

HAPS	Mass Fraction of VOC	Controlled HAP		Uncontrolled HAP	
		(lb/hr)	(tpy)	(tpy)	(lb/hr)
Acetaldehyde	2.00E-04	3.07E-04	1.35E-03	3.83E-03	8.74E-04
Benzene	2.50E-03	3.84E-03	1.68E-02	4.79E-02	1.09E-02
Carbon Disulfide	2.00E-05	3.07E-05	1.35E-04	3.83E-04	8.74E-05
Cumene	1.00E-03	1.54E-03	6.73E-03	1.91E-02	4.37E-03
Ethylbenzene	5.00E-05	7.68E-05	3.36E-04	9.57E-04	2.19E-04
n-Hexane	5.00E-02	7.68E-02	3.36E-01	9.57E-01	2.19E-01
Toluene	5.00E-03	7.68E-03	3.36E-02	9.57E-02	2.19E-02
Xylene	5.00E-04	7.68E-04	3.36E-03	9.57E-03	2.19E-03
Methanol	2.00E-04	3.07E-04	1.35E-03	3.83E-03	8.74E-04
HAP TOTAL		0.09	0.40	1.14	0.26

Notes:

LDAR = Leak Detection and Repair

Leak rates and VOC control from: Protocol for Leak Emission Rates EPA-453/R-95-017, November 1995.
 Except for valves and pumps, non-welded components and fittings treated as flanges for LDAR.

Calculation Method:

Controlled HAP (lb/hr) = Controlled VOC (lb/hr) x Mass Fraction of Emissions
 Controlled HAP (ton/yr) = Controlled HAP (lb/hr) x 8760 hr/yr / 2000 lb/ton
 Uncontrolled HAP (ton/yr) = Uncontrolled VOC (ton/yr) x Mass Fraction of Emissions
 Uncontrolled HAP (lb/hr) = Uncontrolled HAP (ton/yr) X 2000 lb/ton / 8760 hr/yr

Appendix A: Emission Calculations
Summary of Estimated Potential PM/PM₁₀/PM_{2.5} Emission Rates - Vehicle Traffic on Paved Roads (In Plant Only)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

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	Load Size	Material Loaded Per Year	Units	# Trucks	Miles/Trip	VMT - Total (miles)
Grain Receiving	25	1,252,731	tons	50,109	1.06	53,116
DDGS Haul Out	25	380,368	tons	15,215	1.06	16,128
Ethanol Haul Out	8000	118,652,000	gallons	14,832	1.06	15,721
Denaturant Delivery	8000	2,950,000	gallons	369	1.06	391
Corn Oil Shipping	6234	2,800,000	gallons	449	1.06	476
					1.06	85,832

Technical Support Information

Miles per trip includes truck traveling empty inside the facility and truck traveling full inside the facility.
 Vehicle Miles Traveled (VMT) equals total miles truck traveled within the facility empty and full combined.
 Separating corn oil reduces the weight of DDGS shipped, worst case analysis is shipping corn oil and reduced (relative to before SSM 129-36200-00051) tonnage of DDGS

Denaturant Throughput = 2.95 MMGal/yr
 Denatured Ethanol Throughput = 118.7 MMGal/yr
 Corn Throughput for Plant = 44.74 MMBushels/yr
 Grain Density = 56 lbs/bushel

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particle Matter (<2.5 um)
 PTE = Potential to Emit

Average Vehicle Weight Per Trip = 27.0 tons/trip
 Average Miles Per Trip = 1.06 miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (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 =	27.0	27.0	27.0	tons = average vehicle weight (provided by source)
sL =	0.8	0.8	0.8	g/m ² = silt loading (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

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, E_f =	0.259	0.052	0.0127	lb/mile
Mitigated Emission Factor, E_{ext} =	0.238	0.048	0.012	lb/mile

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)
Grain Receiving	6.88	1.38	0.34	6.31	1.26	0.31
DDGS Haul Out	2.09	0.42	0.10	1.92	0.38	0.09
Ethanol Haul Out	2.04	0.41	0.10	1.87	0.37	0.09
Denaturant Delivery	0.05	0.0101	0.0025	0.05	0.0093	0.0023
Corn Oil Shipping	0.06	0.0123	0.0030	0.06	0.0113	0.0028
	11.11	2.22	0.55	10.20	2.04	0.50

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]

**Appendix A: Emission Calculations
Tanks Emissions¹**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Source Description	Corrosion Inhibitor	Ethanol Day Tank	Ethanol Day Tank	Ethanol Day Tank	Denaturant ²	Denatured Ethanol ³	Total
Tank ID	TK007	TK001	TK002	TK003	TK004	TK005-TK006	
Material Stored	Corrosion Inhibitor	Ethanol	Ethanol	Ethanol	Denaturant	Ethanol + Denaturant	
VOC lbs/yr ⁴	24.03	400.94	400.94	400.94	2741.31	1143.92	5,112.08
VOC tons/yr	1.20E-02	0.20	0.20	0.20	1.37	0.57	2.56

Notes:

- One change proposed in SSM 129-36200-00051 is storing undenatured (200 proof) ethanol in Tanks 5 and 6 for denaturing at the loadout point. Because of the possibility of malfunctions in the blending skids, the source will retain the capability of storing denatured ethanol in Tanks 5 and 6. The denaturant has both a higher molecular weight and higher true vapor pressure than undenatured ethanol, therefore the denatured blend is a higher, worst case potential to emit using the TANKS calculation methodology.
- Denaturant Tank (TK004) emission estimates based on denaturant throughput of 5,816,205 gallons/year.
- Denatured Ethanol Tanks (TK005-TK006) emission estimates based on total denatured ethanol throughput of 122,141,250 gallons/year (61,070,625 gallons/year per tank).
- VOC emissions based upon utilizing the TANKS 4.09 program. The methodology is described in Chapter 7.1 of AP-42.

**Appendix A: Emission Calculations
Cooling Tower Specifications**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Emission Source	Circulation Rate (gal/hour)	TDS Content (average mg/l)	Drift Loss (%)	Operating Hours (hr/yr)
Cooling Tower	2,256,000	2000	0.0005	8760

Assumptions:

- Cooling Tower make up water contains 2000 mg/l total dissolved solids (TDS).
- Cooling tower will operate with 1 cycle of concentration (CC) and a circulating water flowrate (CW) of 2,256,000 gal/hour
- Cooling tower drift rate (DR) is 0.0005% of the circulating water flowrate (based on manufacturer's guarantee).
- Cooling tower operation is continuous, 24 hours per day, 365 days per year.

CALCULATION OF POTENTIAL PM/PM₁₀/PM_{2.5} EMISSIONS ASSOCIATED WITH THE PROPOSED COOLING TOWER

Circulating Water TDS = (CC) (TDS)	AP-42 Table 13.4-1, drift 0.02%
	0.019 lb PM10/1,000 gal circulating flow
Circulating Water TDS = $\frac{[(2000 \text{ mg/l}) (1.0\text{g}/1000 \text{ mg}) (3.785 \text{ L}/\text{gal})]}{(453.6 \text{ g}/\text{lb})}$	42.86 lb/hr
	187.74 tpy
Circulating Water TDS = 1.669E-02 lb/gal	CC=3. more reasonable for groundwater source
	5.01E-02 lb/gal
Drift = (DR) (CW) = (0.0005%) (2256000 gal/hr) (8760 hr/yr)	0.56 lb/hr, exceeds limit in D.6
Drift = 98,813 gal/year	4948.11 lb/yr
	2.47 tpy
Drift Particulate = (Drift) (Circulating Water TDS)	
Drift Particulate = (98812.8 gal/yr) (0.017 lb/gal) =	1,649 lb/yr

Drift PM/PM₁₀/PM_{2.5} Emission Rate =	1,649 lb/year	=	0.19 lb/hour	=	0.82 ton/yr
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Notes:

Based on manufacturer's guarantee of 0.0005% drift loss
 All PM is assumed to be PM₁₀/PM_{2.5}, therefore PM = PM₁₀/PM_{2.5}

CALCULATION OF POTENTIAL VOC EMISSIONS ASSOCIATED WITH THE PROPOSED COOLING TOWER

Emission Source	Circulation Rate (gal/hour)	VOC Emission Factor (lb/106 gal per hour)*	VOC (tpy)
Cooling Tower	2,256,000	0	0

*Cooling Tower will not use VOC/HAP-containing chemicals.

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Emergency Fire Pump

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Output Horsepower Rating (hp)	420.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	210,000

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	3.31E-04	3.31E-04	3.31E-04	1.07E-05	6.62E-03	0.0025	0.0067
Potential Emission in tons/yr	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.69	0.26	0.70

*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.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs***
	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
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
Potential Emission in tons/yr	6.86E-04	3.01E-04	2.09E-04	2.87E-05	8.67E-04	5.64E-04	6.80E-05	1.23E-04

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

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

Potential Emission of Total HAPs (tons/yr)	2.85E-03
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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, except as noted.

PM/PM10/PM2.5 emission factor is based on Table 4, 40 CFR 60, Subpart IIII, MY 2009 and later

$$0.15 \text{ g/HP-hr} \times 2.21\text{E-}03 \text{ lb/g} = 3.31\text{E-}04 \text{ lb/HP-hr}$$

NOx emission factor is based on Table 4, 40 CFR 60, Subpart IIII, MY 2009 and later

$$3 \text{ g/HP-hr} \times 2.21\text{E-}03 \text{ lb/g} = 6.62\text{E-}03 \text{ lb/HP-hr}$$

note: NSPS limit is NMHC + NOx, worst case is to consider as all NOx

SO2 emission factor is based on 40 CFR 60.4207(b):

$$0.000015 \text{ lb S/lb fuel} \times 2 \text{ lb SO2/lb S} \times 7.15 \text{ lb fuel/gal} / 140000 \text{ Btu/gal fuel} \times 7000 \text{ Btu/HP-hr} = 1.07\text{E-}05 \text{ lb/HP-hr}$$

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]

**Appendix A: Emission Calculations
Ethanol Loadout Flare (C-9)**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading

Volume Denatured Ethanol Loaded (gallons) = $Q = 122,141,250$ gal/yr
 122.1 MMgal/yr
 13,943 gal/yr

From AP-42¹: $L = 12.46 \text{ SPM} / (T+460)$ L = Loading loss in pound per 1000 gals. loaded
 $L = 7.264$ Truck Loading S = 1 Table 5.2-1, AP-42²
 P = 4.9619 psia⁻¹
 M = 62 lb/lb-mole
 T = 67.67 °F
 Eff = 98.00%

Load Out Type	Load Out (gal/yr)	Uncontrolled VOC Losses (lbs/yr)	Uncontrolled VOC Losses (tons/yr)	Control Efficiency	Controlled VOC Emission Rate (lbs/hr)	Controlled VOC Emission Rate (tons/yr)
Truck	122,141,250	887,273.9	443.64	98%	2.03	8.87

Notes:

1. Loading loss from Eqn 1, Chapter 5.2, AP-42 (June 2008)
2. Saturation factor, S, is the worst-case value for submerged loading.
3. Physical properties are for RVP 10 gasoline. The worst case analysis assumes that tanks last contained gasoline (non-dedicated trucks or rails) so that all displaced vapors are saturated with gasoline rather than ethanol. VOC Emissions were tested on August 29, 2011. ACES ID # 139467

Methodology:

Uncontrolled VOC Losses, tons/yr = Load out, gal/yr x L, lbs/1000 gal x ton/2000 lb
 Controlled VOC Losses, tons/yr = Uncontrolled VOC losses, tons/yr x (1 - Eff (%))

Loadout Flare Emissions				lb/kgal	
Pollutant	Emission Factor (lb/gal)	Gallons Denatured Ethanol Loaded (gal/yr)	Emissions (tons/year)	Permit Limits	
NO _x	3.34E-05	122,141,250	2.04	0.033400	
CO	8.35E-05		5.10	0.083500	
PM	2.99E-07		0.018	0.000299	

Notes:

Emission factors for NO_x and CO from manufacturer guarantee. PM emission factor similar to that of natural gas combustion. SO₂ emission are negligible based on minimal H₂S levels.

Methodology:

Emissions, tons/yr = Denatured ethanol loaded, gal/yr x EF, lb/gal x ton/2000 lbs

HAP Emission Calculation (Truck / Railcar / Barge Load Out)			
HAP Constituent	Percentage of Product	HAP Emissions (lbs/hr)	HAP Emissions (tons/year)
Benzene	0.31%	0.006	0.03
n-Hexane	1.29%	0.026	0.11
Ethylbenzene	0.03%	0.001	0.00
Methylcyclohexane	0.21%	0.004	0.02
Xylene	0.14%	0.003	0.01
Toluene	0.11%	0.002	0.01
TOTAL		0.04	0.19

Flares Pilot Emissions (Natural Gas Combustion)			
Pollutant	Heat Input Rate each flare (MMBtu/hr)	Emission Factor (lb/MMBtu)	Emissions (tons/year)
VOC	0.092	0.0055	2.22E-03
CO		0.084	3.38E-02
NO _x		0.1	4.03E-02
SO ₂		0.0006	2.42E-04
PM		0.0019	7.66E-04
PM10/PM2.5		0.0076	3.06E-03

Emission Factors from AP-42, Table 1.4; 1000 Btu/SCF
 PM/PM10/PM2.5 is negligible based on smokeless design.
 The 1 truck and 1 rail loadout are controlled by the flare.

Methodology:

Heat input, MMBtu/hr x EF, lb/MMBtu x ton/2000 lbs

Note:

After permit modification, Valero will have the option to loadout denatured and undenatured ethanol. Denatured ethanol presents worst case emissions.

**Appendix A: Emission Calculations
Wetcake Storage**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Air Pollutant	VOC Emission Factor (lbs/ton Wetcake)*	Tons/Hour Wetcake	Emission Estimates	
			lbs/hr	tons/year
VOC	8.33E-03	129.66	1.080	4.73

HAP	Emission Factor (lbs/ton Wetcake)**	Tons/Hour Wetcake	Emission Estimates	
			lbs/hr	tons/year
Acetaldehyde	5.56E-05	129.66	0.007	0.03
Acrolein	8.33E-06		0.001	4.73E-03
Formaldehyde	3.30E-04		0.043	0.19
Methanol	6.94E-05		0.009	0.04

Notes:

* Emission factor based on testing at an existing wetcake storage building in Minnesota. Adjusted to reflect Midwest Scaling Factor.

** Emission factor based on testing at wetcake storage building at the DENCO, LLC facility in Morris, Minnesota.

The Distillers Grains and Solubles (DGS) is either being dried (DDGS) or is not (Wet Distillers Grains Solubles). The worse case between the two operations (DDGS) will be considered in the PTE calculations.

Appendix A: Emission Calculations
Summary of Estimated HAP Potential Emission Rates - Natural Gas Combustion
(Flare, Thermal Oxidizers and Package Boilers)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

POLLUTANT	Emission Factor (lb/mmscf)	Uncontrolled Emissions							
		Flare (lbs/hr)	Flare (tons/year)	DDGS Dryers & RTOs (lbs/hr)		Boilers (lbs/hr)		Total (lbs/hr)	
Formaldehyde	7.50E-02	6.8E-06	3.0E-05	1.6E-02	7.0E-02	2.7E-02	1.2E-01	4.3E-02	1.9E-01
2-Methylnaphthalene	2.40E-05	2.2E-09	9.5E-09	5.1E-06	2.2E-05	8.7E-06	3.8E-05	1.4E-05	6.0E-05
3-Methylchloranthrene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.4E-09	6.3E-09	3.4E-06	1.5E-05	5.8E-06	2.5E-05	9.2E-06	4.0E-05
Acenaphthene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Acenaphthylene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Anthracene	2.40E-06	2.2E-10	9.5E-10	5.1E-07	2.2E-06	8.7E-07	3.8E-06	1.4E-06	6.0E-06
Arsenic	2.00E-04	1.8E-08	7.9E-08	4.2E-05	1.9E-04	7.2E-05	3.2E-04	1.1E-04	5.0E-04
Benz(a)anthracene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Benz(a)pyrene	1.20E-06	1.1E-10	4.7E-10	2.5E-07	1.1E-06	4.3E-07	1.9E-06	6.9E-07	3.0E-06
Benzene	2.10E-03	1.9E-07	8.3E-07	4.4E-04	1.9E-03	7.6E-04	3.3E-03	1.2E-03	5.3E-03
Benzo(b)fluoranthene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Benzo(g,h,i)perylene	1.20E-06	1.1E-10	4.7E-10	2.5E-07	1.1E-06	4.3E-07	1.9E-06	6.9E-07	3.0E-06
Benzo(k)fluoranthene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Beryllium	1.20E-05	1.1E-09	4.7E-09	2.5E-06	1.1E-05	4.3E-06	1.9E-05	6.9E-06	3.0E-05
Cadmium	1.10E-03	9.9E-08	4.3E-07	2.3E-04	1.0E-03	4.0E-04	1.7E-03	6.3E-04	2.8E-03
Chromium	1.40E-03	1.3E-07	5.5E-07	3.0E-04	1.3E-03	5.1E-04	2.2E-03	8.0E-04	3.5E-03
Chrysene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Cobalt	8.40E-05	7.6E-09	3.3E-08	1.8E-05	7.8E-05	3.0E-05	1.3E-04	4.8E-05	2.1E-04
Dibenzo(a,h)anthracene	1.20E-06	1.1E-10	4.7E-10	2.5E-07	1.1E-06	4.3E-07	1.9E-06	6.9E-07	3.0E-06
Dichlorobenzene	1.20E-03	1.1E-07	4.7E-07	2.5E-04	1.1E-03	4.3E-04	1.9E-03	6.9E-04	3.0E-03
Fluoranthene	3.00E-06	2.7E-10	1.2E-09	6.4E-07	2.8E-06	1.1E-06	4.8E-06	1.7E-06	7.5E-06
Fluorene	2.80E-06	2.5E-10	1.1E-09	5.9E-07	2.6E-06	1.0E-06	4.4E-06	1.6E-06	7.0E-06
Hexane	1.8	1.6E-04	7.1E-04	0.38	1.67	0.65	2.86	1.03	4.53
Indeno(1,2,3-cd)pyrene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Manganese	3.80E-04	3.4E-08	1.5E-07	8.0E-05	3.5E-04	1.4E-04	6.0E-04	2.2E-04	9.6E-04
Mercury	2.60E-04	2.3E-08	1.0E-07	5.5E-05	2.4E-04	9.4E-05	4.1E-04	1.5E-04	6.5E-04
Naphthalene	6.10E-04	5.5E-08	2.4E-07	1.3E-04	5.7E-04	2.2E-04	9.7E-04	3.5E-04	1.5E-03
Nickel	2.10E-03	1.9E-07	8.3E-07	4.4E-04	1.9E-03	7.6E-04	3.3E-03	1.2E-03	5.3E-03
Phenanthrene	1.70E-05	1.5E-09	6.7E-09	3.6E-06	1.6E-05	6.2E-06	2.7E-05	9.8E-06	4.3E-05
Pyrene	5.00E-06	4.5E-10	2.0E-09	1.1E-06	4.6E-06	1.8E-06	7.9E-06	2.9E-06	1.3E-05
Selenium	2.40E-05	2.2E-09	9.5E-09	5.1E-06	2.2E-05	8.7E-06	3.8E-05	1.4E-05	6.0E-05
Toluene	3.40E-03	3.1E-07	1.3E-06	7.2E-04	3.2E-03	1.2E-03	5.4E-03	2.0E-03	8.6E-03
			7.46E-04		1.75		3.00		4.75

Equipment	Stack Totals		
	Heat Input (MMBtu/hr)	Heat Input (MMBtu/hr)	Fuel Throughput (MMCF/yr)
Flare	0.092	0.092	0.79
Thermal Oxidizers #1 and #2	36		
DDGS Dryers A - D	180	216	1,855
Utility Boiler #1	92.4		
Utility Boiler #2	92.4		
Utility Boiler #3	92.4		
Utility Boiler #4	92.4	369.6	3,174
TOTAL	585.692	585.692	5,030

Notes:

Emission Factors are from AP-42 Nat. Gas Comb. (7/98), Table 1.4-3

Appendix A: Emission Calculations
Summary of Estimated Potential HAP Emission Rates Associated with the Ethanol Production Plant

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

HAZARDOUS AIR POLLUTANT	NATURAL GAS COMBUSTION* (ton/yr)	FERMENTATION, DDGS DRYING, DDGS COOLING (ton/yr)	ETHANOL LOADOUT (ton/yr)	FIRE PUMP (ton/yr)	WET CAKE STORAGE (ton/yr)	LEAKS (ton/yr)	TOTAL HAPS (ton/yr)
1,3-Butadiene				2.87E-05			2.87E-05
2-Methylnaphthalene	6.04E-05						6.04E-05
3-Methylchloranthrene	4.53E-06						4.53E-06
7,12-Dimethylbenz(a)anthracene	4.02E-05						4.02E-05
Acenaphthene	4.53E-06						4.53E-06
Acenaphthylene	4.53E-06						4.53E-06
Acetaldehyde		9.86		5.64E-04	3.16E-02	3.83E-03	9.89
Acrolein		3.24		6.80E-05	4.73E-03		3.25
Anthracene	6.04E-06						6.04E-06
Arsenic	5.03E-04						5.03E-04
Benz(a)anthracene	4.53E-06						4.53E-06
Benz(a)pyrene	3.02E-06						3.02E-06
Benzene	5.28E-03		2.75E-02	6.86E-04		4.79E-02	8.13E-02
Benzo(b)fluoranthene	4.53E-06						4.53E-06
Benzo(g,h,i)perylene	3.02E-06						3.02E-06
Benzo(k)fluoranthene	4.53E-06						4.53E-06
Beryllium	3.02E-05						3.02E-05
Cadmium	2.77E-03						2.77E-03
Chromium	3.52E-03						3.52E-03
Chrysene	4.53E-06						4.53E-06
Cobalt	2.11E-04						2.11E-04
Dibenzo(a,h)anthracene	3.02E-06						3.02E-06
Dichlorobenzene	3.02E-03						3.02E-03
Ethylbenzene			2.57E-03			9.57E-04	3.53E-03
Fluoranthene	7.55E-06						7.55E-06
Fluorene	7.04E-06						7.04E-06
Formaldehyde	0.19	2.41		8.67E-04	0.19		2.79
Hexane	4.53		0.11			9.57E-01	5.60
Indeno(1,2,3-cd)pyrene	4.53E-06						4.53E-06
Manganese	9.56E-04						9.56E-04
Mercury	6.54E-04						6.54E-04
Methanol		2.41			3.94E-02	3.83E-03	2.45
Naphthalene	1.53E-03						1.53E-03
Nickel	5.28E-03						5.28E-03
Phenanathrene	4.28E-05						4.28E-05
Pyrene	1.26E-05						1.26E-05
Selenium	6.04E-05						6.04E-05
Total PAH				1.23E-04			1.23E-04
Toluene	0.01		9.76E-03	3.01E-04		9.57E-02	0.11
Xylenes			1.24E-02	2.09E-04		9.57E-03	2.22E-02
	4.75	17.91	0.17	2.85E-03	0.26	1.14	

Note:

*Natural gas combustion HAPS includes thermal oxidizers, utility boilers and dryers.

Total (TPY)=**24.21**

Appendix A: Emission Calculations
Particulate Matter Emissions - Process Weight Rule

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Address City IN Zip: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

326 IAC 6-3-2 Particulate Emission Rate Limitations

PM Control Device	Stack/ Vent	Unit ID	Process	Process Weight, P		P ≤ 60,000 lb/hr	P > 60,000 lb/hr
				each unit	each unit	E = 4.10 P ^{0.67}	E = 55 P ^{0.11} - 40
				P (lb/hr)	P (ton/hr)	E (lb/hr)	E (lb/hr)
Baghouse C-1A	S-1A	EP-01a	Grain Receiving truck dump pit (conveyors & elevators)	1,120,000	560.0	-	70.32
		EP-01b	Grain Receiving rail dump pit (conveyor & elevator)				
Baghouse C-1C	S-1C	EP-01c	Grain Receiving truck dump pit (conveyors & elevators)	1,120,000	560.00	-	70.32
n/a	n/a	EP-02a	Corn Storage Silo	1,120,000	560.00	-	70.32
n/a	n/a	EP-02b	Corn Storage Silo	1,120,000	560.00	-	70.32
n/a	n/a	EP-02c	Corn Storage Silo	1,120,000	560.00	-	70.32
n/a	n/a	EP-02d	Corn Storage Silo	1,120,000	560.00	-	70.32
Baghouse C-1B	S-1B	EP-03a	Grain Scalper	392,000	196.00	-	58.29
Baghouse C-1B	S-1B	EP-03b	Surge Bin	700,000	350.00	-	64.76
Baghouse C-2A	S-2A	EP-05	Hammermill	84,000	47.60	-	44.12
Baghouse C-2B	S-2B	EP-06	Hammermill	84,000	47.60	-	44.12
Baghouse C-2C	S-2C	EP-07	Hammermill	84,000	47.60	-	44.12
Baghouse C-2D	S-2D	EP-08	Hammermill	84,000	47.60	-	44.12
Baghouse C-8	S-8	EP-09	Enclosed DDGS Conveyor (DDGS Storage BLDG)	89,303	44.65	-	43.53
n/a	n/a	EP-10	DDGS Truck Loadout	450,000	225.00	-	59.79
n/a	n/a	EP-11	DDGS Rail Loadout	450,000	225.00	-	59.79
n/a	S-6A	EP-30	Dryer A	37,740	18.87	29.35	-
n/a	S-6B	EP-31	Dryer B				-
n/a	S-6C	EP-32	Dryer C	37,740	18.87	29.35	-
n/a	S-6D	EP-33	Dryer D				-
Baghouse C-7C	S-7C	Cooler	DDGS Cooling Drum	75,420	37.71	-	41.99

For P ≤ 60,000 lb/hr

$$E = 4.10 P^{0.67}$$

where: E = Rate of emission in pounds per hour.
P = Process weight rate in tons per hour.

For P > 60,000 lb/hr

$$E = 55 P^{0.11} - 40$$

where: E = Rate of emission in pounds per hour.
P = Process weight rate in tons per hour.

Notes:

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

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

**Appendix A: Emission Calculations
Compliance Assurance Monitoring (CAM) Applicability
to New Emissions Units in this Modification**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Process/ Emission Units	Pollutant	Control Device	Emission Limitation (Applicable Rule)	Control Device necessary to comply with limit?	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable		Large Unit
EP-01c	PM	BH C-1C	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-01c	PM	BH C-1C	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-01c	PM10	BH C-1C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-01c	PM2.5	BH C-1C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-34	PM	BH C-7C	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-34	PM	BH C-7C	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-34	PM10	BH C-7C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-34	PM2.5	BH C-7C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	PM	RTO C-6A	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-30/EP-31	PM	RTO C-6A	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-30/EP-31	PM10	RTO C-6A	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	PM2.5	RTO C-6A	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	VOC	RTO C-6A	326 IAC 2-2 326 IAC 8-5-6	Yes	>100	<100	Y		N
EP-30/EP-31	Single HAPs	RTO C-6A	326 IAC 2-7	Yes	>10	<10	Y		N
EP-30/EP-31	Total HAPs	RTO C-6A	326 IAC 2-7	Yes	>25	<25	Y		N
EP-32/EP-32	PM	RTO C-6B	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-32/EP-32	PM	RTO C-6B	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-32/EP-32	PM10	RTO C-6B	326 IAC 2-2	Yes	>100	<100	Y		N
EP-32/EP-32	PM2.5	RTO C-6B	326 IAC 2-2	Yes	>100	<100	Y		N
EP-32/EP-32	VOC	RTO C-6B	326 IAC 2-2 326 IAC 8-5-6	Yes	>100	<100	Y		N
EP-32/EP-32	Single HAPs	RTO C-6B	326 IAC 2-7	Yes	>10	<10	Y		N
EP-32/EP-32	Total HAPs	RTO C-6B	326 IAC 2-7	Yes	>25	<25	Y		N

Notes:

Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Where the 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 this rule PM is limited as a surrogate for a Part 70 regulated pollutant, PM10. The uncontrolled PTE and controlled PTE reflect the emissions of the PM10.

Controls: BH = Baghouse, C = Cyclone, DC = Dust Collection System, RTO = Regenerative or Recuperative Thermal Oxidizer, WS = Wet Scrubber

1. PM is not a regulated pollutant.

PM* : PM is limited as a surrogate for a Part 70 regulated pollutant, PM10. The uncontrolled PTE and controlled PTE reflect the emissions of the PM10.

Appendix B: Emission Calculations
PTE Summary

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
 Significant Source Modification No.: 129-36200-00051
 Significant Permit Modification No.: 129-36213-00051
 Permit Reviewer: Doug Logan
 Date: 11/30/2015

Potential to Emit After Issuance Considering New Limits Applied to Existing DDGS Dryers and Coolers (tons/yr)

Process	Unit ID	Control Device	Stack ID	Description	CO	NO _x	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	Acetaldehyde	Acrolein	Formaldehyde	n-Hexane	Manganese	Methanol	Methyl-cyclo-hexane	Total HAP		
P-1	EP-01a	BH C-1A	S-1A	Grain Receiving 1 (truck dump pit, conveyors, & elevators)	--	--	2.01	2.01	2.01	--	--	--	--	--	--	--	--	--	--		
	EP-01b			Grain Receiving 2 (rail dump pit, conveyors, & elevators)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	EP-01c	BH C-1C	S-1C	Grain Receiving 3 (truck dump pit, conveyors, & elevators)	--	--	2.01	2.01	2.01	--	--	--	--	--	--	--	--	--	--		
	EP-02a	na	na	Corn Storage Silo	--	--	15.66	3.95	0.69	--	--	--	--	--	--	--	--	--	--		
	EP-02b	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-02c	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-02d	na	na	Corn Storage Silo	--	--	38.21	21.30	3.63	--	--	--	--	--	--	--	--	--	--	--	
	na	na	na	EP-02a/EP02b Storage Silo Conveyors	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	na	na	na	EP-02c/EP02d Storage Silo Conveyors	--	--				--	--	--	--	--	--	--	--	--	--	--	--
EP-03a	BH C-1B	S-1B	Grain Scalper	--	--	1.93	1.93	1.93	--	--	--	--	--	--	--	--	--	--	--		
EP-03b			Grain Scalper Surge Bin	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-2	EP-05	BH C-2A	S-2A	Hammermill	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--		
	EP-06	BH C-2B	S-2B	Hammermill	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--		
	EP-07	BH C-2C	S-2C	Hammermill	--	--	1.31	1.31	1.31	--	--	--	--	--	--	--	--	--	--		
	EP-08	BH C-2D	S-2D	Hammermill	--	--	1.23	1.23	1.23	--	--	--	--	--	--	--	--	--	--		
P-4	note 1	RTO C-6A	S-6A	Milled Grain Cooking (RTO C-6A)	--	94.60	--	--	--	88.01	28.03	1.10	1.10	1.10	--	--	1.10	--	--		
P-6	note 1			Distillation & Dehydration (RTO C-6A)	--		--	--	--						--	--		--	--	--	--
P-7	EP-20	RTO C-6A	S-6A	DDGS Dryer #1 (process emissions)	31.10	94.60	54.75	54.75	54.75	88.01	28.03	1.10	1.10	1.10	0.83	1.76E-04	1.10	--	--		
				DDGS Dryer #1 (NG combustion)																--	--
P-4	note 1	RTO C-6B	S-6B	Milled Grain Cooking (RTO C-6B)	--	94.60	--	--	--	88.01	28.03	1.10	1.10	1.10	--	--	1.10	--	--		
P-6	note 1			Distillation & Dehydration (RTO C-6B)	--		--	--	--						--	--		--	--	--	--
P-7	EP-21	RTO C-6B	S-6B	DDGS Dryer #2 (process emissions)	31.10	94.60	54.75	54.75	54.75	88.01	28.03	1.10	1.10	1.10	0.83	1.76E-04	1.10	--	--		
				DDGS Dryer #2 (NG combustion)																--	--
P-7	EP-22	BH-C-7A	S-7A	DDGS Cooler #1	--	--	4.69	4.69	4.69	--	8.10	0.88	0.88	0.88	--	--	0.88	--	1.49		
	EP-23	BH C-7B	S-7B	DDGS Cooler #2	--	--	4.69	4.69	4.69	--	6.79	0.88	0.88	0.88	--	--	0.88	--	1.49		
Subtotal					62.20	94.60	183.87	155.24	134.32	88.01	70.96	3.94	3.94	3.94	1.67	3.52E-04	3.94	0	11.74		
P-5	EP-15	SC C-5A	V-5	Fermentation Beer Well	--	--	1.05	1.05	1.05	--	36.05	5.91	5.91	5.91	--	--	5.91	--	6.18		
P-7	EP-19	na	na	Wet Distillers Grain Solubles (WDGS)	<i>The Distillers Grains and Solubles (DGS) is either being dried (Dry Distillers Grains Solubles (DDGS) or is not dried (Wet Distillers Grains Solubles (WDGS)). The worse case emission rate is DDGS; therefore, no emissions are shown for WDGS.</i>																
P-8	EP-09	BH C-8	S-8	Enclosed DDGS Conveyor (DDGS Storage BLDG)	--	--	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--	--		
	EP-09a	na	S-8A	DDGS Reclaim Conveyor #1	--	--	11.93	9.08E-03	8.64E-04	--	--	--	--	--	--	--	--	--	--		
	EP-09b			DDGS Reclaim Conveyor #2																	
P-9	EP-24 & EP-25	F C-9	na	Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading	5.10	2.04	1.83E-02	1.83E-02	1.83E-02	--	9.16	--	--	--	0.11	--	--	1.86E-02	0.19		
	F C-9	na	na	Flare Pilot Flame (NG combustion)	3.38E-02	4.03E-02	7.66E-04	3.06E-03	3.06E-03	2.42E-04	2.22E-03	--	--	2.96E-05	7.11E-04	1.50E-07	--	--	7.46E-04		
P-11	EP-26	na	S-13	Boiler (NG Combustion)	29.14	48.56	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-27			Boiler (NG Combustion)			2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-28			Boiler (NG Combustion)			2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-29			Boiler (NG Combustion)			2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
P-12	na	S-12	Fire Pump	0.70	0.69	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.26	5.64E-04	6.80E-05	8.7E-04	--	--	--	--	2.85E-03			
Total PTE (excluding fugitives)					97.17	145.94	205.35	164.80	143.87	88.96	119.67	9.86	9.86	9.97	4.64	9.56E-04	9.86	1.86E-02	21.10		

Appendix B: Emission Calculations
PTE Summary

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
 Significant Source Modification No.: 129-36200-00051
 Significant Permit Modification No.: 129-36213-00051
 Permit Reviewer: Doug Logan
 Date: 11/30/2015

Potential to Emit After Controls (tons/yr)																				
Process	Unit ID	Control Device	Stack ID	Description	CO	NO _x	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	Acetaldehyde	Acrolein	Formaldehyde	n-Hexane	Manganese	Methanol	Methyl-cyclohexane	Total HAP	
P-1	EP-01a	BH C-1A	S-1A	Grain Receiving 1 (truck dump pit, conveyors, & elevators)	--	--	2.02	2.02	2.02	--	--	--	--	--	--	--	--	--	--	
	EP-01b			Grain Receiving 2 (rail dump pit, conveyors, & elevators)	--	--														
	EP-01c	BH C-1C	S-1C	Grain Receiving 3 (truck dump pit, conveyors, & elevators)	--	--	1.98	1.98	1.98	--	--	--	--	--	--	--	--	--	--	
	EP-02a	na	na	Corn Storage Silo	--	--	15.66	3.95	0.69	--	--	--	--	--	--	--	--	--	--	--
	EP-02b	na	na	Corn Storage Silo	--	--														
	EP-02c	na	na	Corn Storage Silo	--	--														
	EP-02d	na	na	Corn Storage Silo	--	--														
		na	na	na	EU-02a/EU02b Storage Silo Conveyors	--	--	38.21	21.30	3.63	--	--	--	--	--	--	--	--	--	--
		na	na	na	EP-02c/EP02d Storage Silo Conveyors	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	EP-03a	BH C-1B	S-1B	Grain Scalper	--	--	1.95	1.95	1.95	--	--	--	--	--	--	--	--	--	--	
	EP-03b			Grain Scalper Surge Bin	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-2	EP-05	BH C-2A	S-2A	Hammermill	--	--	1.30	1.30	1.30	--	--	--	--	--	--	--	--	--	--	
	EP-06	BH C-2B	S-2B	Hammermill	--	--	1.30	1.30	1.30	--	--	--	--	--	--	--	--	--	--	
	EP-07	BH C-2C	S-2C	Hammermill	--	--	1.30	1.30	1.30	--	--	--	--	--	--	--	--	--	--	
	EP-08	BH C-2D	S-2D	Hammermill	--	--	1.23	1.23	1.23	--	--	--	--	--	--	--	--	--	--	
P-4	note 1	RTO C-6A	S-6A	Milled Grain Cooking (RTO C-6A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
P-6	note 1			Distillation & Dehydration (RTO C-6A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
P-7	EP-30/EP-31			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	54.75	44.00	28.03	1.10	1.10	1.10	0.83	1.76E-04	1.10	--	--
	RTO #1			DDGS Dryer (NG combustion)																
P-4	note 1	RTO C-6B	S-6B	Milled Grain Cooking (RTO C-6B)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
P-6	note 1			Distillation & Dehydration (RTO C-6B)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
P-7	EP-32/EP-33			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	54.75	44.00	28.03	1.10	1.10	1.10	0.83	1.76E-04	1.10	--	--
	RTO #2			DDGS Dryer (NG combustion)																
P-7	EP-34	BH C-7C	S-7C	DDGS Cooling Drum	--	--	9.39	9.39	9.39	--	24.09	1.75	0.88	0.18	--	--	0.18	--	2.98	
Subtotal					62.20	94.61	118.89	118.89	118.89	88.01	80.15	3.94	3.07	2.37	1.67	3.52E-04	2.37	0	11.74	
P-5	EP-15	SC C-5A	V-5	Fermentation Beer Well	--	--	1.05	1.05	1.05	--	36.05	5.91	0.18	0.04	--	--	0.04	--	6.18	
P-7	EP-19	na	na	Wet Distillers Grain Solubles (WDGS)	<i>The Distillers Grains and Solubles (DGS) is either being dried (Dry Distillers Grains Solubles (DDGS) or is not dried (Wet Distillers Grains Solubles (WDGS)). The worst case emission rate is DDGS; therefore, no emissions are shown for WDGS.</i>															
P-8	EP-09	BH C-8	S-8	Enclosed DDGS Conveyor (DDGS Storage BLDG)	--	--	0.35	0.35	0.35	--	--	--	--	--	--	--	--	--	--	
	EP-09a	na	S-8A	DDGS Reclaim Conveyor #1	--	--	11.93	9.08E-03	8.64E-04	--	--	--	--	--	--	--	--	--		
	EP-09b			DDGS Reclaim Conveyor #2																
P-9	EP-24 & EP-25	F C-9	na	Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading	5.10	2.04	1.83E-02	1.83E-02	1.83E-02	--	8.87	--	--	--	0.11	--	--	1.86E-02	0.19	
	F C-9	na	na	Flare Pilot Flame (NG combustion)	3.38E-02	4.03E-02	7.66E-04	3.06E-03	3.06E-03	2.42E-04	2.22E-03	--	--	2.96E-05	7.11E-04	1.50E-07	--	--	7.46E-04	
P-11	EP-26	na	S-13	Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
	EP-27			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
	EP-28			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
	EP-29			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75	
P-12	na	na	S-12	Fire Pump	0.70	0.69	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.26	5.6E-04	6.8E-05	8.67E-04	--	--	--	--	2.85E-03	
Total PTE (excluding fugitives)					97.17	145.95	205.32	164.78	143.85	88.96	128.58	9.86	3.24	2.53	4.64	9.56E-04	2.41	1.86E-02	21.10	

Appendix B: Emission Calculations
PTE Summary

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
 Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
 Significant Source Modification No.: 129-36200-00051
 Significant Permit Modification No.: 129-36213-00051
 Permit Reviewer: Doug Logan
 Date: 11/30/2015

Uncontrolled Potential to Emit (tons/yr)																					
Process	Unit ID	Control Device	Stack ID	Description	CO	NO _x	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	Acetaldehyde	Acrolein	Formaldehyde	n-Hexane	Manganese	Methanol	Methyl-cyclohexane	Total HAP		
P-1	EP-01a	BH C-1A	S-1A	Grain Receiving 1 (truck dump pit, conveyors, & elevators)	--	--	183.89	183.89	183.89	--	--	--	--	--	--	--	--	--	--		
	EP-01b			Grain Receiving 2 (rail dump pit, conveyors, & elevators)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	EP-01c	BH C-1C	S-1C	Grain Receiving 3 (truck dump pit, conveyors, & elevators)	--	--	180.21	180.21	180.21	--	--	--	--	--	--	--	--	--	--		
	EP-02a	na	na	Corn Storage Silo	--	--	61.32	15.45	2.70	--	--	--	--	--	--	--	--	--	--		
	EP-02b	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-02c	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	EP-02d	na	na	Corn Storage Silo	--	--				--	--	--	--	--	--	--	--	--	--	--	--
	na	na	na	EU-02a/EU02b Storage Silo Conveyors	--	--	149.62	83.40	14.23	--	--	--	--	--	--	--	--	--	--	--	
	na	na	na	EP-02c/EP02d Storage Silo Conveyors	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
EP-03a	BH C-1B	S-1B	Grain Scalper	--	--	176.86	176.86	176.86	--	--	--	--	--	--	--	--	--	--	--		
EP-03b			Grain Scalper Surge Bin	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-2	EP-05	BH C-2A	S-2A	Hammermill	--	--	118.40	118.40	118.40	--	--	--	--	--	--	--	--	--	--		
	EP-06	BH C-2B	S-2B	Hammermill	--	--	118.40	118.40	118.40	--	--	--	--	--	--	--	--	--	--		
	EP-07	BH C-2C	S-2C	Hammermill	--	--	118.40	118.40	118.40	--	--	--	--	--	--	--	--	--	--		
	EP-08	BH C-2D	S-2D	Hammermill	--	--	111.71	111.71	111.71	--	--	--	--	--	--	--	--	--	--		
P-4	note 1	RTO C-6A	S-6A	Milled Grain Cooking (RTO C-6A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-6	note 1			Distillation & Dehydration (RTO C-6A)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-7	EP-30/ EP-31			DDGS Dryer (process emissions)	31.10	47.30	54.75	54.75	54.75	44.00	1,402	54.75	54.75	54.75	--	--	54.75	--	--		
	RTO #1			DDGS Dryer (NG combustion)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
na		Thermal Oxidizer C-6A (NG combustion)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
P-4	note 1	RTO C-6B	S-6B	Milled Grain Cooking (RTO C-6B)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-6	note 1			Distillation & Dehydration (RTO C-6B)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-7	EP-32/ EP-33			DDGS Dryer (process emissions)	31.10	0.10	54.75	54.75	54.75	44.00	1,402	54.75	54.75	54.75	--	--	54.75	--	--		
	RTO #2			DDGS Dryer (NG combustion)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
na		Thermal Oxidizer C-6B (NG combustion)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
P-7	EP-34	BH C-7C	S-7C	DDGS Cooling Drum	--	--	938.57	938.57	938.57	--	24.09	1.75	0.88	0.18	--	--	0.18	--	2.98		
Subtotal					62.20	47.40	1048.07	1048.07	1048.07	88.01	2,827	111.25	110.38	109.68	1.67	3.52E-04	109.68	0	440.98		
P-5	EP-15	SC C-5A	V-5	Fermentation Beer Well	--	--	17.52	17.52	17.52	--	1,802	492.75	162.06	120.45	--	--	120.45	--	895.71		
P-7	EP-19	na	na	Wet Distillers Grain Solubles (WDGS)	<i>The Distillers Grains and Solubles (DGS) is either being dried (Dry Distillers Grains Solubles (DDGS) or is not dried (Wet Distillers Grains Solubles (WDGS)). The worst case emission rate is DDGS; therefore, no emissions are shown for WDGS.</i>																
P-8	EP-09	BH C-8	S-8	Enclosed DDGS Conveyor (DDGS Storage BLDG)	--	--	32.13	32.13	32.13	--	--	--	--	--	--	--	--	--	--		
	EP-09a	na	S-8A	DDGS Reclaim Conveyor #1	--	--	11.93	9.08E-03	8.64E-04	--	--	--	--	--	--	--	--	--	--		
	EP-09b			DDGS Reclaim Conveyor #2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
P-9	EP-24 & EP-25	F C-9	na	Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading	5.10	2.04	1.83E-02	1.83E-02	1.83E-02	--	8.87	--	--	--	0.11	--	--	1.86E-02	0.19		
	F C-9	na	na	Flare Pilot Flame (NG combustion)	3.4E-02	4.0E-02	7.7E-04	3.1E-03	3.1E-03	2.4E-04	2.2E-03	--	--	2.96E-05	7.11E-04	1.50E-07	--	--	7.46E-04		
P-11	EP-26	na	S-13	Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-27			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-28			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
	EP-29			Boiler (NG Combustion)	7.28	12.14	2.02	2.02	2.02	0.24	0.81	--	--	2.98E-02	0.71	1.51E-04	--	--	0.75		
P-12	na	S-12	Fire Pump	0.70	0.69	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.26	5.64E-04	6.80E-05	8.7E-04	--	--	--	--	2.85E-03			
Total PTE (excluding fugitives)					97.17	98.74	2336.59	2212.58	2130.65	88.96	4642.04	604.00	272.44	230.25	4.64	9.56E-04	230.13	1.86E-02	1339.87		

**Appendix B: Emission Calculations
Modification Summary**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Potential to Emit of the Modified Units Before this Modification (tons/yr)¹

Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs
Fugitive Emissions									
FS002	Grain Receiving - Fugitive	4.29	0.96	0.96	-	-	-	-	-

Potential to Emit of the Modified Units After this Modification (tons/yr)³

Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs
Fugitive Emissions									
FS-002	Grain Receiving - Fugitive	8.58	1.91	1.91	-	-	-	-	-

Uncontrolled Potential to Emit of the New Units (tons/yr)

Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs
EP-01c	EP-01c, Truck Dump Pit & Conveyors	180.21	180.21	180.21	-	-	-	-	-
EP-02c	EP-02c, Grain Storage Silo	61.32	15.45	2.70	-	-	-	-	-
EP-02d	EP-02d, Grain Storage Silo	-	-	-	-	-	-	-	-
none	Storage silo conveyors (for EP-02c & EP-02d)	149.62	83.40	14.23	-	-	-	-	-
EP-30, EP-31, EP-32, EP-33	DDGS Dryers (A-D), NG combustion	1.47	5.87	5.87	0.46	77.29	4.25	64.93	1.46
EP-34	DDGS Cooling Drum	938.57	938.57	938.57	-	-	24.09	-	-
	Corn Oil Storage Tanks	-	-	-	-	-	1.05	-	-
	Corn Oil Loadout	-	-	-	-	-	0.33	-	-
	Total not including Fugitives	1331.19	1223.50	1141.58	0.46	77.29	29.72	64.93	1.46
Fugitive Emissions									
	Corn Oil Shipping (fugitive)	5.64E-02	1.13E-02	2.77E-03	-	-	-	-	-
	Total Including Fugitives	1,331.24	1,223.51	1,141.58	0.46	77.29	29.72	64.93	1.46

Uncontrolled Potential to Emit of this Modification (tons/yr)

Unit ID	Emission Unit	PM	PM10	PM2.5 ^c	SO ₂	NOx	VOC	CO	Total HAPs
	PTE of new units (including fugitives)	1331.24	1223.51	1141.58	0.46	77.29	29.72	64.93	1.46
	Increased PTE of the existing units ⁴	4.29	0.96	0.96	-	-	-	-	-
	Total PTE of this Modification	1335.54	1224.47	1142.54	0.46	77.29	29.72	64.93	1.46

Notes:

1. Source: TSD App A, T129-35199-00051, issued December 24, 2014
2. PM2.5 listed is direct PM2.5
3. Increased fugitive PTE for grain receiving is based on adding grain receiving capacity.
4. Increased PTE of the existing units equals the greater of 0 or [PTE After - PTE Before]

**Appendix B: Emission Calculations
Corn Oil Storage Tanks VOC Emissions**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/15

Single Tank Emissions, AP-42, Chapter 7 (calculation method for TANKS)

Indianapolis Meteorological Data (Tbl 7.1-7)

T_{AX} = 62.0 °F, daily maximum ambient temperature
 T_{AN} = 42.2 °F, daily minimum ambient temperature
 I = 1165 Btu/ft²-day, daily total solar insolation factor

α = 0.54 tank paint solar absorptance, Tbl 7.1-6 (light gray, good condition)

Vertical tank H_S = 22 ft D = 12 ft *Tank dimensions provided by the source*

T_{AA} = 512.1 °R, daily average ambient temperature, Eqn 1-27, Ch 7
 T_B = 514.3 °R, liquid bulk temperature, Eqn 1-28, Ch 7
 T_{LA} = 518.3 °R, daily average liquid surface temperature, Eqn 1-26, Ch 7

M = 877 lb/lb-mole, triglyceride with average fatty acid content in Table 28.1, Shreve & Brink, Chemical Process Industries, 3rd Ed., McGraw-Hill, New York, 1977
 Q = 700,000 gal/yr = 16,667 bbl/yr where Q = corn oil capacity (2.8 MM gal/yr) / number of tanks (4)
Note: petroleum barrel is 42 gallons

August Equation coefficients:

A = 13.06 Regression of NOAA data from CHRIS manual (vegetable oil, edible) <http://www.cameochemicals.noaa.gov/chris/OVG.pdf>
 B = 8604

P_{VA} = 0.029 psia, true vapor pressure at T_{LA} , Eqn 1-24, Ch 7

D = 12.00 ft given above
 $H_S - H_L$ = 11.00 ft average value, 1/2 H_S
 R_S = 6.00 ft tank shell radius, $D/2$
 S_R = 0.2679 ft/ft tank cone roof slope, $\tan(15^\circ)$ (roof slope provided by the source)
 H_R = 1.608 ft tank roof height, Eqn 1-17
 H_{RO} = 0.536 roof outage, Eqn 1-16 (cone roof)
 H_{VO} = 11.54 ft vapor space outage, Eqn 1-15

T_{LX} = 528.2 °R T_{LN} = 508.4 °R Eqn 1-26, liquid surface temperatures at T_{AX} and T_{AN}
 P_{VX} = 0.04 psia P_{VN} = 0.02 psia Eqn 1-24, liquid vapor pressure at T_{AX} and T_{AN}

ΔT_V = 31.9 °R, daily vapor temperature range, Eqn 1-8, AP-42 Ch 7

ΔP_B = 0.06 psia, assumed breather vent pressure setting range

K_E = 0.06 vapor space expansion factor, Eqn 1-7, AP-42 Ch 7
 K_S = 0.98 vented vapor saturation factor, Eqn 1-20, AP-42 Ch 7
 W_V = 0.0046 lb/ft³, stock vapor density, Eqn 1-21, AP-42 Ch 7

Storage Losses (breathing losses), single tank

L_S = 126 lb/yr, Eqn 1-4, AP-42 Ch 7

Working Losses, single tank

turnovers = 39 per year (nominal tank capacity provided by the source)

K_N = 0.94 working loss turnover (saturation) factor, Fig 7.1-18, notes to Eqn 1-35

K_P = 1 working loss product factor, organic liquids other than crude oil, notes to Eqn 1-35

L_W = 397.97 lb/yr, Eqn 1-29, AP-42 Ch 7

Total Losses, single tank

L_T = 524 lb/yr, Eqn 1-1, AP-42 Ch 7

PTE of the 4-tank Facility

Tank Description	Capacity (gal)	Dimensions	VOC Emissions		
			PTE (tpy)	PTE (lb/day) ¹	PTE (lb/hr) ¹
Corn Oil Storage Tank 1	18,000	12' x 22'	0.26	1.43	5.98E-02
Corn Oil Storage Tank 2	18,000	12' x 22'	0.26	1.43	5.98E-02
Corn Oil Storage Tank 3	18,000	12' x 22'	0.26	1.43	5.98E-02
Corn Oil Storage Tank 4	18,000	12' x 22'	0.26	1.43	5.98E-02
TOTAL			1.05	5.74	0.24

Notes:

1. Short-term PTE based on annual emissions distributed equally on daily basis throughout the yr.

Appendix B: Emission Calculations
Corn Oil Loadout Emissions

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/15

According to AP-42, Chapter 5.2 - Transportation and Marketing of Petroleum Liquids (June 2008), the VOC emission factors for the truck and rail loading rack can be estimated from the following equation:

where: $L_L = 12.46 \times (SPM)/T$ Eqn (1)

L_L = loading loss (lbs/kgal)
 S = a saturation factor
 P = true vapor pressure of the liquid loaded (psia)
 M = molecular weight of vapors (lb/lb-mole)
 T = temperature of the bulk liquid loaded (°R)

Long-term PTE						Uncontrolled Potential to Emit		
Loadout Rate ¹ (kgal/yr)	S ²	T (°R) ³	P (psia) ⁴	M (lb/lb-mole) ⁵	L _L (lb/kgal)	(lb/day)	(lb/yr)	(tons/yr)
2,800	0.6	514.34	0.052	310	0.234	1.80	656.06	0.33

Short-term PTE

Loadout Rate ⁶ (kgal/hr)	(lb/hr)
21	4.92

Notes:

- 100% loadout to trucks. Worst case is trucks in biodiesel service, picking up corn oil for transport to biodiesel plant after delivering biodiesel to a third location. VOC losses calculated based on the product last contained.
- Saturation factor obtained from AP-42 Ch.5 - Table 5.2-1, for submerged loading of trucks in dedicated normal service.
- Bulk liquid temperature from storage tank PTE calculations.
- Vapor pressure calculated at bulk liquid temperature using August equation coefficients from regression of data for soybean oil fatty acid ethyl ester (FAEE) from http://www.researchgate.net/publication/231536019_Vapor_Pressure_Data_of_Soybean_Oil_Castor_Oil_and_Their_Fatty_Acid_Ethyl_Ester_Derivatives
- Molecular weight for ethyl ester of oleic acid, representative of vegetable oil FAEE (biodiesel)
- Hourly loading loss based on loadout pump capacity (300 gpm = 18,000 gph), as worst case analysis.

Methodology

PTE (lb/yr) = Loadout Rate (kgal/yr) x Loading Loss, L_L (lb/kgal)
PTE (lb/day) = PTE (lb/yr) / 365 (days/yr)
PTE (tons/yr) = PTE (lb/yr) / 2,000 (lb/ton)
PTE (lb/hr) = Loadout Rate (kgal/hr) x Loading Loss, L_L (lb/kgal)

**Appendix B: Emission Calculations
Fugitive Dust Emissions - Paved Roads
Corn Oil Shipping**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

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)
Corn oil truck entering, empty	1.23	1.0	1.2	15.0	18.5	2798	0.530	0.65	238.1
Corn oil truck leaving, loaded	1.23	1.0	1.2	39.0	48.0	2798	0.530	0.65	238.1
Totals			2.5		66.5			1.30	476.3

Average Vehicle Weight Per Trip =

27.0

 tons/trip
 Average Miles Per Trip =

0.53

 miles/trip

Unmitigated Emission Factor, Ef = $[k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

where k =	PM	PM10	PM2.5	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	0.011	0.0022	0.00054	tons = average vehicle weight
sL =	27.0	27.0	27.0	g/m ³ = silt loading value for paved roads at corn wet mills - Table 13.2.1-3)
	0.8	0.8	0.8	

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 =

125

 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N =

365

 days per year

Unmitigated Emission Factor, Ef =	PM	PM10	PM2.5	lb/mile
Mitigated Emission Factor, Eext =	0.259	0.052	0.0127	lb/mile
Dust Control Efficiency =	0.237	0.047	0.0116	lb/mile
	0%	0%	0%	(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)
Corn oil truck entering, empty	3.08E-02	6.17E-03	1.51E-03	2.82E-02	5.64E-03	1.38E-03	2.82E-02	5.64E-03	1.38E-03
Corn oil truck leaving, loaded	3.08E-02	6.17E-03	1.51E-03	2.82E-02	5.64E-03	1.38E-03	2.82E-02	5.64E-03	1.38E-03
Totals	6.17E-02	1.23E-02	3.03E-03	5.64E-02	1.13E-02	2.77E-03	5.64E-02	1.13E-02	2.77E-03

Methodology

Maximum Number of Vehicles per Day = 2,800,000 (gal/yr) x 7.70 (lb/gal) / 2,000 (lb/ton) / 24 (tons/trip) / 365 (days/yr)
 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 B: Emission Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Uncontrolled PTE of New DDGS Dryers for Source Modification**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Includes:	Unit	Capacity (MMBtu/hr)	HHV mmBtu mmscf	Potential Throughput MMCF/yr
Dryer A		45		
Dryer B		45		
Dryer C		45		
Dryer D		45		
Total		180		
Heat Input Capacity	MMBtu/hr			
		180.0	1020	1545.9

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	1.47	5.87	5.87	0.46	77.29	4.25	64.93

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 PM2.5 emission factor is filterable and condensable PM2.5 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Total - Organics
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.6E-03	9.3E-04	5.8E-02	1.39	2.6E-03	1.45

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	3.9E-04	8.5E-04	1.1E-03	2.9E-04	1.6E-03	4.2E-03
					Total HAPs	1.46
					Worst HAP	1.39

Methodology is the same as above.
 The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix B: Emission Calculations
Grain - DDGS Handling

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Summary of Estimated Potential PM and PM₁₀/PM_{2.5} Emission Rates - Grain Receiving, Handling, Milling, and Storage Operations

Emission Unit ID	Emission Source	Throughput (tons/hr)	PM Emissions						PM ₁₀ /PM _{2.5} Emissions						
			Throughput (tons/yr)	AP-42 Emission Factor (lb/ton) ¹	Uncaptured Emissions		Capture Efficiency	Fugitive Emissions		Emission Factor (lb/ton)	Uncaptured Emissions		Capture Efficiency	Fugitive Emissions	
			lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	
Fugitive Type Releases															
FS002	Grain Receiving (P-1)- Fugitive ²	1,120	1,252,731	0.035	39.20	21.92	95%	1.960	1.10	0.0078	8.74	4.89	95%	0.437	0.24
FS003	DDGS Storage Building - Fugitive	44.65	391,148	0.0033	0.15	0.65	95%	7.37E-03	3.23E-02	0.0008	3.57E-02	0.16	95%	1.79E-03	7.82E-03
FS004	DDGS Loadout - Fugitives ³	225	1,971,000	0.0099	2.23	9.76	95%	0.111	0.49	0.0024	0.54	2.37	95%	0.027	0.12
Subtotal								1.62						0.37	

Process Data								
Grain Required for 116.325 MMgal ethanol:	44.7	MM bushels/yr	44,740,385	bushels/yr	DDGS Solids Rate (solids only - no moisture included)		89,303	lbs/hr
Ethanol Grain Density	56	lb/bushel			DDGS Handling (solids only)		44.65	tons/hr
Total Grain Receiving Throughput	1,252,731	ton/yr	143.01	tons/hr				

Methodology:
 Uncaptured Emissions (lb/hr) = Throughput (tons/hr) x AP-42 Emission Factor (lb/ton)
 Uncaptured Emissions (tpy) = Throughput (tons/yr) x AP-42 Emission Factor (lb/ton) / 2,000 (lb/ton) *Note: for FS002 and FS003 the tons per year throughput are limited values, uncaptured emissions (tpy) is an "after issuance" value*
 Fugitive Emissions = Uncaptured Emissions x (100% - Capture Efficiency (%)) / 100%
 FS004 Throughput (tons/yr) = FS004 Throughput (tons/hr) x 8,760 (hr/yr)

Emission Unit ID	Emission Source	Flow (dscfm) ⁴	Emission Factor (gr/dscf) ⁵	Operation Time (hr/yr)	PM/PM ₁₀ /PM _{2.5} Emissions			Control Efficiency (%)	Safety Factor (%)	Controlled Emissions + Safety Factor	
					Controlled Emissions (lb/hr)	Controlled Emissions (tpy)	Uncontrolled Emissions (tpy)			lb/hr	tpy
EP-01	Grain Receiving Baghouse, C-1A for 1 truck / 1 rail dump pit	26,193	0.00187	8760	0.42	1.84	183.89	99%	10%	0.46	2.02
EP-01C	Grain Receiving Baghouse, C-1C for 1 truck dump pit	24,000	0.002	8760	0.41	1.80	180.21	99%	10%	0.45	1.98
EP-03a	Grain Scalper Baghouse, C-1B	14,406	0.00327	8760	0.40	1.77	176.86	99%	10%	0.44	1.95
EP-05	Hammermill Baghouse #1, C-2A	10,306	0.00306	8760	0.27	1.18	118.40	99%	10%	0.30	1.30
EP-06	Hammermill Baghouse #2, C-2B	10,306	0.00306	8760	0.27	1.18	118.40	99%	10%	0.30	1.30
EP-07	Hammermill Baghouse #3, C-2C	10,306	0.00306	8760	0.27	1.18	118.40	99%	10%	0.30	1.30
EP-08	Hammermill Baghouse #4, C-2D	9,820	0.00303	8760	0.26	1.12	111.71	99%	10%	0.28	1.23
Total PTE From Grain Receiving, Handling and Milling					2.30	10.08	1007.85	--	--	2.53	11.09
EP-09	DDGS Conveyor Baghouse, C-8	2,510	0.00341	8760	0.07	0.32	32.13	99%	10%	0.08	0.35
Total PTE From DDGS Handling					0.07	0.32	32.13	--	--	0.08	0.35
EP-34	DDGS Cooling Drum Baghouse C-7C	50,000	0.005	8760	2.14	9.39	938.57	99%	0%	2.14	9.39
Total PTE From DDGS Cooling					2.14	9.39	938.57	--	--	2.14	9.39
Subtotal					19.79	93.99	1,978.55	--	--	20.83	20.83

Methodology:
 Controlled Emissions (lb/hr) = Flow (dscfm) x Emission Factor (gr/dscf) x 60 (min/hr) / 7,000 (gr/lb)
 Controlled Emissions (tpy) = Controlled Emissions (lb/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)
 Uncontrolled Emissions (tpy) = Controlled Emissions (tpy) / [(100% - Control Efficiency (%)) / 100%]
 Controlled Emissions + Safety Factor = Controlled Emissions x [(100% + Safety Factor (%)) / 100%]

Uncontrolled Total PTE	1978.55	PM
	1978.55	PM₁₀/PM_{2.5}
Controlled Total PTE	19.79	PM
	19.79	PM₁₀/PM_{2.5}

- Notes:**
- Worst case emission factors for grain receiving by hopper truck (SCC 3-02-005-52) Table 9.9.1-1, AP-42, March 2003. Worst case analysis treats PM₁₀=PM_{2.5}.
 - DDGS storage and loadout use emission factors for feed shipping (SCC 3-02-008-16) Table 9.9.1-2, AP-42, March 2003
 - Grain receiving operation - Majority of potential PMPM₁₀/PM_{2.5} emissions will be captured by a dry filtration device. Uncaptured emissions have been identified as a fugitive source.
 - The DDGS Loadout operation uses chute extension with a funnel device such that the loadout system operates similar to a choked flow system; therefore, 95% capture is assumed.
 - Conservatively using acfm to represent dscfm.
 - Emission factors for baghouse based on manufacturer's specifications. Testing is required to demonstrate that these factors are achievable.

Appendix B: Emission Calculations
Grain Storage and DDGS Loadout Conveyors

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

1. Unrestricted PTE (based on maximum hourly capacity)

Emission Unit ID	Emission Source	Hourly Throughput ton/hr	Emission Factors ¹			Uncontrolled Emissions					
			PM lb/ton	PM ₁₀ lb/ton	PM _{2.5} lb/ton	PM lb/hr	PM ₁₀ lb/hr	PM _{2.5} lb/hr	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy
EP-02a	Corn Storage Silo	560.0	0.025	0.0063	0.0011	14.00	3.53	0.616	61.32	15.45	2.70
EP-02b	Corn Storage Silo										
EP-02c	Corn Storage Silo										
EP-02d	Corn Storage Silo										
na	Storage Silo Conveyor (EP-02a/EP-02b)	560.0	0.061	0.034	0.0058	34.16	19.04	3.248	149.62	83.40	14.23
na	Storage Silo Conveyor (EP-02c/EP-02d)										
TOTAL PTE FROM GRAIN STORAGE & HANDLING						96.32	45.14	7.73	421.88	197.70	33.85
EP-09a	DDGS Reclaim Conveyor #1	44.65	0.061	0.034	0.0058	2.72	2.1E-03	2.0E-04	11.93	9.1E-03	8.6E-04
EP-09b	DDGS Reclaim Conveyor #2										
TOTAL PTE FROM DDGS HANDLING						2.72	2.1E-03	2.0E-04	11.93	9.1E-03	8.6E-04

2. PTE After Issuance (based on bottlenecked annual throughput)

Emission Unit ID	Emission Source	Annual Throughput ton/year	Emission Factors			Uncontrolled Emissions		
			PM lb/ton	PM ₁₀ lb/ton	PM _{2.5} lb/ton	PM tpy	PM ₁₀ tpy	PM _{2.5} tpy
EP-02a	Corn Storage Silo	1,252,731	0.025	0.0063	0.0011	15.66	3.95	0.69
EP-02b	Corn Storage Silo							
EP-02c	Corn Storage Silo							
EP-02d	Corn Storage Silo							
na	Storage Silo Conveyor (EP-02a/EP-02b)	1,252,731	0.061	0.034	0.0058	38.21	21.30	3.63
na	Storage Silo Conveyor (EP-02c/EP-02d)							
TOTAL PTE FROM GRAIN STORAGE & HANDLING						53.87	25.24	4.32
EP-09a	DDGS Reclaim Conveyor #1	391,148	0.061	0.034	0.0058	11.93	6.65	1.13
EP-09b	DDGS Reclaim Conveyor #2							

Notes:

1. Uncontrolled Emission Factors are from AP-42, Chapter 9.9.1, Table 9.9.1-1. Silos use storage bin (vent), SCC 3-02-005-40, grain and DDGS conveyors use headhouse and grain handling, SCC 3-02-005-30.

Methodology:

Uncontrolled Emissions (tpy) = Emission Factor (lb/ton) x Hourly Throughput (ton/hr) x 8760 (hrs/yr) / 2000 (lb/ton)

PTE After Issuance (tpy) = Emission Factor (lb/ton) x Annual Throughput (ton/yr) / 2000 (lb/ton)

Appendix B: Emission Calculations

Estimated Potential Emissions from DDGS Drying, Distillation and Evaporation - Routed to Regenerative Thermal Oxidizer (RTO)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

DDGS Drying Rate (Total):	44.65 tons/hr	391,148 tons/year
DDGS Drying Rate per dryer system (2):	22.33 tons/hr	195,567 tons/year

PM/PM ₁₀ /PM _{2.5} Emissions ¹			
Limited PTE from 1 RTO Stack (lb/hr) ²	Total Limited PTE from 1 RTO Stack (tons/yr)	Limited PTE from 2 RTO Stacks (lbs/hr)	Limited PTE from 2 RTO Stacks (tons/yr)
12.5	54.75	25.0	109.50

VOC Emissions						
Emission Factor (lb/hr) ⁴	Uncontrolled Emissions from 1 RTO Stack (tons/yr)	Total Uncontrolled Emissions from 2 RTO Stacks (tons/yr)	RTO Control Efficiency	PTE After Control from 1 RTO Stack (lb/hr)	PTE After Controls from 1 RTO Stack (tons/yr)	Total Limited PTE from 2 RTO Stacks (tons/yr)
6.40	1401.60	2803.20	98%	6.40	28.03	56.06

CO Emissions			
Controlled Emissions from 1 RTO Stack (lb/hr) ³	Controlled Emissions from 1 RTO Stack (tons/yr)	Controlled Emissions from 2 RTO Stacks (lbs/hr)	Total Controlled Emissions from 2 RTO Stacks (tons/yr)
7.10	31.10	14.20	62.20

SO ₂ Emissions			
Emission Factor (lb/ton) ²	Uncontrolled PTE from 1 Stack (lb/hr)	Uncontrolled PTE from 1 Stack (tons/yr)	Limited PTE from 2 Stacks (tons/yr)
0.450	10.05	44.00	88.01

NO _x Emissions - Natural Gas Combustion & Thermal NO _x						
Firing Rate (90 MMBtu/hr Dryer Capacity + 18 MMBtu/hr each RTO)	Emission Factor (lb/MMBtu) ²	Limited PTE from 1 Stack (tons/yr)	Limited PTE from 2 Stacks (tons/yr)	Limited Emissions from 1 Stack (tons/yr)	Limited Emissions from 1 Stack (lb/hr)	Limited Emissions from 2 Stacks (tons/yr)
108	0.10	47.30	94.61	47.30	10.80	94.6
Dryers Natural Gas Usage Limit (MMCF/Year)			1577			
RTOs Natural gas Usage Limit (MMCF/Year)			315			
Dryer & RTO Natural Gas Usage Limit (MMCF/Year)			1892			

Notes:

- The emission factor for PM_{2.5} is assumed to be the same as PM and PM₁₀.
- Emission factors based on recommendations from equipment manufacturer.
- Emission factors based on on August 2011 stack test data from the source plus a 10% Safety Factor.
- VOC emissions based on the limit in SSM 129-36200-00051
Limited emission rates are based on test data plus a safety factor.

Ethanol distillation and evaporation emissions sources are ducted to regenerative thermal oxidizer (RTO) #1 or #2. RTO #1 is connected to exhaust gas stream from DDGS #1, and RTO #2 is connected to exhaust gas stream from DDGS #2.

The NO_x emissions are generated primarily by the natural gas combustion from the dryers and oxidizers.

There are 2 stacks, which represent 2 RTOs (C-6A and C-6B). Each RTO is controlling one DDGS dryer train (2 dryers), distillation and evaporation processes. There are a total of 4 DDGS dryers, each rated 45 MMBtu/hr..

The PM, NO_x and SO₂ are not controlled by the RTOs.

Methodology:

NO_x EF = 0.10 lb/MMBtu * 1000 MMBtu/MMCF = 100 lb/MMCF

Dryers natural gas throughput limit = 45 MMBtu/hr * 4 dryers * 8760 hrs/yr * 1 MMCF/1000 MMBtu = 1,577 MMCF/yr

RTOs natural gas throughput limit = 18 MMBtu/hr * 2 RTOs * 8760 hrs/yr * 1 MMCF/1000 MMBtu = 315 MMCF/yr

Uncontrolled Emissions (ton/yr) = EF (lb/ton) * DDGS dried (tons/yr) * ton/2000 lb

NO_x Emissions (tons/yr) = Firing Rate (MMBtu/hr) * EF (lb/MMBtu) * 8760 hrs/yr * ton/2000 lbs

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

DDGS Drying is controlled by the two (2) RTOs.

Appendix B: Emission Calculations
Estimated Potential Emissions from DDGS Cooling

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Emission Unit	VOC Emissions		Safety Factor	Emission Limit	PTE
	Emission Rate				
	(lb/hr)	(tons/yr)			
DDGS Cooling Drum	5.50	29.34	0%	5.50	24.09

Notes:

The DDGS Cooling Emission rate is a conservative estimate based on similar facilities and 2015 stack testing at the Valero Mt. Vernon Plant.

**Appendix B: Emission Calculations
Fermentation**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Maximum Throughput: 116.5 MMgal/year
13,302 gal/hour
Control Equipment: 1 Scrubber (C-5A) with 98% efficiency

Pollutant	Emission Factor* (lb/MMgal)	PTE After Control 1 Scrubber (tons/year)	PTE After Control 1 Scrubber (lbs/hr)	Control Efficiency*** (%)	PTE Before Controls 1 Scrubber (tons/year)	Safety Factor (%)	Limited Emission Rate	
							lb/hr	tpy
VOC**	618.7	36.05	8.23	98.0%	1802.37	0%	8.23	36.05
PM	15.0	0.88	0.20	95.0%	17.52	20%	0.24	1.05
PM ₁₀ /PM _{2.5}	15.0	0.88	0.20	95.0%	17.52	20%	0.24	1.05

Notes:

*Stack Testing was performed at the Mount Vernon, Indiana plant in 2011. This stack testing was used to confirm the VOC emission factor and to revise the PM/PM₁₀/PM_{2.5} emission factors used in the calculations. These emission factors were previously based on previous stack testing of a similar source.

**VOC lb/hr number based on the stack testing performed at the Mount Vernon plant in 2011.

***Control efficiency of 98% for emissions of VOC from the Scrubber required based on 326 IAC Article 8, Rule 5. Assumed control efficiency of 95% for emissions of PM/PM₁₀/PM_{2.5} from the Scrubber.

Methodology:

PTE After Control (tons/yr) = Throughput rate (MMgal/yr) * EF (lb/Mmgal) * 1 ton/2000 lbs

PTE Before Control (tons/yr) = PTE After Control (tons/yr) / (1-Control Efficiency)

Appendix B: Emission Calculations
Process HAPs from Fermentation, DDGS Dryers and DDGS Coolers

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Hazardous Air Pollutant (HAP)	CO ₂ Scrubber (lb/hr)	RTO #1 (lb/hr)	RTO #2 (lb/hr)	Cooling Drum (lb/hr)	TOTAL (lbs/hr)	Maximum Total Emissions (tons/yr)
Acetaldehyde	1.35	0.25	0.25	0.40	2.25	9.86
Acrolein	0.04	0.25	0.25	0.20	0.74	3.24
Formaldehyde	0.01	0.25	0.25	0.04	0.55	2.41
Methanol	0.01	0.25	0.25	0.04	0.55	2.41
TOTAL	1.41	1.00	1.00	0.68	4.09	17.91

Controlled Emissions (98%)					
HAP	CO ₂ Scrubber (ton/yr)	RTO #1 (ton/yr)	RTO #2 (ton/yr)	Cooling Drum (ton/yr)	TOTAL (ton/yr)
Acetaldehyde	5.91	1.10	1.10	1.75	9.86
Acrolein	0.18	1.10	1.10	0.88	3.24
Formaldehyde	0.04	1.10	1.10	0.18	2.41
Methanol	0.04	1.10	1.10	0.18	2.41
TOTAL	6.18	4.38	4.38	2.98	17.91

Uncontrolled Emissions					
HAP	CO ₂ Scrubber (ton/yr)	RTO #1 (ton/yr)	RTO #2 (ton/yr)	Cooling Drum (ton/yr)	TOTAL (ton/yr)
Acetaldehyde	295.65	54.75	54.75	1.75	492.75
Acrolein	8.76	54.75	54.75	0.88	162.06
Formaldehyde	2.19	54.75	54.75	0.18	120.45
Methanol	2.19	54.75	54.75	0.18	120.45
TOTAL	308.79	219.00	219.00	2.98	895.71

Note:

*Emission rates based on compliance emission testing performed at the Mount Vernon plant in 2015 and proposed emission limit reallocation to remain area source of HAP.

**Valero will be pumping sodium bisulfite into the CO₂ scrubber in order to reduce potential HAP emissions, primarily acetaldehyde.

***Cooling drum emission rates based on manufacturers specifications

Appendix B: Emission Calculations
Summary of Estimated Potential Air Pollutant Emission Rates - Utility Boilers (4 @ 92.4 MMBtu/hr each)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Emission Source	Max. Heat Input (MMBtu/ hr)	NO _x			SO ₂			VOC			PMPM ₁₀ /PM _{2.5}			CO		
		Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)	Emission Factor (lb/MMBtu) ⁽¹⁾	PTE (lb/hr)	PTE (tons/yr)
Proposed Utility Boiler #1	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Proposed Utility Boiler #2	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Proposed Utility Boiler #3	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Proposed Utility Boiler #4	92.4	0.03	2.77	12.14	5.88E-04	0.05	0.24	0.002	0.18	0.81	0.005	0.46	2.02	0.018	1.66	7.28
Total (tons/year)			48.57			0.95			3.24			8.09			29.14	

Calculation Method:
 92.4 MMBtu/hr heat input * 0.03 lbs NO_x/MMBtu = 2.772 lb/hr
 2.772 lbs/hr * 8760 hours/year * 1/2000 = 12.14136 tons/yr

Notes:

(1) Emission factors updated to reflect manufacturer's guarantee. Testing of CO and NO_x is required by the draft permit to demonstrate compliance with the CO and NO_x emission limits based on these guaranteed emission rates.

Appendix B: Emission Calculations
Summary of Estimated Potential VOC/HAP Emission Rates - Piping and Pumping Equipment (Potential Equipment Leaks)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

ESTIMATED REGULATED CRITERIA AIR POLLUTANT EMISSION RATE

	Emission Source	# of sources	Leak Rate (kg/hr/source)	VOC Emissions				
				Uncontrolled VOC		LDAR Control Percent (%)	Controlled VOC	
				(lb/hr)	(tpy)		(lb/hr)	(ton/yr)
Fermentation	Gas/Vapor Valves	0	0.00597	0	0	87%	0	0
	Light Liquid Valves	146	0.00403	1.30	5.68	84%	0.21	0.91
	Light Liquid Pumps	12	0.0199	0.53	2.31	69%	0.16	0.71
	Compressor Seals	0	0.228	0	0	75%	0	0
	Pressure Relief Valves	8	0.104	1.83	8.03	87%	0.24	1.04
	Sample Connections	0	0.015	0	0	87%	0	0
	Open-ended Lines	14	0.0017	0.05	0.23	84%	0.01	0.04
	Flanges (Connectors)	164	0.00183	0.66	2.90	84%	0.11	0.46
	TOTAL	878	--	9.42	19.15	--	1.54	6.73
Distillation	Gas/Vapor Valves	206	0.00597	2.71	11.88	87%	0.35	1.54
	Light Liquid Valves	0	0.00403	0	0	84%	0	0
	Light Liquid Pumps	9	0.0199	0.39	1.73	69%	0.12	0.54
	Compressor Seals	0	0.228	0	0	75%	0	0
	Pressure Relief Valves	1	0.104	0.23	1.00	87%	0.03	0.13
	Sample Connections	0	0.015	0	0	87%	0	0
	Open-ended Lines	70	0.0017	0.26	1.15	84%	0.04	0.18
	Flanges (Connectors)	115	0.00183	0.46	2.03	84%	0.07	0.33
Tank Farm	Gas/Vapor Valves	0	0.00597	0	0	87%	0	0
	Light Liquid Valves	53	0.00403	0.47	2.06	84%	0.08	0.33
	Light Liquid Pumps	5	0.0199	0.22	0.96	69%	0.07	0.30
	Compressor Seals	0	0.228	0	0	75%	0	0
	Pressure Relief Valves	0	0.104	0	0	87%	0	0
	Sample Connections	0	0.015	0	0	87%	0	0
	Open-ended Lines	14	0.0017	0.05	0.23	84%	0.01	0.04
	Flanges (Connectors)	61	0.00183	0.25	1.08	84%	0.04	0.17

Calculation Method:

Uncontrolled VOC (lb/hr) = No. of Emission Source x Leak Rate (kg/hr/source) x 2.2 lb/kg
 Uncontrolled VOC (ton/yr) = Uncontrolled VOC (lb/hr) x 8760 hr/yr / 2000 lb/ton
 Controlled VOC (lb/hr) = Uncontrolled VOC (lb/hr) x (1 - LDAR Control Percent (%))
 Controlled VOC (ton/yr) = Controlled VOC (lb/hr) x 8760 hr/yr / 2000 lb/ton

ESTIMATED REGULATED HAP EMISSION RATES

HAPS	Mass Fraction of VOC	Controlled HAP		Uncontrolled HAP	
		(lb/hr)	(tpy)	(tpy)	(lb/hr)
Acetaldehyde	2.00E-04	3.07E-04	1.35E-03	3.83E-03	8.74E-04
Benzene	2.50E-03	3.84E-03	1.68E-02	4.79E-02	1.09E-02
Carbon Disulfide	2.00E-05	3.07E-05	1.35E-04	3.83E-04	8.74E-05
Cumene	1.00E-03	1.54E-03	6.73E-03	1.91E-02	4.37E-03
Ethylbenzene	5.00E-05	7.68E-05	3.36E-04	9.57E-04	2.19E-04
n-Hexane	5.00E-02	7.68E-02	3.36E-01	9.57E-01	2.19E-01
Toluene	5.00E-03	7.68E-03	3.36E-02	9.57E-02	2.19E-02
Xylene	5.00E-04	7.68E-04	3.36E-03	9.57E-03	2.19E-03
Methanol	2.00E-04	3.07E-04	1.35E-03	3.83E-03	8.74E-04
HAP TOTAL		0.09	0.40	1.14	0.26

Notes:

LDAR = Leak Detection and Repair

Leak rates and VOC control from: Protocol for Leak Emission Rates EPA-453/R-95-017, November 1995.
 Except for valves and pumps, non-welded components and fittings treated as flanges for LDAR.

Calculation Method:

Controlled HAP (lb/hr) = Controlled VOC (lb/hr) x Mass Fraction of Emissions
 Controlled HAP (ton/yr) = Controlled HAP (lb/hr) x 8760 hr/yr / 2000 lb/ton
 Uncontrolled HAP (ton/yr) = Uncontrolled VOC (ton/yr) x Mass Fraction of Emissions
 Uncontrolled HAP (lb/hr) = Uncontrolled HAP (ton/yr) X 2000 lb/ton / 8760 hr/yr

Appendix B: Emission Calculations
Summary of Estimated Potential PM/PM₁₀/PM_{2.5} Emission Rates - Vehicle Traffic on Paved Roads (In Plant Only)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

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	Load Size	Material Loaded Per Year	Units	# Trucks	Miles/Trip	VMT - Total (miles)
Grain Receiving	25	1,252,731	tons	50,109	1.06	53,116
DDGS Haul Out	25	380,368	tons	15,215	1.06	16,128
Ethanol Haul Out	8000	118,652,000	gallons	14,832	1.06	15,721
Denaturant Delivery	8000	2,950,000	gallons	369	1.06	391
Corn Oil Shipping	6234	2,800,000	gallons	449	1.06	476
					1.06	85,832

Technical Support Information

Miles per trip includes truck traveling empty inside the facility and truck traveling full inside the facility.
 Vehicle Miles Traveled (VMT) equals total miles truck traveled within the facility empty and full combined.
 Separating corn oil reduces the weight of DDGS shipped, worst case analysis is shipping corn oil and reduced (relative to before SSM 129-36200-00051) tonnage of DDGS

Denaturant Throughput = 2.95 MMGal/yr
 Denatured Ethanol Throughput = 118.7 MMGal/yr
 Corn Throughput for Plant = 44.74 MMBushels/yr
 Grain Density = 56 lbs/bushel

Abbreviations
 PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particle Matter (<2.5 um)
 PTE = Potential to Emit

Average Vehicle Weight Per Trip = 27.0 tons/trip
 Average Miles Per Trip = 1.06 miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (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 =	27.0	27.0	27.0	tons = average vehicle weight (provided by source)
sL =	0.8	0.8	0.8	g/m ² = silt loading (provided by source)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

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, $E_f =$	0.259	0.052	0.0127	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.238	0.048	0.012	lb/mile

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)
Grain Receiving	6.88	1.38	0.34	6.31	1.26	0.31
DDGS Haul Out	2.09	0.42	0.10	1.92	0.38	0.09
Ethanol Haul Out	2.04	0.41	0.10	1.87	0.37	0.09
Denaturant Delivery	0.05	0.0101	0.0025	0.05	0.0093	0.0023
Corn Oil Shipping	0.06	0.0123	0.0030	0.06	0.0113	0.0028
	11.11	2.22	0.55	10.20	2.04	0.50

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]

**Appendix B: Emission Calculations
Tanks Emissions¹**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Source Description	Corrosion Inhibitor	Ethanol Day Tank	Ethanol Day Tank	Ethanol Day Tank	Denaturant ²	Denatured Ethanol ³	Total
Tank ID	TK007	TK001	TK002	TK003	TK004	TK005-TK006	
Material Stored	Corrosion Inhibitor	Ethanol	Ethanol	Ethanol	Denaturant	Ethanol + Denaturant	
VOC lbs/yr ⁴	24.03	400.94	400.94	400.94	2741.31	1143.92	5,112.08
VOC tons/yr	1.20E-02	0.20	0.20	0.20	1.37	0.57	2.56

Notes:

- One change proposed in SSM 129-36200-00051 is storing undenatured (200 proof) ethanol in Tanks 5 and 6 for denaturing at the loadout point. Because of the possibility of malfunctions in the blending skids, the source will retain the capability of storing denatured ethanol in Tanks 5 and 6. The denaturant has both a higher molecular weight and higher true vapor pressure than undenatured ethanol, therefore the denatured blend is a higher, worst case potential to emit using the TANKS calculation methodology.
- Denaturant Tank (TK004) emission estimates based on denaturant throughput of 5,816,205 gallons/year.
- Denatured Ethanol Tanks (TK005-TK006) emission estimates based on total denatured ethanol throughput of 122,141,250 gallons/year (61,070,625 gallons/year per tank).
- VOC emissions based upon utilizing the TANKS 4.09 program. The methodology is described in Chapter 7.1 of AP-42.

**Appendix B: Emission Calculations
Cooling Tower Specifications**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Emission Source	Circulation Rate (gal/hour)	TDS Content (average mg/l)	Drift Loss (%)	Operating Hours (hr/yr)
Cooling Tower	2,256,000	2000	0.0005	8760

Assumptions:

- Cooling Tower make up water contains 2000 mg/l total dissolved solids (TDS).
- Cooling tower will operate with 1 cycle of concentration (CC) and a circulating water flowrate (CW) of 2,256,000 gal/hour
- Cooling tower drift rate (DR) is 0.0005% of the circulating water flowrate (based on manufacturer's guarantee).
- Cooling tower operation is continuous, 24 hours per day, 365 days per year.

CALCULATION OF POTENTIAL PM/PM₁₀/PM_{2.5} EMISSIONS ASSOCIATED WITH THE PROPOSED COOLING TOWER

Circulating Water TDS = (CC) (TDS)	AP-42 Table 13.4-1, drift 0.02%
	0.019 lb PM10/1,000 gal circulating flow
Circulating Water TDS = $\frac{[(2000 \text{ mg/l}) (1.0\text{g}/1000 \text{ mg}) (3.785 \text{ L}/\text{gal})]}{(453.6 \text{ g}/\text{lb})}$	42.86 lb/hr
	187.74 tpy
Circulating Water TDS = 1.669E-02 lb/gal	CC=3. more reasonable for groundwater source
	5.01E-02 lb/gal
Drift = (DR) (CW) = (0.0005%) (2256000 gal/hr) (8760 hr/yr)	0.56 lb/hr, exceeds limit in D.6
Drift = 98,813 gal/year	4948.11 lb/yr
	2.47 tpy
Drift Particulate = (Drift) (Circulating Water TDS)	
Drift Particulate = (98812.8 gal/yr) (0.017 lb/gal) =	1,649 lb/yr

Drift PM/PM₁₀/PM_{2.5} Emission Rate =	1,649 lb/year	=	0.19 lb/hour	=	0.82 ton/yr
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Notes:

Based on manufacturer's guarantee of 0.0005% drift loss
 All PM is assumed to be PM₁₀/PM_{2.5}, therefore PM = PM₁₀/PM_{2.5}

CALCULATION OF POTENTIAL VOC EMISSIONS ASSOCIATED WITH THE PROPOSED COOLING TOWER

Emission Source	Circulation Rate (gal/hour)	VOC Emission Factor (lb/106 gal per hour)*	VOC (tpy)
Cooling Tower	2,256,000	0	0

*Cooling Tower will not use VOC/HAP-containing chemicals.

Appendix B: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)
Emergency Fire Pump

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Output Horsepower Rating (hp)	420.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	210,000

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	3.31E-04	3.31E-04	3.31E-04	1.07E-05	6.62E-03	0.0025	0.0067
Potential Emission in tons/yr	3.47E-02	3.47E-02	3.47E-02	1.13E-03	0.69	0.26	0.70

*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.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs***
	Benzene	Toluene	Xylenes	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
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
Potential Emission in tons/yr	6.86E-04	3.01E-04	2.09E-04	2.87E-05	8.67E-04	5.64E-04	6.80E-05	1.23E-04

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

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

Potential Emission of Total HAPs (tons/yr)	2.85E-03
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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, except as noted.

PM/PM10/PM2.5 emission factor is based on Table 4, 40 CFR 60, Subpart IIII, MY 2009 and later

$$0.15 \text{ g/HP-hr} \times 2.21\text{E-}03 \text{ lb/g} = 3.31\text{E-}04 \text{ lb/HP-hr}$$

NOx emission factor is based on Table 4, 40 CFR 60, Subpart IIII, MY 2009 and later

$$3 \text{ g/HP-hr} \times 2.21\text{E-}03 \text{ lb/g} = 6.62\text{E-}03 \text{ lb/HP-hr}$$

note: NSPS limit is NMHC + NOx, worst case is to consider as all NOx

SO2 emission factor is based on 40 CFR 60.4207(b):

$$0.000015 \text{ lb S/lb fuel} \times 2 \text{ lb SO2/lb S} \times 7.15 \text{ lb fuel/gal} / 140000 \text{ Btu/gal fuel} \times 7000 \text{ Btu/HP-hr} = 1.07\text{E-}05 \text{ lb/HP-hr}$$

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]

Appendix B: Emission Calculations
Ethanol Loadout Flare (C-9)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Denatured Ethanol Loading Rack Emissions - Truck/Railcar Loading

Volume Denatured Ethanol Loaded (gallons) = $Q = 122,141,250$ gal/yr
 122.1 MMgal/yr
 13,943 gal/yr

From AP-42¹: $L = 12.46 \text{ SPM} / (T+460)$ L = Loading loss in pound per 1000 gals. loaded
 $L = 7.264$ Truck Loading S = 1 Table 5.2-1, AP-42²
 P = 4.9619 psia⁻¹
 M = 62 lb/lb-mole
 T = 67.67 °F
 Eff = 98.00%

Load Out Type	Load Out (gal/yr)	Uncontrolled VOC Losses (lbs/yr)	Uncontrolled VOC Losses (tons/yr)	Control Efficiency	Controlled VOC Emission Rate (lbs/hr)	Controlled VOC Emission Rate (tons/yr)
Truck	122,141,250	887,273.9	443.64	98%	2.03	8.87

Notes:
 1. Loading loss from Eqn 1, Chapter 5.2, AP-42 (June 2008)
 2. Saturation factor, S, is the worst-case value for submerged loading.
 3. Physical properties are for RVP 10 gasoline. The worst case analysis assumes that tanks last contained gasoline (non-dedicated trucks or rails) so that all displaced vapors are saturated with gasoline rather than ethanol.
 VOC Emissions were tested on August 29, 2011. ACES ID # 139467

Methodology:

Uncontrolled VOC Losses, tons/yr = Load out, gal/yr x L, lbs/1000 gal x ton/2000 lb
 Controlled VOC Losses, tons/yr = Uncontrolled VOC losses, tons/yr x (1 - Eff (%))

Loadout Flare Emissions				lb/kgal	
Pollutant	Emission Factor (lb/gal)	Gallons Denatured Ethanol Loaded (gal/yr)	Emissions (tons/year)	Permit Limits	
NO _x	3.34E-05	122,141,250	2.04	0.033400	
CO	8.35E-05		5.10	0.083500	
PM	2.99E-07		0.018	0.000299	

Notes:
 Emission factors for NO_x and CO from manufacturer guarantee. PM emission factor similar to that of natural gas combustion.
 SO₂ emission are negligible based on minimal H₂S levels.

Methodology:

Emissions, tons/yr = Denatured ethanol loaded, gal/yr x EF, lb/gal x ton/2000 lbs

HAP Emission Calculation (Truck / Railcar / Barge Load Out)			
HAP Constituent	Percentage of Product	HAP Emissions (lbs/hr)	HAP Emissions (tons/year)
Benzene	0.31%	0.006	0.03
n-Hexane	1.29%	0.026	0.11
Ethylbenzene	0.03%	0.001	0.00
Methylcyclohexane	0.21%	0.004	0.02
Xylene	0.14%	0.003	0.01
Toluene	0.11%	0.002	0.01
TOTAL		0.04	0.19

Flares Pilot Emissions (Natural Gas Combustion)			
Pollutant	Heat Input Rate each flare (MMBtu/hr)	Emission Factor (lb/MMBtu)	Emissions (tons/year)
VOC	0.092	0.0055	2.22E-03
CO		0.084	3.38E-02
NO _x		0.1	4.03E-02
SO ₂		0.0006	2.42E-04
PM		0.0019	7.66E-04
PM10/PM2.5		0.0076	3.06E-03

Emission Factors from AP-42, Table 1.4; 1000 Btu/SCF
 PM/PM10/PM2.5 is negligible based on smokeless design.
 The 1 truck and 1 rail loadout are controlled by the flare.

Methodology:

Heat input, MMBtu/hr x EF, lb/MMBtu x ton/2000 lbs

Note: After permit modification, Valero will have the option to loadout denatured and undenatured ethanol. Denatured ethanol presents worst case emissions.

**Appendix B: Emission Calculations
Wetcake Storage**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Air Pollutant	VOC Emission Factor (lbs/ton Wetcake)*	Tons/Hour Wetcake	Emission Estimates	
			lbs/hr	tons/year
VOC	8.33E-03	129.66	1.080	4.73

HAP	Emission Factor (lbs/ton Wetcake)**	Tons/Hour Wetcake	Emission Estimates	
			lbs/hr	tons/year
Acetaldehyde	5.56E-05	129.66	0.007	0.03
Acrolein	8.33E-06		0.001	4.73E-03
Formaldehyde	3.30E-04		0.043	0.19
Methanol	6.94E-05		0.009	0.04

Notes:

* Emission factor based on testing at an existing wetcake storage building in Minnesota. Adjusted to reflect Midwest Scaling Factor.

** Emission factor based on testing at wetcake storage building at the DENCO, LLC facility in Morris, Minnesota.

The Distillers Grains and Solubles (DGS) is either being dried (DDGS) or is not (Wet Distillers Grains Solubles). The worse case between the two operations (DDGS) will be considered in the PTE calculations.

Appendix B: Emission Calculations
Summary of Estimated HAP Potential Emission Rates - Natural Gas Combustion
(Flare, Thermal Oxidizers and Package Boilers)

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

POLLUTANT	Emission Factor (lb/mmscf)	Uncontrolled Emissions							
		Flare (lbs/hr)	Flare (tons/year)	DDGS Dryers & RTOs (lbs/hr)		Boilers (lbs/hr)		Total (lbs/hr)	
Formaldehyde	7.50E-02	6.8E-06	3.0E-05	1.6E-02	7.0E-02	2.7E-02	1.2E-01	4.3E-02	1.9E-01
2-Methylnaphthalene	2.40E-05	2.2E-09	9.5E-09	5.1E-06	2.2E-05	8.7E-06	3.8E-05	1.4E-05	6.0E-05
3-Methylchloranthrene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
7,12-Dimethylbenz(a)anthracene	1.60E-05	1.4E-09	6.3E-09	3.4E-06	1.5E-05	5.8E-06	2.5E-05	9.2E-06	4.0E-05
Acenaphthene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Acenaphthylene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Anthracene	2.40E-06	2.2E-10	9.5E-10	5.1E-07	2.2E-06	8.7E-07	3.8E-06	1.4E-06	6.0E-06
Arsenic	2.00E-04	1.8E-08	7.9E-08	4.2E-05	1.9E-04	7.2E-05	3.2E-04	1.1E-04	5.0E-04
Benz(a)anthracene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Benz(a)pyrene	1.20E-06	1.1E-10	4.7E-10	2.5E-07	1.1E-06	4.3E-07	1.9E-06	6.9E-07	3.0E-06
Benzene	2.10E-03	1.9E-07	8.3E-07	4.4E-04	1.9E-03	7.6E-04	3.3E-03	1.2E-03	5.3E-03
Benzo(b)fluoranthene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Benzo(g,h,i)perylene	1.20E-06	1.1E-10	4.7E-10	2.5E-07	1.1E-06	4.3E-07	1.9E-06	6.9E-07	3.0E-06
Benzo(k)fluoranthene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Beryllium	1.20E-05	1.1E-09	4.7E-09	2.5E-06	1.1E-05	4.3E-06	1.9E-05	6.9E-06	3.0E-05
Cadmium	1.10E-03	9.9E-08	4.3E-07	2.3E-04	1.0E-03	4.0E-04	1.7E-03	6.3E-04	2.8E-03
Chromium	1.40E-03	1.3E-07	5.5E-07	3.0E-04	1.3E-03	5.1E-04	2.2E-03	8.0E-04	3.5E-03
Chrysene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Cobalt	8.40E-05	7.6E-09	3.3E-08	1.8E-05	7.8E-05	3.0E-05	1.3E-04	4.8E-05	2.1E-04
Dibenzo(a,h)anthracene	1.20E-06	1.1E-10	4.7E-10	2.5E-07	1.1E-06	4.3E-07	1.9E-06	6.9E-07	3.0E-06
Dichlorobenzene	1.20E-03	1.1E-07	4.7E-07	2.5E-04	1.1E-03	4.3E-04	1.9E-03	6.9E-04	3.0E-03
Fluoranthene	3.00E-06	2.7E-10	1.2E-09	6.4E-07	2.8E-06	1.1E-06	4.8E-06	1.7E-06	7.5E-06
Fluorene	2.80E-06	2.5E-10	1.1E-09	5.9E-07	2.6E-06	1.0E-06	4.4E-06	1.6E-06	7.0E-06
Hexane	1.8	1.6E-04	7.1E-04	0.38	1.67	0.65	2.86	1.03	4.53
Indeno(1,2,3-cd)pyrene	1.80E-06	1.6E-10	7.1E-10	3.8E-07	1.7E-06	6.5E-07	2.9E-06	1.0E-06	4.5E-06
Manganese	3.80E-04	3.4E-08	1.5E-07	8.0E-05	3.5E-04	1.4E-04	6.0E-04	2.2E-04	9.6E-04
Mercury	2.60E-04	2.3E-08	1.0E-07	5.5E-05	2.4E-04	9.4E-05	4.1E-04	1.5E-04	6.5E-04
Naphthalene	6.10E-04	5.5E-08	2.4E-07	1.3E-04	5.7E-04	2.2E-04	9.7E-04	3.5E-04	1.5E-03
Nickel	2.10E-03	1.9E-07	8.3E-07	4.4E-04	1.9E-03	7.6E-04	3.3E-03	1.2E-03	5.3E-03
Phenanthrene	1.70E-05	1.5E-09	6.7E-09	3.6E-06	1.6E-05	6.2E-06	2.7E-05	9.8E-06	4.3E-05
Pyrene	5.00E-06	4.5E-10	2.0E-09	1.1E-06	4.6E-06	1.8E-06	7.9E-06	2.9E-06	1.3E-05
Selenium	2.40E-05	2.2E-09	9.5E-09	5.1E-06	2.2E-05	8.7E-06	3.8E-05	1.4E-05	6.0E-05
Toluene	3.40E-03	3.1E-07	1.3E-06	7.2E-04	3.2E-03	1.2E-03	5.4E-03	2.0E-03	8.6E-03
			7.46E-04		1.75		3.00		4.75

Equipment	Stack Totals		
	Heat Input (MMBtu/hr)	Heat Input (MMBtu/hr)	Fuel Throughput (MMCF/yr)
Flare	0.092	0.092	0.79
Thermal Oxidizers #1 and #2	36	216	1,855
DDGS Dryers A - D	180		
Utility Boiler #1	92.4		
Utility Boiler #2	92.4		
Utility Boiler #3	92.4		
Utility Boiler #4	92.4	369.6	3,174
TOTAL	585.692	585.692	5,030

Notes:

Emission Factors are from AP-42 Nat. Gas Comb. (7/98), Table 1.4-3

Appendix B: Emission Calculations
Summary of Estimated Potential HAP Emission Rates Associated with the Ethanol Production Plant

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

HAZARDOUS AIR POLLUTANT	NATURAL GAS COMBUSTION* (ton/yr)	FERMENTATION, DDGS DRYING, DDGS COOLING (ton/yr)	ETHANOL LOADOUT (ton/yr)	FIRE PUMP (ton/yr)	WET CAKE STORAGE (ton/yr)	LEAKS (ton/yr)	TOTAL HAPS (ton/yr)
1,3-Butadiene				2.87E-05			2.87E-05
2-Methylnaphthalene	6.04E-05						6.04E-05
3-Methylchloranthrene	4.53E-06						4.53E-06
7,12-Dimethylbenz(a)anthracene	4.02E-05						4.02E-05
Acenaphthene	4.53E-06						4.53E-06
Acenaphthylene	4.53E-06						4.53E-06
Acetaldehyde		9.86		5.64E-04	3.16E-02	3.83E-03	9.89
Acrolein		3.24		6.80E-05	4.73E-03		3.25
Anthracene	6.04E-06						6.04E-06
Arsenic	5.03E-04						5.03E-04
Benz(a)anthracene	4.53E-06						4.53E-06
Benz(a)pyrene	3.02E-06						3.02E-06
Benzene	5.28E-03		2.75E-02	6.86E-04		4.79E-02	8.13E-02
Benzo(b)fluoranthene	4.53E-06						4.53E-06
Benzo(g,h,i)perylene	3.02E-06						3.02E-06
Benzo(k)fluoranthene	4.53E-06						4.53E-06
Beryllium	3.02E-05						3.02E-05
Cadmium	2.77E-03						2.77E-03
Chromium	3.52E-03						3.52E-03
Chrysene	4.53E-06						4.53E-06
Cobalt	2.11E-04						2.11E-04
Dibenzo(a,h)anthracene	3.02E-06						3.02E-06
Dichlorobenzene	3.02E-03						3.02E-03
Ethylbenzene			2.57E-03			9.57E-04	3.53E-03
Fluoranthene	7.55E-06						7.55E-06
Fluorene	7.04E-06						7.04E-06
Formaldehyde	0.19	2.41		8.67E-04	0.19		2.79
Hexane	4.53		0.11			9.57E-01	5.60
Indeno(1,2,3-cd)pyrene	4.53E-06						4.53E-06
Manganese	9.56E-04						9.56E-04
Mercury	6.54E-04						6.54E-04
Methanol		2.41			3.94E-02	3.83E-03	2.45
Naphthalene	1.53E-03						1.53E-03
Nickel	5.28E-03						5.28E-03
Phenanathrene	4.28E-05						4.28E-05
Pyrene	1.26E-05						1.26E-05
Selenium	6.04E-05						6.04E-05
Total PAH				1.23E-04			1.23E-04
Toluene	0.01		9.76E-03	3.01E-04		9.57E-02	0.11
Xylenes			1.24E-02	2.09E-04		9.57E-03	2.22E-02
	4.75	17.91	0.17	2.85E-03	0.26	1.14	

Note:

*Natural gas combustion HAPS includes thermal oxidizers, utility boilers and dryers.

Total (TPY)=**24.21**

Appendix B: Emission Calculations
Particulate Matter Emissions - Process Weight Rule

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Address City IN Zip: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

326 IAC 6-3-2 Particulate Emission Rate Limitations

PM Control Device	Stack/ Vent	Unit ID	Process	Process Weight, P		P ≤ 60,000 lb/hr	P > 60,000 lb/hr
				each unit	each unit	E = 4.10 P ^{0.67}	E = 55 P ^{0.11} - 40
				P (lb/hr)	P (ton/hr)	E (lb/hr)	E (lb/hr)
Baghouse C-1A	S-1A	EP-01a	Grain Receiving truck dump pit (conveyors & elevators)	1,120,000	560.0	-	70.32
		EP-01b	Grain Receiving rail dump pit (conveyor & elevator)				
Baghouse C-1C	S-1C	EP-01c	Grain Receiving truck dump pit (conveyors & elevators)	1,120,000	560.00	-	70.32
n/a	n/a	EP-02a	Corn Storage Silo	1,120,000	560.00	-	70.32
n/a	n/a	EP-02b	Corn Storage Silo	1,120,000	560.00	-	70.32
n/a	n/a	EP-02c	Corn Storage Silo	1,120,000	560.00	-	70.32
n/a	n/a	EP-02d	Corn Storage Silo	1,120,000	560.00	-	70.32
Baghouse C-1B	S-1B	EP-03a	Grain Scalper	392,000	196.00	-	58.29
Baghouse C-1B	S-1B	EP-03b	Surge Bin	700,000	350.00	-	64.76
Baghouse C-2A	S-2A	EP-05	Hammermill	84,000	47.60	-	44.12
Baghouse C-2B	S-2B	EP-06	Hammermill	84,000	47.60	-	44.12
Baghouse C-2C	S-2C	EP-07	Hammermill	84,000	47.60	-	44.12
Baghouse C-2D	S-2D	EP-08	Hammermill	84,000	47.60	-	44.12
Baghouse C-8	S-8	EP-09	Enclosed DDGS Conveyor (DDGS Storage BLDG)	89,303	44.65	-	43.53
n/a	n/a	EP-10	DDGS Truck Loadout	450,000	225.00	-	59.79
n/a	n/a	EP-11	DDGS Rail Loadout	450,000	225.00	-	59.79
n/a	S-6A	EP-30	Dryer A	37,740	18.87	29.35	-
n/a	S-6B	EP-31	Dryer B				-
n/a	S-6C	EP-32	Dryer C			29.35	-
n/a	S-6D	EP-33	Dryer D				-
Baghouse C-7C	S-7C	Cooler	DDGS Cooling Drum	75,420	37.71	-	41.99

For P ≤ 60,000 lb/hr

$$E = 4.10 P^{0.67}$$

where: E = Rate of emission in pounds per hour.
P = Process weight rate in tons per hour.

For P > 60,000 lb/hr

$$E = 55 P^{0.11} - 40$$

where: E = Rate of emission in pounds per hour.
P = Process weight rate in tons per hour.

Notes:

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

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

**Appendix B: Emission Calculations
Compliance Assurance Monitoring (CAM) Applicability
to New Emissions Units in this Modification**

Company Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Source Address: 7201 Port Road, Mount Vernon, Indiana, 47620
Significant Source Modification No.: 129-36200-00051
Significant Permit Modification No.: 129-36213-00051
Permit Reviewer: Doug Logan
Date: 11/30/2015

Process/ Emission Units	Pollutant	Control Device	Emission Limitation (Applicable Rule)	Control Device necessary to comply with limit?	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable		Large Unit
EP-01c	PM	BH C-1C	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-01c	PM	BH C-1C	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-01c	PM10	BH C-1C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-01c	PM2.5	BH C-1C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-34	PM	BH C-7C	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-34	PM	BH C-7C	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-34	PM10	BH C-7C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-34	PM2.5	BH C-7C	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	PM	RTO C-6A	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-30/EP-31	PM	RTO C-6A	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-30/EP-31	PM10	RTO C-6A	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	PM2.5	RTO C-6A	326 IAC 2-2	Yes	>100	<100	Y		N
EP-30/EP-31	VOC	RTO C-6A	326 IAC 2-2 326 IAC 8-5-6	Yes	>100	<100	Y		N
EP-30/EP-31	Single HAPs	RTO C-6A	326 IAC 2-7	Yes	>10	<10	Y		N
EP-30/EP-31	Total HAPs	RTO C-6A	326 IAC 2-7	Yes	>25	<25	Y		N
EP-32/EP-32	PM	RTO C-6B	326 IAC 2-2	Yes	>100	<100	N	1	N
EP-32/EP-32	PM	RTO C-6B	326 IAC 6-3-2	Yes	>100	<100	Y	2	N
EP-32/EP-32	PM10	RTO C-6B	326 IAC 2-2	Yes	>100	<100	Y		N
EP-32/EP-32	PM2.5	RTO C-6B	326 IAC 2-2	Yes	>100	<100	Y		N
EP-32/EP-32	VOC	RTO C-6B	326 IAC 2-2 326 IAC 8-5-6	Yes	>100	<100	Y		N
EP-32/EP-32	Single HAPs	RTO C-6B	326 IAC 2-7	Yes	>10	<10	Y		N
EP-32/EP-32	Total HAPs	RTO C-6B	326 IAC 2-7	Yes	>25	<25	Y		N

Notes:

Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Where the 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 this rule PM is limited as a surrogate for a Part 70 regulated pollutant, PM10. The uncontrolled PTE and controlled PTE reflect the emissions of the PM10.

Controls: BH = Baghouse, C = Cyclone, DC = Dust Collection System, RTO = Regenerative or Recuperative Thermal Oxidizer, WS = Wet Scrubber

1. PM is not a regulated pollutant.

PM* : PM is limited as a surrogate for a Part 70 regulated pollutant, PM10. The uncontrolled PTE and controlled PTE reflect the emissions of the PM10.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

December 4, 2015

Mr. Jon Kapellusch
Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
7201 Port Road
Mount Vernon, IN 47620

Re: Public Notice

Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
Permit Level: Title V - Significant Source Modification & Title V - Significant Permit Modification
Permit Number: 129 - 36200 - 00051 & 129 - 36213 - 00051

Dear Mr. Kapellusch:

Enclosed is a copy of your draft Title V - Significant Source Modification & Title V - 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 Mount Vernon Democrat in Mount Vernon, Indiana publish the abbreviated version of the public notice no later than December 9, 2015. 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 Alexandrian Public Library, 115 West 5th in Mt. Vernon IN. 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 Douglas Logan, 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 4-5328 or dial (317) 234-5328.

Sincerely,
Len Pogost

Len Pogost
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 8/27/2015



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ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

December 3, 2015

Mount Vernon Democrat
Attn: Classifieds
P.O. Box 767
Mount Vernon, Indiana 47620

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant, Posey 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 December 9, 2015.

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 Len Pogost at 800-451-6027 and ask for extension 3-2803 or dial 317-233-2803.

Sincerely,

Len Pogost

Len Pogost
Permit Branch
Office of Air Quality

Permit Level: Title V - Significant Source Modification & Title V - Significant Permit Modification
Permit Number: 129 - 36200 - 00051 & 129 - 36213 - 00051

Enclosure
PN Newspaper.dot 6/13/2013



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December 4, 2015

To: Alexandrian Public Library 115 West 5th Mt. Vernon IN

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

**Applicant Name: Valero Renewable Fuels Company, LLC d/b/a Valero
Mount Vernon Plant
Permit Number: 129 - 36200 - 00051 & 129 - 36213 - 00051**

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 8/27/2015



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Commissioner

Notice of Public Comment

December 4, 2015

**Valero Renewable Fuels Company, LLC d/b/a Valero Mount Vernon Plant
129 - 36200 - 00051 & 129 - 36213 - 00051**

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 8/27/2015



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD DRAFT INDIANA AIR PERMIT

December 4, 2015

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

Permit Number: 129 - 36200 - 00051 & 129 - 36213 - 00051
Applicant Name: Valero Renewable Fuels Company, LLC d/b/a Valero Mount
Vernon Plant
Location: Mount Vernon, Posey County, Indiana

The public notice, draft permit and technical support documents can be accessed via
the **IDEM Air Permits Online** site at:

<http://www.in.gov/ai/appfiles/idem-caats/>

Questions or comments on this draft permit should be directed to the person identified
in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from
the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or
(317) 233-2414.

Affected States Notification.dot 8/27/2015

Mail Code 61-53

IDEM Staff	LPOGOST 12/4/2015 Valero Renewable Fuels Co LLC 129 - 36200 - 00051 & 129 - 36213 - 00051 draft		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	 Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

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1		Jon Kapellusch Valero Renewable Fuels Co LLC dba Valero Mt Vernon 7201 Port Road Mount Vernon IN 47620 (Source CAATS)										
2		Travi De Fries Plant Manager Valero Renewable Fuels Co LLC dba Valero Mt Vernon 7201 Port Road Mount Vernon IN 47620 (RO CAATS)										
3		Posey County Commissioners County Courthouse, 126 E. 3rd Street Mount Vernon IN 47620 (Local Official)										
4		Posey County Health Department 126 E. 3rd St, Coliseum Bldg Mount Vernon IN 47620-1811 (Health Department)										
5		Mount Vernon City Council and Mayors Office 520 Main Street Mount Vernon IN 47620 (Local Official)										
6		Dr. Jeff Seyler Univ. of So Ind., 8600 Univ. Blvd. Evansville IN 47712 (Affected Party)										
7		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 (Affected Party)										
8		Alexandrian Public Library 115 West 5th Mt. Vernon IN 47620 (Library)										
9		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 (Affected Party)										
10		Mrs. Connie Parkinson 510 Western Hills Dr. Mt. Vernon IN 47620 (Affected Party)										
11		Robert Hess c/o Mellon Corporation 830 Post Road East, Suite 105 Westport CT 06880 (Affected Party)										
12		Juanita Burton 7911 W. Franklin Road Evansville IN 47712 (Affected Party)										
13		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 (Affected Party)										
14		John Blair 800 Adams Ave Evansville IN 47713 (Affected Party)										
15												

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