INTERMEDIATE STATE PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Intermediate Operating Permit Number: OP2017-080  
Expiration Date: NOV 16 2022  
Installation ID: 121-0028  
Project Number: 2010-05-083

Installation Name and Address  
POET Biorefining – Macon, LLC  
30211 Major Avenue  
Macon, MO 63552  
Macon County

Installation Description:  
POET Biorefining – Macon, LLC operates a 55,000,000 gallon per year fuel-grade ethanol production plant. The installation is a synthetic minor source of NOx.

Effective Date

Prepared by:  
Alana L. Hess  
Operating Permit Unit

Director of Designee  
Department of Natural Resources  

NOV 16 2017  
Effective Date
# Table of Contents

I. INSTALLATION EQUIPMENT LISTING ................................................................. 4

II. PLANT WIDE EMISSION LIMITATIONS ............................................................ 7

   PERMIT CONDITION PW001 ............................................................................. 7
   10 CSR 10-6.060 Construction Permits Required ........................................... 7
   Construction Permit 042017-011, Issued April 25, 2017 ............................. 7

   PERMIT CONDITION PW002 ............................................................................. 8
   10 CSR 10-6.060 Construction Permits Required ........................................... 8
   Construction Permit 042017-011, Issued April 25, 2017 ............................. 8

III. EMISSION UNIT SPECIFIC EMISSION LIMITATIONS .................................. 10

   PERMIT CONDITION 001 .............................................................................. 10
   10 CSR 10-6.060 Construction Permits Required ........................................... 10
   Construction Permit 102012-011, Issued October 23, 2012 ................. 10

   PERMIT CONDITION 002 .............................................................................. 11
   10 CSR 10-6.060 Construction Permits Required ........................................... 11
   Construction Permit 042017-011, Issued April 25, 2017 ............................. 11
   Construction Permit 052016-005, Issued May 24, 2016 ......................... 11

   PERMIT CONDITION 003 .............................................................................. 14
   10 CSR 10-6.060 Construction Permits Required ........................................... 14
   Construction Permit 032003-008C, Issued November 14, 2011 ............ 14

   PERMIT CONDITION 004 .............................................................................. 15
   10 CSR 10-6.060 Construction Permits Required ........................................... 15
   Construction Permit 032003-008C, Issued November 14, 2011 ............ 15

   PERMIT CONDITION 005 .............................................................................. 16
   10 CSR 10-6.060 Construction Permits Required ........................................... 16
   Construction Permit 042017-011, Issued April 25, 2017 ............................. 16

   PERMIT CONDITION 006 .............................................................................. 18
   10 CSR 10-6.060 Construction Permits Required ........................................... 18
   Construction Permit 032003-008C, Issued November 14, 2011 ............ 18

   PERMIT CONDITION 007 .............................................................................. 19
   10 CSR 10-6.060 Construction Permits Required ........................................... 19
   Construction Permit 032003-008C, Issued November 14, 2011 ............ 19

   PERMIT CONDITION 008 .............................................................................. 19
   10 CSR 10-6.060 Construction Permits Required ........................................... 19
   Construction Permit 032003-008C, Issued November 14, 2011 ............ 19

   PERMIT CONDITION 009 .............................................................................. 20
   10 CSR 10-6.060 Construction Permits Required ........................................... 20
   Construction Permit 032003-008C, Issued November 14, 2011 ............ 20

   PERMIT CONDITION 010 .............................................................................. 21
   10 CSR 10-6.060 Construction Permits Required ........................................... 21
   Construction Permit 102007-014, Issued October 24, 2007 .................... 21

   PERMIT CONDITION 011 .............................................................................. 22
   10 CSR 10-6.070 New Source Performance Regulations ............................. 22
   40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industri... 22
   40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industri... 22
   40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industri... 22
   40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industri... 22

   PERMIT CONDITION 012 .............................................................................. 22
   10 CSR 10-6.070 New Source Performance Regulations .................................. 22
   40 CFR Part 60, Subpart VVa – Standards of Performance for Equipment Leaks for VOC in the Synthetic Organic Chemicals Man... 22

   PERMIT CONDITION 013 .............................................................................. 26
   10 CSR 10-6.070 New Source Performance Regulations .................................. 26
   40 CFR Part 60, Subpart VVa – Standards of Performance for Equipment Leaks for VOC in the Synthetic Organic Chemicals Man... 26

   PERMIT CONDITION 014 .............................................................................. 36
IV. Core Permit Requirements .................................................................................................................. 47
V. General Permit Requirements ............................................................................................................. 53
VI. Attachments ........................................................................................................................................ 57

ATTACHMENT A ....................................................................................................................................... 58
NOx Tracking Sheet.................................................................................................................................. 58
ATTACHMENT B1 ..................................................................................................................................... 59
Daily Material Tracking Sheet..................................................................................................................... 59
ATTACHMENT B2 ..................................................................................................................................... 60
12-Month Rolling Total Material Tracking Sheet......................................................................................... 60
ATTACHMENT C ....................................................................................................................................... 61
Bypass Tracking Sheet................................................................................................................................. 61
ATTACHMENT D ....................................................................................................................................... 62
DDGS Shipment Haul Road Tracking Sheet.................................................................................................. 62
ATTACHMENT E ....................................................................................................................................... 63
Cooling Tower TDS Concentration Tracking Sheet...................................................................................... 63
ATTACHMENT F ....................................................................................................................................... 64
Method 22 Visible Emission Observations................................................................................................. 64
ATTACHMENT G ....................................................................................................................................... 65
Method 9 Opacity Emissions Observations.................................................................................................. 65
ATTACHMENT H ....................................................................................................................................... 66
Inspection/Maintenance/Repair/Malfunction Log......................................................................................... 66
ATTACHMENT I ....................................................................................................................................... 67
10 CSR 10-6.170 Fugitive Emission Observations....................................................................................... 67
## I. Installation Equipment Listing

### EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation which emits air pollutants and identified as having unit-specific emission limitations. These emission sources are also subject to plant wide emissions limitations.

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
<th>Applicable Requirement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-01</td>
<td>Corn Receiving #1, Corn Transfer, Corn Storage: (1) 40,480 bushel bin, (2) 169,769 bushel bins, and (4) 515,576 bushel bins, (3) Corn Conveyors, 490 tph grain Corn Scalper and 13,520 bushel Surge Bin, 90 tph grain Control Equipment: Baghouse (C001)</td>
<td>Construction Permits 042017-011 and 032003-008C, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-04</td>
<td>Fermentation Process: (11) 270,000 gallon Fermentation Tanks and (1) 394,000 gallon Beer Well, 38,000 gph beer Control Equipment: Fermentation Scrubber (C003) and RTO (C005), 18 MMBtu/hr</td>
<td>Construction Permits 042017-011, 052016-005, and 032003-008C</td>
</tr>
<tr>
<td>EP-05</td>
<td>Distillation Process: Evaporator, Side Stripper, Beer Stripper, Rectifier, Surge Tank Side Stripper, Product Rundown Tank, and (6) Molecular Sieves, 38,000 gph beer Control Equipment: Distillation Scrubber (C004) and RTO (C005), 18 MMBtu/hr</td>
<td>Construction Permits 042017-011, 052016-005, 032003-008C</td>
</tr>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
<td>Construction Permits 042017-011, 052016-005, 032003-008C, 10 CSR 10-6.220, 10 CSR 10-6.400</td>
</tr>
<tr>
<td>EP-08</td>
<td>Boiler #1, 60.5 MMBtu/hr natural gas</td>
<td>NSPS Dc, Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-09</td>
<td>Grain Dryer, 31 MMBtu/hr natural gas, 7.61 tph grain</td>
<td>10 CSR 10-6.220, 10 CSR 10-6.400</td>
</tr>
<tr>
<td>EP-11</td>
<td>67,000 gallon 190-Proof Ethanol Internal Floating Roof Tank</td>
<td>NSPS Kb, Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-12</td>
<td>49,000 gallon Denaturant Internal Floating Roof Tank</td>
<td>NSPS Kb</td>
</tr>
<tr>
<td>EP-14</td>
<td>180,000 gallon 200-Proof Ethanol Internal Floating Roof Tank</td>
<td>NSPS Kb, Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-15</td>
<td>180,000 gallon 200-Proof Ethanol Internal Floating Roof Tank</td>
<td>NSPS Kb, Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-18</td>
<td>Ethanol Loadout with Inline Denaturant Blending Control Equipment: Flare (C019), 0.567 MMBtu/hr</td>
<td>Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler, 38,000 gph beer, 22.83 tph DDGS</td>
<td>Construction Permits 042017-011 and 032003-008C, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>Emission Source</td>
<td>Description</td>
<td>Applicable Requirement(s)</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>EP-30</td>
<td>Boiler #2, 72.6 MMBtu/hr natural gas</td>
<td>NSPS Dc, Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-31</td>
<td>Flare (C019), 0.567 MMBtu/hr</td>
<td>Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-32</td>
<td>1,000,000 gallon 200-Proof Ethanol Internal Floating Roof Tank</td>
<td>NSPS Kb, Construction Permit 042017-011</td>
</tr>
<tr>
<td>EP-34</td>
<td>Hammermill #1, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C013)</td>
<td>Construction Permits 032003-008C and 102007-014, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-35</td>
<td>Hammermill #2, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C014)</td>
<td>Construction Permits 032003-008C and 102007-014, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-36</td>
<td>Hammermill #3, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C015)</td>
<td>Construction Permits 032003-008C and 102007-014, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-37</td>
<td>Hammermill #4, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C016)</td>
<td>Construction Permit 102012-011, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-38</td>
<td>Corn Receiving #2 and Corn Convey or, 560 tph grain Control Equipment: Baghouse (C022)</td>
<td>Construction Permit 042017-011, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-39</td>
<td>Grain Loadout Convey or, 420 tph Control Equipment: 430 dscfm Baghouse (C023)</td>
<td>Construction Permit 042017-011, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-40</td>
<td>Grain Loadout Spout, 420 tph Control Equipment: 1,800 dscfm Baghouse (C024)</td>
<td>Construction Permit 042017-011, 10 CSR 10-6.220</td>
</tr>
<tr>
<td>EP-41</td>
<td>250 gallon Gasoline Vertical Fixed Roof Tank</td>
<td>MACT CCCCCCC</td>
</tr>
<tr>
<td>FS002</td>
<td>Equipment leaks</td>
<td>NSPS VVa, Construction Permit 042017-011</td>
</tr>
<tr>
<td>FS003</td>
<td>Cooling Tower, 18,500 gpm</td>
<td>Construction Permit 032003-008C</td>
</tr>
<tr>
<td>EP-17A</td>
<td>DDGS Shipment Haul Road, 0.25 miles paved and 0.05 miles unpaved</td>
<td>Construction Permits 042017-011 and 032003-008C</td>
</tr>
<tr>
<td>EP-17B</td>
<td>Grain Delivery Haul Road, 0.4 miles paved and 0.15 miles unpaved Grain Shipment Haul Road, 0.4 miles paved and 0.15 miles unpaved Denatured Ethanol Shipment Haul Road, 0.2 miles paved Chemicals (Enzymes, Urea, Acids, and Caustic) Delivery Haul Road, 0.2 miles paved and 0.15 miles unpaved Wetcake Shipment Haul Road, 0.25 miles paved Syrup Shipment Haul Road, 0.25 miles paved Corn Oil Shipment Haul Road, 0.25 miles paved</td>
<td>Construction Permit 042017-011</td>
</tr>
<tr>
<td>Emission Source</td>
<td>Description</td>
<td>Applicable Requirement(s)</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>paved and 0.15 miles unpaved Denaturant Delivery Haul Road, 0.2 miles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>paved and 0.15 miles unpaved CO2 Shipment Haul Road, 0.35 miles paved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and 0.05 miles unpaved</td>
<td></td>
</tr>
<tr>
<td>FS005</td>
<td>Tank Farm Equipment Fugitives&lt;sup&gt;9&lt;/sup&gt;</td>
<td>NSPS VVa, Construction Permit 042017-011</td>
</tr>
</tbody>
</table>

### EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS

The following list provides a description of the equipment, which does not have unit specific limitations at the time of permit issuance. These emission sources are also subject to plant wide emissions limitations.

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-13</td>
<td>18,000 gallon Denaturant Internal Floating Roof Tank</td>
</tr>
<tr>
<td>EP-33</td>
<td>1,000 gallon Corrosion Inhibitor Horizontal Fixed Roof Tank</td>
</tr>
<tr>
<td>FS006</td>
<td>Wet Cake Production, 60 tph wet cake</td>
</tr>
<tr>
<td>FS007</td>
<td>Grain Loadout Fugitives associated with EP-40</td>
</tr>
</tbody>
</table>
II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the CFR and CSR for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance. The plant wide conditions apply to all emission units at this installation. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Limitations.

PERMIT CONDITION PW001
10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017

Emission Limitation:
Special Condition 2.A: The permittee shall emit less than 92.74 tons of NOx in any consecutive 12-month rolling total period from the entire installation.

Monitoring/Recordkeeping:
1. Special Condition 2.B: The permittee shall maintain records of monthly and 12-monthly rolling total NOx emissions from the entire installation using Attachment A or an equivalent form.
2. Special Condition 10.A: The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include SDS for all materials used.

Performance Testing:
1. Special Condition 2.C: The permittee shall conduct performance testing of EP-06 once every five years to determine the NOx emission rate for demonstrating compliance with Special Condition 2.A. Performance testing shall be conducted according to Special Condition 11. Performance testing may be suspended by the Air Pollution Control Program’s Compliance/Enforcement Section if three consecutive performance tests document the NOx emission rate has changed by less than 10%.
2. Special Condition 11.D: A completed Proposed Test Plan Form shall be submitted to the Air Pollution Control Program at StackTesting@dnr.mo.gov 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.
3. Special Condition 11.E: One electronic copy of a written report of the performance test results shall be submitted to the Director at StackTesting@dnr.mo.gov within 30 days of completion of any required testing. The report shall include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.
4. Special Condition 11.F: The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations including but not limited to:
   a) The beer feed rate (gpm)

---

1 In order for the test to be considered representative, the average beer production rate in the fermentation and distillation processes must be greater than or equal to 34,200 gph during the performance test.
b) The pressure drop across the control devices (in H2O)
c) The liquid flow rate through the scrubbers (gpm)
d) The operating temperature of the RTO (°F)
e) The grain handling rate (tph)
f) The DDGS production rate (tph)
g) The fuel combustion rate (MMscf)

**Reporting:**
1. Special Condition 10.B: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section at P.O. Box 176 Jefferson City, Missouri 65102 or AirComplianceReporting@dnr.mo.gov, no later than ten days after the end of the month during which records indicate an exceedance of the emission limit.
2. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

**PERMIT CONDITION PW002**
10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017

**Operational Limitations:**
Special Condition 3.A: The permittee shall not exceed the following daily and 12-month rolling total material handling limits:

<table>
<thead>
<tr>
<th>Material</th>
<th>Daily Limit</th>
<th>12-Month Rolling Total Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Receiving</td>
<td>6,300 tons</td>
<td>666,800 tons</td>
</tr>
<tr>
<td>DDGS, Wetcake, and Syrup</td>
<td>3,500 tons</td>
<td>N/A</td>
</tr>
<tr>
<td>DDGS</td>
<td>N/A</td>
<td>200,000 tons</td>
</tr>
<tr>
<td>Wetcake</td>
<td>N/A</td>
<td>80,000 tons</td>
</tr>
<tr>
<td>Anhydrous Ethanol</td>
<td>N/A</td>
<td>55,000,000 gallons</td>
</tr>
<tr>
<td>Denatured Ethanol</td>
<td>N/A</td>
<td>58,000,000 gallons</td>
</tr>
<tr>
<td>Syrup</td>
<td>N/A</td>
<td>20,000 tons</td>
</tr>
<tr>
<td>Denaturant</td>
<td>N/A</td>
<td>3,000,000 gallons</td>
</tr>
<tr>
<td>CO₂</td>
<td>550 tons</td>
<td>135,000 tons</td>
</tr>
<tr>
<td>Chemicals (Enzymes, Urea, Acid, and Caustic)</td>
<td>N/A</td>
<td>1,600,000 gallons</td>
</tr>
<tr>
<td>Chemicals (Enzymes, Urea, Acid, and Caustic) and Denaturant</td>
<td>30,000 gallons</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A = Not applicable.

**Monitoring/Recordkeeping:**
1. Special Condition 3.B: The permittee shall maintain records of the amount of each material handled during each calendar day to demonstrate compliance with the daily material handling limits in Special Condition 3.A.
2. Special Condition 3.C: The permittee shall maintain records of the monthly and 12-monthly rolling total amount of each material handled to demonstrate compliance with the 12-month rolling total limits in Special Condition 3.A using Attachments B1 and B2 or equivalent forms.
3. Special Condition 10.A: The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include SDS for all materials used.

**Reporting:**

1. The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section at P.O. Box 176 Jefferson City, Missouri 65102 or AirComplianceReporting@dnr.mo.gov, no later than ten days after records indicate an exceedance of any of the daily limits.

2. Special Condition 10.B: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section at P.O. Box 176 Jefferson City, Missouri 65102 or AirComplianceReporting@dnr.mo.gov, no later than ten days after the end of the month during which records indicate an exceedance of any of the 12-month rolling total limits.

3. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the CFR and CSR for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance.

PERMIT CONDITION 001
10 CSR 10-6.060 Construction Permits Required
Construction Permit 102012-011, Issued October 23, 2012

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
</table>
| EP-37           | Hammermill #4, 22.5 tph grain
                | Control Equipment: 12,000 dscfm Baghouse (C016) |

Operational Limitations:
2. Special Condition 4.B: The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. The gauge or meter shall be located such that Department of Natural Resources’ employees may easily observe it. The baghouse shall be equipped with a flow meter that indicates the air flow rate through the control device. This gauge or meter shall be located in such a way that it may be easily observed by Department of Natural Resources’ employees.
3. Special Condition 4.C: Replacement filters for the baghouse shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
4. Special Condition 4.E: The air flow rate through the baghouse shall be maintained at less than or equal to 12,000 dscfm.

Monitoring/Recordkeeping:
1. Special Condition 4.D: The permittee shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer.
2. Special Condition 4.F: The permittee shall maintain an operating and maintenance log for the baghouse which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
3. The permittee shall maintain a copy of the baghouse manufacturer’s specifications indicating the normal operating pressure drop for the baghouse onsite.
4. The permittee shall maintain a copy of all records for at least five years and shall make them available to Department of Natural Resources’ personnel upon request.

Reporting:
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
PERMIT CONDITION 002

10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017
Construction Permit 052016-005, Issued May 24, 2016

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-04</td>
<td>Fermentation Process: (11) 270,000 gallon Fermentation Tanks and (1) 394,000 gallon Beer Well, 38,000 gph beer Control Equipment: Fermentation Scrubber (C003) and RTO (C005), 18 MMBtu/hr</td>
</tr>
<tr>
<td>EP-05</td>
<td>Distillation Process: Evaporator, Side Stripper, Beer Stripper, Rectifier, Surge Tank Side Stripper, Product Rundown Tank, and (6) Molecular Sieves, 38,000 gph beer Control Equipment: Distillation Scrubber (C004) and RTO (C005), 18 MMBtu/hr</td>
</tr>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
</tbody>
</table>

**Operational Limitations:**

1. Construction Permit 042017-011 Special Condition 4.A: The permittee shall control emissions from the 11 fermentation tanks and the beer well using a scrubber (C003). The permittee shall not bypass the scrubber (C003) for more than 75 hours in any consecutive 12-month rolling total period. During scrubber (C003) bypass, emission shall be routed directly to the RTO (C005).
2. Construction Permit 042017-011 Special Condition 4.B: The permittee shall control emissions from the preblend tank, yeast propagation tanks, beer strippers, side strippers, rectifier, molecular sieves, and rundown tank using a scrubber (C004). When scrubber (C004) is inoperable the equipment shall be shutdown.
3. Construction Permit 042017-011 Special Condition 4.C: The scrubbers (C003 and C004) and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer’s specifications. The scrubbers (C003 and C004) shall be equipped with a gauge or meter that indicates the pressure drop across each scrubber. The scrubbers (C003 and C004) shall be equipped with a flow meter that indicates the liquid flow through each scrubber. These gauges or meters shall be located in such a way that they may be easily observed by Department of Natural Resources’ employees.
4. Construction Permit 042017-011 Special Condition 5.A: The permittee shall control emissions from the fermentation scrubber (C003), the distillation scrubber (C004), and the DDGS Dryers using an RTO (C005). The permittee shall not bypass the RTO (C005) for more than 500 hours in any consecutive 12-month rolling total period. The permittee shall not operate the DDGS Dryers during RTO (C005) bypass.
5. The RTO (C005) shall be equipped with a temperature gauge that indicates the operating temperature of the combustion chamber. The temperature gauge shall be located in such a way that it may be easily observed by Department of Natural Resources’ employees.

**Monitoring/Recordkeeping:**

1. Construction Permit 042017-011 Special Condition 4.D: The permittee shall monitor and record the operating pressure drop across each scrubber at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer.
2. Construction Permit 042017-011 Special Condition 4.E: The permittee shall monitor and record the liquid flow rate through the distillation scrubber (C004) at least once every 24 hours. The liquid flow rate shall be maintained within the design conditions specified by the manufacturer.
3. Construction Permit 042017-011 Special Condition 4.F: The permittee shall maintain a copy of the manufacturer’s specifications for each scrubber onsite indicating the normal operating pressure drop and for the distillation scrubber (C004) indicating the normal liquid flow rate.

4. Construction Permit 052016-005 Special Condition 2.A: The permittee shall monitor and record the liquid flow rate through the fermentation scrubber (C003) at least once every 24 hours. The liquid flow rate shall be maintained at or greater than the specified values for the following operating scenarios:
   a) CO₂ plant online and RTO online: 20 gpm.
   b) CO₂ plant offline or RTO offline: 45 gpm.

5. Construction Permit 042017-011 Special Condition 4.G: The permittee shall maintain records of monthly and 12-month rolling total hours of scrubber (C003) bypass using Attachment C or an equivalent form.

6. Construction Permit 042017-011 Special Condition 4.H: The permittee shall maintain an operating and maintenance log for each scrubber which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions;
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.; and
   c) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

7. Construction Permit 052016-005 Special Condition 2.B: The permittee shall maintain a log indicating CO₂ plant operation (i.e. online or offline and the date and time).

8. Construction Permit 052016-005 Special Condition 2.C: The permittee shall maintain a log indicating RTO operation (i.e. online or offline and the date and time).

9. Construction Permit 052016-005 Special Condition 2.D: The liquid flow rate restrictions for the fermentation scrubber (C003) may be reset if Air Pollution Control Program approved stack testing is conducted which demonstrates that at the new liquid flow rate emissions do not exceed:
   a) 1.90 lb/hr PM₁₀
   b) 9.44 lb/hr NOₓ
   c) 0.09 lb/hr Formaldehyde

10. Construction Permit 042017-011 Special Condition 5.B: The permittee shall maintain records of monthly and 12-month rolling total hours of RTO (C005) bypass using Attachment C or an equivalent form.

11. Construction Permit 042017-011 Special Condition 5.C: The permittee shall continuously monitor and record the RTO (C005) operating temperature. The three-hour rolling average operating temperature of the RTO (C005) shall be maintained at 1657°F ± 50°F while the CO₂ plant is offline and at 1671°F ± 50°F while the CO₂ plant is online. The acceptable temperature range may be reestablished by conducting a new performance test. The permittee shall submit an application to amend Construction Permit 042017-011 no later than 60 days after the performance test date if subsequent performance testing indicates VOC emissions in excess of 3.64 lb/hr.

12. Construction Permit 042017-011 Special Condition 5.D: The permittee shall maintain an operating and maintenance log for the RTO (C005) which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions;
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.; and
   c) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.
13. Construction Permit 042017-011 Special Condition 10.A: The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include SDS for all materials used.

**Performance Testing:**

1. Construction Permit 042017-011 Special Condition 11.B: The permittee may conduct performance testing as indicated in Special Condition 5.C to reset the three-hour rolling average operating temperature limit on the RTO (C005)^2.

2. Construction Permit 042017-011 Special Condition 11.D: A completed Proposed Test Plan Form shall be submitted to the Air Pollution Control Program at StackTesting@dnr.mo.gov 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.

3. Construction Permit 042017-011 Special Condition 11.E: One electronic copy of a written report of the performance test results shall be submitted to the Director at StackTesting@dnr.mo.gov within 30 days of completion of any required testing. The report shall include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.

4. Construction Permit 042017-011 Special Condition 11.F: The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations including but not limited to:
   a) The beer feed rate (gpm)
   b) The pressure drop across the control devices (in H2O)
   c) The liquid flow rate through the scrubbers (gpm)
   d) The operating temperature of the RTO (°F)
   e) The grain handling rate (tph)
   f) The DDGS production rate (tph)
   g) The fuel combustion rate (MMscf)

**Reporting:**

1. Construction Permit 042017-011 Special Condition 10.B: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section at P.O. Box 176 Jefferson City, Missouri 65102 or AirComplianceReporting@dnr.mo.gov, no later than ten days after the end of the month during which records indicate an exceedance of any of the 12-month rolling total limits.

2. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

---

^2 In order for the test to be considered representative, the average beer production rate in the fermentation and distillation process must be greater than or equal to 34,200 gph during the performance test.
## PERMIT CONDITION 003
10 CSR 10-6.060 Construction Permits Required
Construction Permit 032003-008C, Issued November 14, 2011

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-01</td>
<td>Corn Receiving #1, Corn Transfer, Corn Storage: (1) 40,480 bushel bin, (2) 169,769 bushel bins, and (4) 515,576 bushel bins, Corn Conveyors #1 and #2, 490 tph grain Corn Scalper and 13,520 bushel Surge Bin, 90 tph grain Control Equipment: Baghouse (C001)</td>
</tr>
<tr>
<td>EP-07</td>
<td>DDGS Silo Bypass, 22.83 tph DDGS Control Equipment: 3,500 dscfm Baghouse (C006)</td>
</tr>
<tr>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler, 38,000 gph beer, 22.83 tph DDGS Control Equipment: 26,500 dscfm Baghouse (C009)</td>
</tr>
<tr>
<td>EP-28</td>
<td>DDGS Silo, Transfer, and Loading, 22.83 tph DDGS Control Equipment: 3,500 dscfm Baghouse (C010)</td>
</tr>
</tbody>
</table>

**Operational Limitation:**
Special Condition 5.A: The baghouses listed below shall be in use at all times when the associated equipment is in operation:

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-01</td>
<td>Corn Receiving #1, Corn Transfer, Corn Storage: (1) 40,480 bushel bin, (2) 169,769 bushel bins, and (4) 515,576 bushel bins, Corn Conveyors #1 and #2 Corn Scalper and 13,520 bushel Surge Bin</td>
</tr>
<tr>
<td>EP-07</td>
<td>DDGS Silo Bypass</td>
</tr>
<tr>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler</td>
</tr>
<tr>
<td>EP-28</td>
<td>DDGS Silo, Transfer, and Loading</td>
</tr>
</tbody>
</table>

**Monitoring/Recordkeeping:**
1. Special Condition 5.B: The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. Each baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources’ employees may easily observe them. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
2. Special Condition 5.C: The permittee shall monitor and record the operating pressure drop across each baghouse at least once every 24 hours of operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer.
3. The permittee shall maintain onsite a copy of the baghouse manufacturer’s specifications indicating the normal operating pressure drop.
4. Special Condition 5.D: The permittee shall maintain an operating and maintenance log for the baghouses which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
5. Special Condition 17.A: Manufacturer specifications and the most recent 60 months of records required by this permit shall be maintained onsite and shall be made available to Missouri Department of Natural Resources’ personnel upon request.

**Reporting:**
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

---

**PERMIT CONDITION 004**
10 CSR 10-6.060 Construction Permits Required
Construction Permit 032003-008C, Issued November 14, 2011

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-04</td>
<td>Fermentation Process: (11) 270,000 gallon Fermentation Tanks and (1) 394,000 gallon Beer Well, 38,000 gph beer Control Equipment: Fermentation Scrubber (C003) and RTO (C005), 18 MMBtu/hr</td>
</tr>
<tr>
<td>EP-05</td>
<td>Distillation Process: Evaporator, Side Stripper, Beer Stripper, Rectifier, Surge Tank Side Stripper, Product Rundown Tank, and (6) Molecular Sieves, 38,000 gph beer Control Equipment: Distillation Scrubber (C004) and RTO (C005), 18 MMBtu/hr</td>
</tr>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr</td>
</tr>
</tbody>
</table>

**Emission Limitation:**
Special Condition 2.E: The permittee shall not discharge NOₓ into the atmosphere from the RTO (C005) in excess of 11.96 lb/hr.

**Performance Testing:**
As specified in Permit Condition PW001.

**Reporting:**
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
**PERMIT CONDITION 005**

10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-01</td>
<td>Corn Receiving #1, Corn Transfer, Corn Storage: (1) 40,480 bushel bin, (2) 169,769 bushel bins, and (4) 515,576 bushel bins, Corn Conveyors #1 and #2, 490 tph grain Corn Scalper and 13,520 bushel Surge Bin, 90 tph grain Control Equipment: Baghouse (C001)</td>
</tr>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-07</td>
<td>DDGS Silo Bypass, 22.83 tph DDGS Control Equipment: 3,500 dscfm Baghouse</td>
</tr>
<tr>
<td>EP-08</td>
<td>Boiler #1, 60.5 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler, 38,000 gph beer, 22.83 tph DDGS Control Equipment: 26,500 dscfm Baghouse</td>
</tr>
<tr>
<td>EP-28</td>
<td>DDGS Silo, Transfer, and Loading, 22.83 tph DDGS Control Equipment: 3,500 dscfm Baghouse</td>
</tr>
<tr>
<td>EP-30</td>
<td>Boiler #2, 72.6 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-39</td>
<td>Grain Loadout Conveyor, 420 tph Control Equipment: 430 dscfm Baghouse (C023)</td>
</tr>
<tr>
<td>EP-40</td>
<td>Grain Loadout Spout, 420 tph Control Equipment: 1,800 dscfm Baghouse (C024)</td>
</tr>
</tbody>
</table>

**Emission Limitations:**
Special Condition 7.A: The permittee shall not discharge Primary PM10 into the atmosphere in excess of following amounts:

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
<th>Primary PM10 Emission Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-01</td>
<td>Corn Receiving #1</td>
<td>2.11</td>
</tr>
<tr>
<td>EP-06</td>
<td>RTO (C005)</td>
<td>2.11</td>
</tr>
<tr>
<td>EP-07</td>
<td>DDGS Silo Bypass</td>
<td>0.151</td>
</tr>
<tr>
<td>EP-08</td>
<td>Boiler #1</td>
<td>0.06</td>
</tr>
<tr>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler</td>
<td>0.909</td>
</tr>
<tr>
<td>EP-28</td>
<td>DDGS Silo, Transfer, and Loading</td>
<td>0.151</td>
</tr>
<tr>
<td>EP-30</td>
<td>Boiler #2</td>
<td>0.079</td>
</tr>
<tr>
<td>EP-39</td>
<td>Grain Loadout Conveyor</td>
<td>0.02</td>
</tr>
<tr>
<td>EP-40</td>
<td>Grain Loadout Spout</td>
<td>0.08</td>
</tr>
</tbody>
</table>

**Performance Testing:**
1. Special Condition 7.B: The permittee shall conduct performance testing of EP-06 once every five years to demonstrate compliance with Special Condition 7.A. The first performance test shall be by no later than October 22, 2017. Performance testing shall be conducted according to Special Condition 11. Performance testing may be suspended if three consecutive performance tests document emission rates of less than 90% of the emission limit.

---

3 In order for the test to be considered representative, the average beer production rate in the fermentation and distillation process must be greater than or equal to 34,200 gph during the performance test.
   a) Performance testing was conducted to demonstrate compliance with the PM$_{10}$ emission limitations:

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
<th>PM$_{10}$ Stack Test Results</th>
<th>Stack Test Date</th>
<th>Operational Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-07</td>
<td>DDGS Silo Bypass$^4$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP-08</td>
<td>Boiler #1$^5$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler</td>
<td>0.756 lb/hr</td>
<td>August 2003</td>
<td>Beer Feed Rate: 460 gpm Pressure Drop: 0.7 psi</td>
</tr>
<tr>
<td>EP-28</td>
<td>DDGS Silo, Transfer, and Loading</td>
<td>0.015 lb/hr</td>
<td>March 2015</td>
<td>DDGS Feed Rate: 15 tph Pressure Drop: 4.67 in. H$_2$O</td>
</tr>
<tr>
<td>EP-30</td>
<td>Boiler #2</td>
<td>0.030 lb/hr</td>
<td>March 2015</td>
<td>Natural Gas Combustion Rate: 49.5 MMBtu/hr</td>
</tr>
</tbody>
</table>


4. Special Condition 7.E: The permittee shall conduct performance testing of EP-39 and EP-40$^7$ to demonstrate compliance with Special Condition 7.A within 60 days after achieving their maximum hourly production rate, but no later than 180 days after initial start-up for commercial operation.

5. Special Condition 11.D: A completed Proposed Test Plan Form shall be submitted to the Air Pollution Control Program at StackTesting@dnr.mo.gov 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.

6. Special Condition 11.E: One electronic copy of a written report of the performance test results shall be submitted to the Director at StackTesting@dnr.mo.gov within 30 days of completion of any required testing. The report shall include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.

7. Special Condition 11.F: The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations including but not limited to:
   a) The beer feed rate (gpm)
   b) The pressure drop across the control devices (in H$_2$O)
   c) The liquid flow rate through the scrubbers (gpm)

$^4$ EP-07 DDGS Silo Bypass has not been tested as the source is similar in nature to EP-28 DDGS Silo, Transfer, and Loading; therefore, the stack test results for EP-28 DDGS Silo, Transfer, and Loading are considered representative for demonstrating compliance with the emission limit on EP-07 DDGS Silo Bypass.

$^5$ EP-08 Boiler #1 has not been tested as the source is similar in nature to EP-30 Boiler #2; therefore, the stack tests results for EP-30 Boiler #2 are considered representative for demonstrating compliance with the emission limit on EP-08 Boiler #1.

$^6$ In order for the test to be considered representative, the average grain receiving rate shall be greater than or equal to 68.5 tons per hour during the performance test.

$^7$ In order for the test to be considered representative, the average grain loadout rate shall be greater than or equal to 68.5 tph during the performance test.
PERMIT CONDITION 006
10 CSR 10-6.060 Construction Permits Required
Construction Permit 032003-008C, Issued November 14, 2011

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
</table>
| EP-06           | (2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS
|                 | Control Equipment: Cyclone (C006) and RTO (C005) |

**Operational Limitations:**
1. Special Condition 8.A: A multicyclone (two sets) shall be in use at all times the DDGS dryers are in operation. The multicyclone shall be operated and maintained in accordance with the manufacturer’s specifications.
2. Special Condition 8.B: The multicyclone shall be equipped with plug switches per the manufacturer’s design. These plug switches shall be designed to shutdown operation of the dryers in the event that the cyclones become plugged.

**Monitoring/Recordkeeping:**
1. Special Condition 17.A: Manufacturer’s specifications and the most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.
2. Special Condition 10: The permittee shall maintain an operating and maintenance log for the multicyclone which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions;
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.; and
   c) A written record of regular inspection schedule and the date and results of all inspections - including any actions or maintenance activities that result from that inspection.

**Reporting:**
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
PERMIT CONDITION 007
10 CSR 10-6.060 Construction Permits Required
Construction Permit 032003-008C, Issued November 14, 2011

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-17A</td>
<td>DDGS Shipment Haul Road, 0.25 miles paved and 0.05 miles unpaved</td>
</tr>
<tr>
<td>EP-04</td>
<td>Fermentation Process: (11) 270,000 gallon Fermentation Tanks and (1) 394,000 gallon Beer Well, 38,000 gph beer Control Equipment: Fermentation Scrubber (C003) and RTO (C005), 18 MMBtu/hr</td>
</tr>
<tr>
<td>EP-05</td>
<td>Distillation Process: Evaporator, Side Stripper, Beer Stripper, Rectifier, Surge Tank Side Stripper, Product Rundown Tank, and (6) Molecular Sieves, 38,000 gph beer Control Equipment: Distillation Scrubber (C004) and RTO (C005), 18 MMBtu/hr</td>
</tr>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
</tbody>
</table>

Operational Limitation:
Special Condition 11.A: Haul road usage for the transportation of DDGS shall be limited to 16 hours per day on days where the RTO is inactive or bypassed and emissions from the Fermentation Scrubber (C003) and Distillation Scrubber (C004) are venting directly to the atmosphere.

Monitoring/Recordkeeping:
1. Special Condition 11.B: Attachment D or an equivalent form shall be used to demonstrate compliance with Special Condition 11.A.
2. Special Condition 17.A: The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.

Reporting:
1. Special Condition 17.B: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section at P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov, no later than ten days after the date during records indicate an exceedance of Special Condition 11.A.
2. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

PERMIT CONDITION 008
10 CSR 10-6.060 Construction Permits Required
Construction Permit 032003-008C, Issued November 14, 2011

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS003</td>
<td>Cooling Tower, 18,500 gpm</td>
</tr>
</tbody>
</table>

Operational Limitations:
1. Special Condition 13.A: The cooling tower shall be operated and maintained in accordance with the manufacturer’s specifications. Manufacturer’s specifications shall be kept on site and made readily available to Department of Natural Resources’ employees upon request.
2. Special Condition 13.B: The cooling water circulation rate shall not exceed 1,110,000 gallons per hour (18,500 gpm).
3. Special Condition 13.C: The drift loss from the towers shall not exceed 0.005 percent of the water circulation rate. Verification of drift loss shall be by manufacturer’s guaranteed drift loss and shall be kept on site and made readily available to Department of Natural Resources’ employees upon request.

4. Special Condition 13.D: The total dissolved solids (TDS) concentration in the circulated cooling water shall not exceed an average TDS concentration of 1,500 ppm for any consecutive 12-month period. A TDS sample shall be collected at least once per calendar month.

**Monitoring/Recordkeeping:**
1. The permittee shall maintain records of monthly and 12-month rolling average TDS concentration using Attachment E or an equivalent form.

2. Special Condition 17.A: The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.

**Reporting:**
1. Special Condition 17.B: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section at P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov, no later than ten days after the end of the month during which records indicate an exceedance of the TDS concentration limitation.

2. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

---

**PERMIT CONDITION 009**

10 CSR 10-6.060 Construction Permits Required
Construction Permit 032003-008C, Issued November 14, 2011

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-34</td>
<td>Hammermill #1, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C013)</td>
</tr>
<tr>
<td>EP-35</td>
<td>Hammermill #2, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C014)</td>
</tr>
<tr>
<td>EP-36</td>
<td>Hammermill #3, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C015)</td>
</tr>
</tbody>
</table>

**Operational Limitation:**
1. Special Condition 18.A. The hammermill stacks (EP-34, EP-35 and EP-36) shall be configured such that the air flow from the stack is unrestricted. The stacks shall be maintained at the following stack parameters:
   a) Stack height: 2.74 meters,
   b) Stack exit velocity: at least 30.48 meters per second, and
   c) Stack diameter: 0.49 meters

**Monitoring/Recordkeeping/Reporting:**
1. Special Condition 18.B: The stack exit velocity shall be verified through performance testing during the next required stack performance test occurring at the installation for either the hammermills or any other emission unit.
2. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

**PERMIT CONDITION 010**

10 CSR 10-6.060 Construction Permits Required

Construction Permit 102007-014, Issued October 24, 2007

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-34</td>
<td>Hammermill #1, 22.5 tph grain</td>
</tr>
<tr>
<td></td>
<td>Control Equipment: 12,000 dscfm Baghouse (C013)</td>
</tr>
<tr>
<td>EP-35</td>
<td>Hammermill #2, 22.5 tph grain</td>
</tr>
<tr>
<td></td>
<td>Control Equipment: 12,000 dscfm Baghouse (C014)</td>
</tr>
<tr>
<td>EP-36</td>
<td>Hammermill #3, 22.5 tph grain</td>
</tr>
<tr>
<td></td>
<td>Control Equipment: 12,000 dscfm Baghouse (C015)</td>
</tr>
</tbody>
</table>

**Operational Limitation:**

Special Condition 1: The permittee shall control emissions from the hammermills (EP-34, EP-35, and EP-36) using baghouses. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them. Replacement filters for the baghouses shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

**Monitoring/Recordkeeping:**

1. Special Condition 2: The permittee shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours of operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer.
2. Special Condition 3: The permittee shall maintain an operating and maintenance log for the baghouses which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
3. The permittee shall retain onsite a copy of the manufacturer’s specifications indicating the normal operating pressure drop across the baghouse.
4. Records shall be maintained on-site for a period of five years and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.

**Reporting:**

The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
PERMIT CONDITION 011
10 CSR 10-6.070 New Source Performance Regulations
40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-08</td>
<td>Boiler #1, 60.5 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-30</td>
<td>Boiler #2, 72.6 MMBtu/hr natural gas</td>
</tr>
</tbody>
</table>

Monitoring/Recordkeeping:
1. Except as provided under §60.48c(g)(2) and (3), the permittee shall record and maintain records of the amount of each fuel combusted during each operating day. [§60.48c(g)(1)]
2. As an alternative to meeting the requirements of §60.48c(g)(1), the permittee may elect to record and maintain records of the amount of each fuel combusted during each calendar month. [§60.48c(g)(2)]
3. As an alternative to meeting the requirements of §60.48c(g)(1), the permittee may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month. [§60.48c(g)(3)]
4. The permittee shall maintain the most recent 60 months of records on-site and make them available to Missouri Department of Natural Resources' personnel upon request.

Reporting:
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

PERMIT CONDITION 012
10 CSR 10-6.070 New Source Performance Regulations

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-11</td>
<td>67,000 gallon 190-Proof Ethanol Internal Floating Roof Tank</td>
</tr>
<tr>
<td>EP-12</td>
<td>49,000 gallon Denaturant Internal Floating Roof Tank</td>
</tr>
<tr>
<td>EP-14</td>
<td>180,000 gallon 200-Proof Ethanol Internal Floating Roof Tank</td>
</tr>
<tr>
<td>EP-15</td>
<td>180,000 gallon 200-Proof Ethanol Internal Floating Roof Tank</td>
</tr>
<tr>
<td>EP-32</td>
<td>1,000,000 gallon 200-Proof Ethanol Internal Floating Roof Tank</td>
</tr>
</tbody>
</table>

VOC Standards:
1. The permittee shall equip each storage vessel with one of the following: [§60.112b(a)]
   a) A fixed roof in combination with an internal floating roof meeting the following specifications: [§60.112b(a)(1)]
      i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. [§60.112b(a)(1)(i)]
ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

§60.112b(a)(1)(ii)

1. A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank. §60.112b(a)(1)(ii)(A)

2. Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both shall be continuous. §60.112b(a)(1)(ii)(B)

iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. §60.112b(a)(1)(iii)

iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. §60.112b(a)(1)(iv)

v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. §60.112b(a)(1)(v)

vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. §60.112b(a)(1)(vi)

vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening. §60.112b(a)(1)(vii)

viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. §60.112b(a)(1)(viii)

ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. §60.112b(a)(1)(ix)

Testing and Procedures:

1. After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), the permittee shall: §60.113b(a)

   a) Visually inspect the internal floating roof, the primary seal, and the secondary seal, prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the permittee shall repair the items before filling the storage vessel. §60.113b(a)(1)

   b) Visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the permittee shall repair the items or empty and remove the storage
vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Director in the inspection report required in §60.115b(a)(3). Such a request for an extension shall document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [§60.113b(a)(2)]

c) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B): [§60.113b(a)(3)]
   i) Visually inspect the vessel as specified in §60.113b(a)(4) at least every five years; or [§60.113b(a)(3)(i)]
   ii) Visually inspect the vessel as specified in §60.113b(a)(3). [§60.113b(a)(3)(ii)]

d) Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than ten percent open area, the permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than ten years in the case of vessels conducting the annual visual inspection as specified in §60.113b(a)(2) and (3)(ii) and at intervals no greater than five years in the case of vessels specified in §60.113b(a)(3)(i). [§60.113b(a)(4)]

e) Notify the Director in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by §60.113b(a)(1) and (4) to afford the Director the opportunity to have an observer present. If the inspection required by §60.113b(a)(4) is not planned and the permittee could not have known about the inspection 30 days in advance of refilling the tank, the permittee shall notify the Director at least seven days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Director at least seven days prior to the refilling. [§60.113b(a)(5)]

Reporting and Recordkeeping:

I. After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the permittee shall meet the following requirements: [§60.115b(a)]
   a) Furnish the Director with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3). [§60.115b(a)(1)]
   b) Keep a record of each inspection performed as required by §60.113b(a)(1), (2), (3), and (4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings). [§60.115b(a)(2)]
   c) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Director within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the
date the storage vessel was emptied or the nature of and date the repair was made. 

[$60.115b(a)(3)]

d) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Director within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §60.112b(a)(1) or §60.113b(a)(3) and list each repair made. [$60.115b(a)(4)]

2. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [$60.116b(b)]

3. Except as provided in §60.116b(f) and (g), the permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. [$60.116b(c)]

4. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below. [$60.116b(e)]

a) For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [$60.116b(e)(1)]

b) For refined petroleum products the vapor pressure may be obtained by the following: [$60.116b(e)(2)]

i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Director specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [$60.116b(e)(2)(i)]

c) For other liquids, the vapor pressure: [$60.116b(e)(3)]

i) May be obtained from standard reference texts, or [$60.116b(e)(3)(i)]

ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see §60.17); or [$60.116b(e)(3)(ii)]

iii) Measured by an appropriate method approved by the Administrator; or [$60.116b(e)(3)(iii)]

iv) Calculated by an appropriate method approved by the Administrator. [$60.116b(e)(3)(iv)]

5. The permittee shall maintain the most recent 60 months of records on-site and make them available to Missouri Department of Natural Resources' personnel upon request.

6. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
PERMIT CONDITION 013
10 CSR 10-6.070 New Source Performance Regulations

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS002</td>
<td>Equipment Leaks&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td>FS005</td>
<td>Tank Farm Equipment Leaks&lt;sup&gt;9&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**General Standards:**

1. The permittee shall demonstrate compliance with the requirements of §§60.482-1a through 60.482-10a or §60.480a(e) for all equipment within 180 days of initial startup. [§60.482-1a(a)]
2. Compliance with §§60.482-1a to 60.482-9a will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485a. [§60.482-1a(b)]
3. The permittee may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482-2a, 60.482-5a, 60.482-6a, 60.482-7a, and 60.482-8a as provided in §60.484a. [§60.482-1a(c)(1)]
4. If the Director makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482-2a, 60.482-5a, 60.482-6a, 60.482-7a, or 60.482-8a the permittee shall comply with the requirements of that determination. [§60.482-1a(c)(2)]
5. Equipment that is in vacuum service is excluded from the requirements of §§60.482-2a through 60.482-9a if it is identified as required in §60.486a(e)(5). [§60.482-1a(d)]
6. Equipment that the permittee designates as being in VOC service less than 300 hours per year is excluded from the requirements of §§60.482-2a through 60.482-9a if it is identified as required in §60.486a(e)(6) and it meets any of the following conditions: [§60.482-1a(e)]
   a) The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process. [§60.482-1a(e)(1)]
   b) The equipment is in VOC service only during process malfunctions or other emergencies. [§60.482-1a(e)(2)]
   c) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service. [§60.482-1a(e)(3)]

---

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Number of Sources</th>
<th>Control Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Seals</td>
<td>5 in beer service &amp; 5 in VOC service</td>
<td>75% for NSPS VVa LDAR</td>
</tr>
<tr>
<td>Light Liquid Valves</td>
<td>94 in beer service &amp; 159 in VOC service</td>
<td>88% for NSPS VVa LDAR</td>
</tr>
<tr>
<td>Gas Valves</td>
<td>68 in VOC service</td>
<td>92% for NSPS VVa LDAR</td>
</tr>
<tr>
<td>Pressure Relief Valves</td>
<td>5 in VOC service</td>
<td>100% for rupture disk assembly</td>
</tr>
<tr>
<td>Open Ended Lines</td>
<td>2 in beer service &amp; 23 in VOC service</td>
<td>100% for blind, cap, plug or second valve</td>
</tr>
<tr>
<td>Connectors</td>
<td>307 in beer service &amp; 706 in VOC service</td>
<td>93% for NSPS VVa LDAR</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Number of Sources</th>
<th>Control Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump Seals</td>
<td>2 in denaturant service &amp; 4 in ethanol service</td>
<td>75% for NSPS VVa LDAR</td>
</tr>
<tr>
<td>Light Liquid Valves</td>
<td>18 in denaturant service &amp; 111 in ethanol service</td>
<td>88% for NSPS VVa LDAR</td>
</tr>
<tr>
<td>Gas Valves</td>
<td>5 in ethanol service</td>
<td>92% for NSPS VVa LDAR</td>
</tr>
<tr>
<td>Pressure Relief Valves</td>
<td>3 in denaturant service &amp; 31 in ethanol service</td>
<td>100% for rupture disk assembly</td>
</tr>
<tr>
<td>Connectors</td>
<td>141 in denaturant service &amp; 667 in ethanol service</td>
<td>93% for NSPS VVa LDAR</td>
</tr>
</tbody>
</table>
7. If a dedicated batch process unit operates less than 365 days during a year, the permittee may monitor to detect leaks from pumps, valves, and open-ended valves or lines at the frequency specified in the following table instead of monitoring as specified in §§60.482-2a, 60.482-7a, and 60.483.2a: [§60.482-1a(f)(1)]

<table>
<thead>
<tr>
<th>Operating time (% of hours during year)</th>
<th>Equivalent Monitoring Frequency Time in Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to &lt;25</td>
<td>Monthly Quarterly Quarterly Semi-annually</td>
</tr>
<tr>
<td>25 to &lt;50</td>
<td>Quarterly Semi-annually Annually</td>
</tr>
<tr>
<td>50 to &lt;75</td>
<td>Bimonthly Three quarters Semi-annually</td>
</tr>
<tr>
<td>75 to 100</td>
<td>Monthly Quarterly Semi-annually</td>
</tr>
</tbody>
</table>

8. Pumps and valves that are shared among two or more batch process units that are subject to NSPS VVa may be monitored at the frequencies specified in §60.482-1a(f)(1), provided the operating time of all such process units is considered. [§60.482-1a(f)(2)]

9. The monitoring frequencies specified in §60.482-1a(f)(1) are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. The permittee may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined as follows: [§60.482-1a(f)(3)]
   a) When monitoring is conducted quarterly, monitoring events shall be separated by at least 30 calendar days. [§60.482-1a(f)(3)(i)]
   b) When monitoring is conducted semi-annually (i.e., once every two quarters), monitoring events shall be separated by at least 60 calendar days. [§60.482-1a(f)(2)(ii)]
   c) When monitoring is conducted in three quarters per year, monitoring events shall be separated by at least 90 calendar days. [§60.482-1a(f)(2)(iii)]
   d) When monitoring is conducted annually, monitoring events shall be separated by at least 120 calendar days. [§60.482-1a(f)(2)(iv)]

10. If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to NSPS VVa, the storage vessel is assigned to that process unit. If the predominant use of the storage vessel varies from year to year, then the permittee shall estimate the predominant use initially and reassess every three years. The permittee shall keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel shall be monitored when in VOC service. [§60.482-1a(g)]

**Standards for Pumps in Light Liquid Service:**

1. Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485a(b), except as provided in §60.482-1a(c) and (f) and §60.482-2a(d), (e), and (f). A pump that begins operation in light liquid service after the initial startup date for the process unit shall be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in §60.482-1a(c) and §60.482-2a(d), (e), and (f). [§60.482-2a(a)(1)]

2. Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in §60.482-1a(f). [§60.482-2a(a)(2)]

3. The instrument reading that defines a leak is specified as follows: [§60.482-2a(b)(1)]
   a) 5,000 ppm or greater for pumps handling polymerizing monomers; [§60.482-2a(b)(1)(i)]
b) 2,000 ppm or greater for all other pumps. [§60.482-2a(b)(1)(ii)]

4. If there are indications of liquids dripping from the pump seal, the permittee shall follow the procedure specified in either §60.482-2a(b)(2)(i) or (ii). This requirement does not apply to a pump that was monitored after a previous weekly inspection and the instrument reading was less than the concentration specified in §60.482-2a(b)(1)(i) or (ii), whichever is applicable. [§60.482-2a(b)(2)]

   a) Monitor the pump within five days as specified in §60.485a(b). A leak is detected if the instrument reading measured during monitoring indicates a leak as specified in §60.482-2a(b)(1)(i) or (ii), whichever is applicable. The leak shall be repaired using the procedures in §60.482-2a(c). [§60.482-2a(b)(2)(i)]

   b) Designate the visual indications of liquids dripping as a leak, and repair the leak using either the procedures in §60.482-2a(c) or by eliminating the visual indications of liquids dripping. [§60.482-2a(b)(2)(ii)]

5. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482-9a. [§60.482-2a(c)(1)]

6. A first attempt at repair shall be made no later than five calendar days after each leak is detected. First attempts at repair include, but are not limited to, the following practices, where practicable: [§60.482-2a(c)(2)]

   a) Tightening the packing gland nuts; [§60.482-2a(c)(2)(i)]

   b) Ensuring that the seal flush is operating at design pressure and temperature. [§60.482-2a(c)(2)(ii)]

7. Any pump that is designated, as described in §60.486a(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of §60.482-2a(a) and (c) if the pump: [§60.482-2a(e)]

   a) Has no externally actuated shaft penetrating the pump housing; [§60.482-2a(e)(1)]

   b) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485a(c); and [§60.482-2a(e)(2)]

   c) Is tested for compliance with §60.482-2a(e)(2) initially upon designation, annually, and at other times requested by the Director. [§60.482-2a(e)(3)]

8. Any pump that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of §60.482-2a(a) if: [§60.482-2a(g)]

   a) The permittee demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with §60.482-2a(a); and [§60.482-2a(g)(1)]

   b) The permittee has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in §60.482-2a(c) if a leak is detected. [§60.482-2a(g)(2)]

9. Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of §60.482-2a(a)(2), provided that each pump is visually inspected as often as practicable and at least monthly. [§60.482-2a(h)]

**Standards for Pressure Relief Devices in Gas/Vapor Service:**

1. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485a(c). [§60.482-4a(a)]
2. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than five calendar days after the pressure release, except as provided in §60.482-9a. [§60.482-4a(b)(1)]

3. No later than five calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485a(c). [§60.482-4a(b)(2)]

4. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of §60.482-4a(a) and (b), provided the permittee complies with the requirements in §60.482-4a(d)(2). [§60.482-4a(d)(1)]

5. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than five calendar days after each pressure release, except as provided in §60.482-9a. [§60.482-4a(d)(2)]

Standards for Sampling Connection Systems:

1. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §60.482-1a(c) and §60.482-5a(c). [§60.482-5a(a)]

2. Each closed-purge, closed-loop, or closed-vent system as required in §60.482-5a(a) shall comply with the following requirements: [§60.482-5a(b)]
   a) Gases displaced during filling of the sample container are not required to be collected or captured. [§60.482-5a(b)(1)]
   b) Containers that are part of a closed-purge system shall be covered or closed when not being filled or emptied. [§60.482-5a(b)(2)]
   c) Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured. [§60.482-5a(b)(3)]
   d) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet one of the following requirements: [§60.482-5a(b)(4)]
      i) Return the purged process fluid directly to the process line. [§60.482-5a(b)(4)(i)]
      ii) Collect and recycle the purged process fluid to a process. [§60.482-5a(b)(4)(ii)]
      iii) Collect, store, and transport the purged process fluid to any of the following systems or facilities: [§60.482-5a(b)(4)(iv)]
         (1) A waste management unit as defined in §63.111, if the waste management unit is subject to and operated in compliance with the provisions of MACT G, applicable to Group 1 wastewater streams; [§60.482-5a(b)(4)(iv)(A)]
         (2) A treatment, storage, or disposal facility subject to regulation under 40 CFR Parts 262, 264, 265, or 266; [§60.482-5a(b)(4)(iv)(B)]
         (3) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR Part 261; [§60.482-5a(b)(4)(iv)(C)]
         (4) A waste management unit subject to and operated in compliance with the treatment requirements of §61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are subject to and operated in compliance with the management requirements of §61.343 through §61.347; or [§60.482-5a(b)(4)(iv)(D)]
(5) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR Part 279, Subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR Part 261. [§60.482-5a(b)(4)(iv)(E)]

3. In-situ sampling systems and sampling systems without purges are exempt from the requirements of §60.482-5a(a) and (b). [§60.482-5a(c)]

Standards for Open-ended Valves or Lines:
1. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482-1a(c) and §60.482-6a(d) and (e). [§60.482-6a(a)(1)]
2. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. [§60.482-6a(a)(2)]
3. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. [§60.482-6a(b)]
4. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with §60.482-6a(a) at all other times. [§60.482-6a(c)]
5. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of §60.482-6a(a), (b), and (c). [§60.482-6a(d)]
6. Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in §60.482-6a(a) through (c) are exempt from the requirements of §60.482-6a(a) through (c). [§60.482-6a(e)]

Standards for Valves in Gas/Vapor Service and in Light Liquid Service:
1. Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485a(b) and shall comply with §60.482-7a(b) through (e), except as provided in §60.482-7a(f), (g), and (h), §60.482-1a(c) and (f), and §§60.483-1a and 60.483-2a. [§60.482-7a(a)(1)]
2. A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit shall be monitored according to §60.482-7a(a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in §60.482-7a(f), (g), and (h), §60.482-1a(c), and §§60.483-1a and 60.483-2a. [§60.482-7a(a)(2)]
   a) Monitor the valve as in §60.482-7a(a)(1). The valve shall be monitored for the first time within 30 days after the end of its startup period to ensure proper installation. [§60.482-7a(a)(2)(i)]
   b) If the existing valves in the process unit are monitored in accordance with §60.483-1a or §60.483-2a, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483-2a(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve shall be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first. [§60.482-7a(a)(2)(ii)]
3. If an instrument reading of 500 ppm or greater is measured, a leak is detected. [§60.482-7a(b)]
4. Any valve for which a leak is not detected for two successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. [§60.482-7a(c)(1)(i)]
5. As an alternative to monitoring all of the valves in the first month of a quarter, the permittee may elect to subdivide the process unit into two or three subgroups of valves and monitor each subgroup
in a different month during the quarter, provided each subgroup is monitored every three months. The permittee shall keep records of the valves assigned to each subgroup. [§60.482-7a(e)(1)(ii)]

6. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months. [§60.482-7a(c)(2)]

7. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482-9a. [§60.482-7a(d)(1)]

8. A first attempt at repair shall be made no later than five calendar days after each leak is detected. [§60.482-7a(d)(2)]

9. First attempts at repair include, but are not limited to, the following best practices where practicable: [§60.482-7a(e)]
   a) Tightening of bonnet bolts; [§60.482-7a(e)(1)]
   b) Replacement of bonnet bolts; [§60.482-7a(e)(2)]
   c) Tightening of packing gland nuts; [§60.482-7a(e)(3)]
   d) Injection of lubricant into lubricated packing. [§60.482-7a(e)(4)]

10. Any valve that is designated, as described in §60.486a(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of §60.482-7a(a) if the valve: [§60.482-7a(f)]
   a) Has no external actuating mechanism in contact with the process fluid, [§60.482-7a(f)(1)]
   b) Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485a(c), and [§60.482-7a(f)(2)]
   c) Is tested for compliance with §60.482-7a(f)(2) initially upon designation, annually, and at other times requested by the Director. [§60.482-7a(f)(3)]

11. Any valve that is designated, as described in §60.486a(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of §60.482-7a(a) if: [§60.482-7a(g)]
   a) The permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with §60.482-7a(a), and [§60.482-7a(g)(1)]
   b) The permittee adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. [§60.482-7a(g)(2)]

12. Any valve that is designated, as described in §60.486a(f)(2), as a difficult-to-monitor valve is exempt from the requirements of §60.482-7a(a) if: [§60.482-7a(h)]
   a) The permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than two meters above a support surface. [§60.482-7a(h)(1)]
   b) The process unit within which the valve is located: [§60.482-7a(h)(2)]
      i) Has less than 3.0 percent of its total number of valves designated as difficult-to-monitor by the permittee. [§60.482-7a(h)(2)(ii)]
   c) The permittee follows a written plan that requires monitoring of the valve at least once per calendar year. [§60.482-7a(h)(3)]

Delay of Repair Standards:

1. Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit. [§60.482-9a(a)]

2. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service. [§60.482-9a(b)]

3. Delay of repair for pumps will be allowed if: [§60.482-9a(d)]
a) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and [§60.482-9a(d)(1)]
b) Repair is completed as soon as practicable, but not later than six months after the leak was detected. [§60.482-9a(d)(2)]

4. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than six months after the first process unit shutdown. [§60.482-9a(e)]

5. When delay of repair is allowed for a leaking pump, valve, or connector that remains in service, the pump, valve, or connector may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition. [§60.482-9a(f)]

**Alternative Standards for Valves – Allowable Percentage of Valves Leaking:**

1. The permittee may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent. [§60.483-1a(a)]

2. The following requirements shall be met if the permittee wishes to comply with an allowable percentage of valves leaking: [§60.483-1a(b)]
   a) The permittee shall notify the Director that the permittee has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487a(d). [§60.483-1a(b)(1)]
   b) A performance test as specified in §60.483-1a(c) shall be conducted initially upon designation, annually, and at other times requested by the Director. [§60.483-1a(b)(2)]
   c) If a valve leak is detected, it shall be repaired in accordance with §60.482-7a(d) and (e). [§60.483-1a(b)(3)]

3. Performance tests shall be conducted in the following manner: [§60.483-1a(c)]
   a) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within one week by the methods specified in §60.485a(b). [§60.483-1a(c)(1)]
   b) If an instrument reading of 500 ppm or greater is measured, a leak is detected. [§60.483-1a(c)(2)]
   c) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility. [§60.483-1a(c)(3)]

4. The permittee shall not have a leak percentage greater than 2.0 percent, determined as described in §60.485a(h). [§60.483-1a(d)]

**Alternative Standards for Valves – Skip Period LDAR:**

1. The permittee may elect to comply with one of the alternative work practices specified in §60.483-2a(b)(2) and (3). [§60.483-2a(a)(1)]

2. The permittee shall notify the Director before implementing one of the alternative work practices, as specified in §60.487(d)a. [§60.483-2a(a)(2)]

3. The permittee shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482-7a. [§60.483-2a(b)(1)]

4. After two consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, the permittee may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service. [§60.483-2a(b)(2)]
5. After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, the permittee may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service. [§60.483-2a(b)(3)]

6. If the percent of valves leaking is greater than 2.0, the permittee shall comply with the requirements as described in §60.482-7a but can again elect to use §60.483-2a. [§60.483-2a(b)(4)]

7. The percent of valves leaking shall be determined as described in §60.485a(h). [§60.483-2a(b)(5)]

8. The permittee shall keep a record of the percent of valves found leaking during each leak detection period. [§60.483-2a(b)(6)]

9. A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in §60.483-2a shall be monitored in accordance with §60.482-7a(a)(2)(i) or (ii) before the provisions of §60.483-2a can be applied to that valve. [§60.483-2a(b)(7)]

**Equivalence of Means of Emission Limitation:**
The permittee shall refer to §60.484a for information regarding how to apply for a determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in NSPS VVa.

**Test Methods and Procedures:**
The permittee shall comply with the test methods and procedures in §60.485a.

**Recordkeeping:**
1. If the permittee owns or operates more than one affected facility subject to the provisions of NSPS VVa, the permittee may comply with the recordkeeping requirements for the facilities in one recordkeeping system if the system identifies each record by each facility. [§60.486a(a)(2)]

2. The permittee shall record the information specified in §60.486a(a)(3)(i) through (v) for each monitoring event required by §§60.482-2a, 60.482-7a, and 60.483-2a. [§60.486a(a)(3)]
   a) Monitoring instrument identification. [§60.486a(a)(3)(i)]
   b) Operator identification. [§60.486a(a)(3)(ii)]
   c) Equipment identification. [§60.486a(a)(3)(iii)]
   d) Date of monitoring. [§60.486a(a)(3)(iv)]
   e) Instrument reading. [§60.486a(a)(3)(v)]

3. When each leak is detected as specified in §§60.482-2a, 60.482-7a, and 60.483-2a, the following requirements apply: [§60.486a(b)]
   a) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [§60.486a(b)(1)]
   b) The identification on a valve may be removed after it has been monitored for two successive months as specified in §60.482-7a(c) and no leak has been detected during those two months. [§60.486a(b)(2)]
   c) The identification on equipment, except on a valve or connector, may be removed after it has been repaired. [§60.486a(b)(4)]

4. When each leak is detected as specified in §§60.482-2a, 60.482-7a, and 60.483-2a, the following information shall be recorded in a log and shall be kept for five years in a readily accessible location: [§60.486a(c)]
   a) The instrument and operator identification numbers and the equipment identification number, except when indications of liquids dripping from a pump are designated as a leak. [§60.486a(c)(1)]
b) The date the leak was detected and the dates of each attempt to repair the leak. [§60.486a(c)(2)]

c) Repair methods applied in each attempt to repair the leak. [§60.486a(c)(3)]

d) Maximum instrument reading measured by Method 21 of NSPS Appendix A-7 at the time the leak is successfully repaired or determined to be nonrepairable, except when a pump is repaired by eliminating indications of liquids dripping. [§60.486a(c)(4)]

e) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. [§60.486a(c)(5)]

f) The signature of the responsible official whose decision it was that repair could not be affected without a process shutdown. [§60.486a(c)(6)]

g) The expected date of successful repair of the leak if a leak is not repaired within 15 days. [§60.486a(c)(7)]

h) Dates of process unit shutdowns that occur while the equipment is unrepaired. [§60.486a(c)(8)]

i) The date of successful repair of the leak. [§60.486a(c)(9)]

5. The following information pertaining to all equipment subject to the requirements in §§60.482-1a to 60.482-9a shall be recorded in a log that is kept in a readily accessible location: [§60.486a(e)]

a) A list of identification numbers for equipment subject to the requirements of NSPS VVa. [§60.486a(e)(1)]

b) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482-2a(e) and 60.482-7a(f). [§60.486a(e)(2)]

c) The designation of equipment as subject to the requirements of §60.482-2a(e) or §60.482-7a(f) shall be signed by the responsible official. Alternatively, the permittee may establish a mechanism with their permitting authority that satisfies this requirement. [§60.486a(e)(2)(ii)]

d) A list of equipment identification numbers for pressure relief devices required to comply with §60.482-4a. [§60.486a(e)(3)]

e) The dates of each compliance test as required in §§60.482-2a(e), 60.482-4a, and 60.482-7a(f). [§60.486a(e)(4)]

f) The background level measured during each compliance test. [§60.486a(e)(4)(ii)]

g) The maximum instrument reading measured at the equipment during each compliance test. [§60.486a(e)(4)(ii)]

h) A list of identification numbers for equipment in vacuum service. [§60.486a(e)(5)]

i) A list of identification numbers for equipment that the permittee designates as operating in VOC service less than 300 hr/yr in accordance with §60.482-1a(e), a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr. [§60.486a(e)(6)]

j) The date and results of the weekly visual inspection for indications of liquids dripping from pumps in light liquid service. [§60.486a(e)(7)]

k) Records of the information specified in §60.486a(e)(8)(i) through (vi) for monitoring instrument calibrations conducted according to §§8.1.2 and 10 of Method 21 of NSPS Appendix A-7 and §60.485a(b). [§60.486a(e)(8)]

i) Date of calibration and initials of operator performing the calibration. [§60.486a(e)(8)(i)]

ii) Calibration gas cylinder identification, certification date, and certified concentration. [§60.486a(e)(8)(ii)]

iii) Instrument scale(s) used. [§60.486a(e)(8)(iii)]

iv) A description of any corrective action taken if the meter readout could not be adjusted to correspond to the calibration gas value in accordance with §10.1 of Method 21 of NSPS Appendix A-7. [§60.486a(e)(8)(iv)]
v) Results of each calibration drift assessment required by §60.485a(b)(2) (i.e., instrument reading for calibration at end of monitoring day and the calculated percent difference from the initial calibration value). [§60.486a(e)(8)(v)]

vi) If the permittee makes their own calibration gas, a description of the procedure used. [§60.486a(e)(8)(vi)]

l) Records of each release from a pressure relief device subject to §60.482-4a. [§60.486a(e)(10)]

6. The following information pertaining to all valves subject to the requirements of §60.482-7a(g) and (h) and all pumps subject to the requirements of §60.482-2a(g) shall be recorded in a log that is kept in a readily accessible location: [§60.486a(f)]

   a) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump. [§60.486a(f)(1)]

   b) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve. [§60.486a(f)(2)]

7. The following information shall be recorded for valves complying with §60.483-2a: [§60.486a(g)]

   a) A schedule of monitoring. [§60.486a(g)(1)]

   b) The percent of valves found leaking during each monitoring period. [§60.486a(g)(2)]

8. The following information shall be recorded in a log that is kept in a readily accessible location: [§60.486a(h)]

   a) Design criterion required in §§60.482-2a(d)(5) and explanation of the design criterion; and [§60.486a(h)(1)]

   b) Any changes to this criterion and the reasons for the changes. [§60.486a(h)(2)]

9. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [§60.486a(j)]

10. The provisions of §60.7(b) and (d) do not apply to affected facilities subject to NSPS VVa. [§60.486a(k)]

11. The permittee shall maintain the most recent 60 months of records on-site and make them available to Missouri Department of Natural Resources' personnel upon request.

**Reporting:**

1. The permittee shall submit semi-annual reports to the Director beginning six months after the initial startup date. [§60.487a(a)]

2. The initial semi-annual report to the Director shall include the following information: [§60.487a(b)]

   a) Process unit identification. [§60.487a(b)(1)]

   b) Number of valves subject to the requirements of §60.482-7a, excluding those valves designated for no detectable emissions under the provisions of §60.482-7a(f). [§60.487a(b)(2)]

   c) Number of pumps subject to the requirements of §60.482-2a, excluding those pumps designated for no detectable emissions under the provisions of §60.482-2a(e) and those pumps complying with §60.482-2a(f). [§60.487a(b)(3)]

3. All semi-annual reports to the Director shall include the following information, summarized from the information in §60.486a: [§60.487a(c)]

   a) Process unit identification. [§60.487a(c)(1)]

   b) For each month during the semi-annual reporting period, [§60.487a(c)(2)]

      i) Number of valves for which leaks were detected as described in §60.482-7a(b) or §60.483-2a, [§60.487a(c)(2)(i)]
ii) Number of valves for which leaks were not repaired as required in §60.482-7a(d)(1), [§60.487a(c)(2)(ii)]

iii) Number of pumps for which leaks were detected as described in §60.482-2a(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii), [§60.487a(c)(2)(iii)]

iv) Number of pumps for which leaks were not repaired as required in §60.482-2a(c)(1) and (d)(6), [§60.487a(c)(2)(iv)]

v) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible. [§60.487a(c)(2)(xi)]

c) Dates of process unit shutdowns which occurred within the semi-annual reporting period. [§60.487a(c)(3)]

d) Revisions to items reported according to §60.487(b) if changes have occurred since the initial report or subsequent revisions to the initial report. [§60.487a(c)(4)]

4. If the permittee elects to comply with the provisions of §§60.483-1a or 60.483-2a, the permittee shall notify the Director of the alternative standard selected 90 days before implementing either of the provisions. [§60.487a(d)]

5. The permittee shall report the results of all performance tests in accordance with §60.8. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of NSPS VVa except that the permittee shall notify the Director of the schedule for the initial performance tests at least 30 days before the initial performance tests. [§60.487a(e)]

6. The requirements of §60.487a(a) through (c) remain in force until and unless EPA, in delegating enforcement authority to a state under §111(c) of the CAA, approves reporting requirements or an alternative means of compliance surveillance adopted by such state. In that event, affected sources within the state will be relieved of the obligation to comply with the requirements of §60.487a(a) through (c), provided that they comply with the requirements established by the state. [§60.487a(f)]

7. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

---

**PERMIT CONDITION 014**  
10 CSR 10-6.060 Construction Permits Required  
Construction Permit 042017-011, Issued April 25, 2017

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-17A</td>
<td>DDGS Shipment Haul Road, 0.25 miles paved and 0.05 miles unpaved</td>
</tr>
</tbody>
</table>
| EP-17B          | Grain Delivery Haul Road, 0.4 miles paved and 0.15 miles unpaved  
Grain Shipment Haul Road, 0.4 miles paved and 0.15 miles unpaved  
Denatured Ethanol Shipment Haul Road, 0.2 miles paved  
Chemicals (Enzymes, Urea, Acids, and Caustic) Delivery Haul Road, 0.2 miles paved and 0.15 miles unpaved  
Wetcake Shipment Haul Road, 0.25 miles paved  
Syrup Shipment Haul Road, 0.25 miles paved  
Corn Oil Shipment Haul Road, 0.25 miles paved and 0.15 miles unpaved  
Denaturant Delivery Haul Road, 0.2 miles paved and 0.15 miles unpaved  
CO2 Shipment Haul Road, 0.35 miles paved and 0.05 miles unpaved |
**Paved Haul Road Requirements:**

1. Special Condition 6.A.1: The permittee shall pave:
   a) All portions of the haul road used for the delivery of denaturant and the shipping of denatured ethanol, wetcake, syrup.
   b) 0.8 miles of the haul road route used for grain delivery and grain shipment.
   c) 0.4 miles of the haul road route used for the delivery of chemicals (enzymes, urea, acids, and caustic).
   d) 0.5 miles of the haul road route used for the shipping of DDGS.
   e) 0.5 miles of the haul road route used for the shipping of corn oil.
   f) 0.7 miles of the haul road route used for the shipping of CO2.

2. Special Condition 6.A.2: The silt loading on all paved haul roads shall not exceed 0.7 g/m².

3. Special Condition 6.A.3: Compliance with the silt loading limitation shall be demonstrated by conducting a series (as defined in Appendix C of AP-42) of silt loading performance tests at least once per quarter during the first year after permit issuance. If the average silt loading is less than 75% of the limit (0.525 g/m²) in four consecutive tests, test frequency shall be reduced to once per calendar year.

4. Special Condition 6.A.4: The silt loading tests shall be representative (as defined in Appendix C of AP-42) and conducted in accordance with ASTM-C-136 method. Testing cannot be done immediately after cleaning. If there is a regular cleaning schedule, testing shall be done no earlier than the midpoint of the cleaning cycle (i.e. if cleaning is scheduled every week, then testing shall be performed on the fourth, fifth, sixth, or seventh day of the week).

**Chemical Dust Suppression Requirements:**

1. Special Condition 6.B.1: The permittee shall apply chemical dust suppressant to the haul roads as frequently as necessary to achieve compliance with 10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin. The chemical dust suppressant agent shall be applied to the haul roads at the manufacturer’s recommended application rate for the specific dust control agent to be used at this site. The chemical dust suppressant shall contain no VOC and no HAP.

2. Special Condition 6.B.2: Once each operating day, the permittee shall conduct visible emissions observations at the property boundary.

3. Special Condition 6.B.3: The permittee shall maintain the following records:
   a) The results of each daily visible emissions observation at the property boundary.
   b) The estimated surface area of the haul roads;
   c) The time, date and the approximate amount of chemical dust suppressant agent applied; and
   d) Records of breakdowns and repairs for the equipment used to apply the chemical dust suppressant agent.

**Recordkeeping and Reporting:**

1. Special Condition 10.A: The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include SDS for all materials used.

2. The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

---

10 Lengths requiring pavement are for the entire route. The actual length of pavement will be half the amount indicated as trucks travel the same segment both full and empty.
PERMIT CONDITION 015
10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-18</td>
<td>Ethanol Loadout with Inline Denaturant Blending Control Equipment: Flare (C019), 0.567 MMBtu/hr</td>
</tr>
<tr>
<td>EP-31</td>
<td>Flare (C019), 0.567 MMBtu/hr</td>
</tr>
</tbody>
</table>

Operational Limitation:
1. Special Condition 8.A: The permittee shall control VOC emissions from the ethanol loading rack(s) at all times loading is occurring using a flare
2. Special Condition 8.B: The flare shall be designed and operated to meet the requirements of §60.18(c) through (f):
   a) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in §60.18(f), except for periods not to exceed a total of five minutes during any two consecutive hours. [§60.18(c)(1)]
   b) Flares shall be operated with a flame present at all times, as determined by the methods specified in §60.18(f). [§60.18(c)(2)]
   c) The flare shall adhere to either the heat content specifications in §60.18(c)(3)(ii) and the maximum tip velocity specifications in §60.18(c)(4), or to the requirements in §60.18(c)(3)(i). [§60.18(c)(3)]
      i) Flares shall be used that have a diameter of three inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:
      \[
      V_{max} = (X_{H_2} - K_1) \times K_2
      \]
      Where:
      \[ V_{max} \] = Maximum permitted velocity, m/sec.
      \[ K_1 \] = Constant, 6.0 volume-percent hydrogen.
      \[ K_2 \] = Constant, 3.9(m/sec)/volume-percent hydrogen.
      \[ X_{H_2} \] = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in §60.17). [§60.18(c)(3)(i)(A)]
      ii) The actual exit velocity of a flare shall be determined by the method specified in §60.18(f)(4). [§60.18(c)(3)(i)(B)]
      iii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in §60.18(f)(3). [§60.18(c)(3)(ii)]
      d) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in §60.18(c)(4)(ii) and (iii). [§60.18(c)(4)(i)]
      e) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4), equal to or greater than 18.3 m/sec (60 ft/sec),
ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). [§60.18(c)(4)(ii)]

f) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4), less than the velocity, $V_{max}$, as determined by the method specified in §60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. [§60.18(c)(4)(iii)]

g) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, $V_{max}$, as determined by the method specified in §60.18(f)(6). [§60.18(c)(5)]

h) Flares used to comply with §60.18 shall be steam-assisted, air-assisted, or nonassisted. [§60.18(c)(6)]

i) The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design. [§60.18(d)]

j) Flares used to comply with provisions of §60.18 shall be operated at all times when emissions may be vented to them. [§60.18(e)]

k) Method 22 of NSPS Appendix A shall be used to determine the compliance of flares with the visible emission provisions of §60.18. The observation period is two hours and shall be used according to Method 22. [§60.18(f)(1)]

l) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. [§60.18(f)(2)]

m) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

$H_T$ = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;

$K$ = Constant, $1.740 \times 10^{-7}$ (mol ppm)$^{-1}$ (a mole scm)$^{-1}$ (MJ kcal)$^{-1}$ Where the standard temperature for (a mole scm) is 20°C;

$C_i$ = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and CO by ASTM D1946-77 or 90 (Reapproved 1994) (Incorporated by reference as specified in §60.17); and

$H_i$ = Net heat of combustion of sample component i, kcal/g mole at 25°C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in §60.17) if published values are not available or cannot be calculated. [§60.18(f)(3)]

n) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip. [§60.18(f)(4)]

o) The maximum permitted velocity, $V_{max}$, for flares complying with §60.18(c)(4)(iii) shall be determined by the following equation.

$$\log_{10}(V_{max}) = \frac{(H_T + 28.8)}{31.7}$$

Where:

$V_{max}$ = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant
HT = The net heating value as determined in §60.18(f)(3). [§60.18(f)(5)]

p) The maximum permitted velocity, \( V_{\text{max}} \), for air-assisted flares shall be determined by the following equation.

\[
V_{\text{max}} = 8.706 + 0.7084 \times (H_T)
\]

Where:

\( V_{\text{max}} \) = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

\( H_T \) = The net heating value as determined in §60.18(f)(3). [§60.18(f)(6)]

Monitoring:
The permittee shall conduct visible emissions readings on the flare using the procedures specified in §60.18(f)(1). Readings are only required when the flare is operating and when the weather conditions allow. Observations shall be made once per month.

Recordkeeping:
1. The permittee shall maintain records of all observation results using Attachment F or an equivalent form.
2. Special Condition 10.A: The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include SDS for all materials used.

Reporting:
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-41</td>
<td>250 gallon Gasoline Tank</td>
</tr>
</tbody>
</table>

PERMIT CONDITION 016
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations

General Requirements:
1. The permittee shall, at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [§63.11115(a)]

2. The permittee shall keep applicable records and submit reports as specified in §63.11125(d) and §63.11126(b). [§63.11115(b)]
Requirements for Facilities with Monthly Throughput of less than 10,000 gallons of Gasoline:

1. The permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following: [§63.11116(a)]
   a) Minimize gasoline spills; [§63.11116(a)(1)]
   b) Clean up spills as expeditiously as practicable; [§63.11116(a)(2)]
   c) Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use; [§63.11116(a)(3)]
   d) Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators. [§63.11116(a)(4)]

2. The permittee is not required to submit notifications or reports as specified in §63.11125, §63.11126, or 40 CFR Part 63, Subpart A, but the permittee shall have records available within 24 hours of a request by the Director to document the gasoline throughput. [§63.11116(b)]

3. Portable gasoline containers that meet the requirements of 40 CFR Part 59, Subpart F, are considered acceptable for compliance with §63.11116(a)(3). [§63.11116(d)]

Recordkeeping Requirements:

1. The permittee shall keep records as specified in §63.11125(d)(1) and (2). [§63.11125(d)]
   a) Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. [§63.11125(d)(1)]
   b) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.11115(a), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [§63.11125(d)(2)]

2. The permittee shall maintain all records required by this permit for not less than five years and shall make them available to Missouri Department of Natural Resources’ personnel upon request.

General Provisions:

The permittee shall comply with the applicable General Provisions in §§63.1 through 63.15 as specified by Table 3 to MACT CCCCCC.

Reporting:

The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.
PERMIT CONDITION 017
10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017

<table>
<thead>
<tr>
<th>Emission Sources</th>
<th>Description</th>
</tr>
</thead>
</table>
| EP-04            | Fermentation Process: (11) 270,000 gallon Fermentation Tanks and (1) 394, 000 gallon Beer Well, 38,000 gph beer  
Control Equipment: Fermentation Scrubber (C003) and RTO (C005), 18 MMBtu/hr |
| EP-05            | Distillation Process: Evaporator, Side Stripper, Beer Stripper, Rectifier, Surge Tank Side Stripper, Product Rundown Tank, and (6) Molecular Sieves, 38,000 gph beer  
Control Equipment: Distillation Scrubber (C004) and RTO (C005), 18 MMBtu/hr |
| EP-06            | (2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS  
Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas |
| EP-11            | 67,000 gallon 190-Proof Ethanol Internal Floating Roof Tank |
| EP-14            | 180,000 gallon 200-Proof Ethanol Internal Floating Roof Tank |
| EP-15            | 180,000 gallon 200-Proof Ethanol Internal Floating Roof Tank |
| EP-18            | Ethanol Loadout with Inline Denaturant Blending  
Control Equipment: Flare (C019), 0.567 MMBtu/hr |
| EP-27            | DDG Fluid Bed Cooler, 38,000 gph beer, 22.83 tph DDGS  
Control Equipment: 26,500 dscfm Baghouse (C009) |
| EP-32            | 1,000,000 gallon 200-Proof Ethanol Internal Floating Roof Tank |
| FS002            | Equipment Leaks⁶ |
| FS005            | Tank Farm Equipment Leaks⁷ |

**Reporting:**

1. Special Condition 9: The permittee shall notify the Air Pollution Control Program before initial startup of any modifications to the facility design that could impact the release parameters specified in the Memorandum from the Modeling Unit titled, “AAQIA for POET Biorefining Macon Facility–Production Increase” (December 2015). The permittee shall notify the Air Pollution Control Program of any modification which will increase the potential acrolein emission rate of any of the emission points identified in Tables 1, 2, and 3 of the AAQIA. In the event the Air Pollution Control Program determines that the changes are significant, the permittee shall submit an updated AAQIA to the Air Pollution Control Program that continues to demonstrate compliance with Missouri’s Acrolein RAL.

2. The permittee shall report any deviations from the requirements of this permit condition in the semi-annual monitoring report and annual compliance certification required by Section V of this permit.

PERMIT CONDITION 018
10 CSR 10-6.060 Construction Permits Required
Construction Permit 042017-011, Issued April 25, 2017

<table>
<thead>
<tr>
<th>Emission Sources</th>
<th>Description</th>
</tr>
</thead>
</table>
| EP-38            | Corn Receiving #2 and Corn Conveyor, 560 tph grain  
Control Equipment: Baghouse (C022) |
| EP-39            | Grain Loadout Conveyor, 420 tph  
Control Equipment: 430 dscfm Baghouse (C023) |
| EP-40            | Grain Loadout Spout, 420 tph  
Control Equipment: 1,800 dscfm Baghouse (C024) |
Operational Limitations:
2. Special Condition 12.B: The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses shall be equipped with a gauge or meter, which indicates the pressure drop across the control devices. These gauges or meters shall be located such that Department of Natural Resources’ employees may easily observe them.
3. Special Condition 12.C: Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

Monitoring/Recordkeeping:
1. Special Condition 12.D: The permittee shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer.
2. Special Condition 12.E: The permittee shall maintain a copy of the baghouse manufacturer’s specifications on site indicating the normal operating pressure drop range for the baghouses.
3. Special Condition 12.F: The permittee shall maintain an operating and maintenance log for the baghouses which shall include the following:
   a) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
4. Special Condition 10.A: The permittee shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request. These records shall include SDS for all materials used.

Reporting:
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.
PERMIT CONDITION 019
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

<table>
<thead>
<tr>
<th>Stack ID</th>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SV001</td>
<td>EP-01</td>
<td>Corn Receiving #1, Corn Transfer, Corn Storage: (1) 40,480 bushel bin, (2) 169,769 bushel bins, and (4) 515,576 bushel bins, (3) Corn Conveyors, 490 tph grain Corn Scalper and 13,520 bushel Surge Bin, 90 tph grain Control Equipment: Baghouse (C001)</td>
</tr>
<tr>
<td>SV006</td>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>SV007</td>
<td>EP-07</td>
<td>DDGS Silo Bypass, 22.83 tph DDGS Control Equipment: 3,500 dscfm Baghouse (C006)</td>
</tr>
<tr>
<td>SV009</td>
<td>EP-09</td>
<td>Grain Dryer, 31 MMBtu/hr natural gas, 7.61 tph grain</td>
</tr>
<tr>
<td>SV027</td>
<td>EP-27</td>
<td>DDG Fluid Bed Cooler, 38,000 gph beer, 22.83 tph DDGS Control Equipment: 26,500 dscfm Baghouse (C009)</td>
</tr>
<tr>
<td>SV028</td>
<td>EP-28</td>
<td>DDGS Silo, Transfer, and Loading, 22.83 tph DDGS Control Equipment: 3,500 dscfm Baghouse (C010)</td>
</tr>
<tr>
<td>SV034</td>
<td>EP-34</td>
<td>Hammermill #1, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C013)</td>
</tr>
<tr>
<td>SV035</td>
<td>EP-35</td>
<td>Hammermill #2, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C014)</td>
</tr>
<tr>
<td>SV036</td>
<td>EP-36</td>
<td>Hammermill #3, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C015)</td>
</tr>
<tr>
<td>SV037</td>
<td>EP-37</td>
<td>Hammermill #4, 22.5 tph grain Control Equipment: 12,000 dscfm Baghouse (C016)</td>
</tr>
<tr>
<td>SV038</td>
<td>EP-38</td>
<td>Corn Receiving #2 and Corn Conveyor, 560 tph grain Control Equipment: Baghouse (C022)</td>
</tr>
<tr>
<td>SV039</td>
<td>EP-39</td>
<td>Grain Loadout Conveyor, 420 tph Control Equipment: 430 dscfm Baghouse (C023)</td>
</tr>
<tr>
<td>SV040</td>
<td>EP-40</td>
<td>Grain Loadout Spout, 420 tph Control Equipment: 1,800 dscfm Baghouse (C024)</td>
</tr>
</tbody>
</table>

Emission Limitation:
1. The permittee shall not cause or permit to be discharged into the atmosphere from these stacks any visible emissions with an opacity greater than 20 percent for any continuous six-minute period. [10 CSR 10-6.220(3)(A)1]
2. Exception: Visible emissions of 60% opacity are allowed for one continuous six-minute period in any 60 minutes. [10 CSR 10-6.220(3)(A)2]

Monitoring:
1. The permittee shall conduct visible emissions observations on these stacks using the procedures contained in EPA Test Method 22. Readings are only required when the emission sources are operating and when the weather conditions allow. If no visible emissions are observed using Method 22, then no further observations would be required. For stacks with visible emissions, the permittee representative would then conduct a Method 9 opacity observation.
2. The following monitoring schedule shall be maintained:
   a) Weekly observations shall be conducted for a minimum of eight consecutive weeks after permit issuance. Should no violation of this regulation be observed during this period then-
b) Observations shall be made once every two weeks for a period of eight weeks. If a violation is noted, monitoring reverts to weekly. Should no violation of this regulation be observed during this period then-
c) Observations shall be made once per month. If a violation is noted, monitoring reverts to weekly.
d) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:
1. The permittee shall maintain records of all visible emissions observations using Attachment F or an equivalent form, noting:
   a) Whether any air emissions (except for water vapor) were visible from the stack and
   b) All stacks from which visible emissions occurred.
2. The permittee shall maintain records of all opacity observations using Attachment G or an equivalent form.
3. The permittee shall maintain records of emission units inspections, maintenance, repairs, and malfunctions using Attachment H or an equivalent form.
4. These records shall be made available for inspection to Department of Natural Resources’ personnel upon request.
5. All records shall be maintained for five years.

Reporting:
The permittee shall report any deviations from the requirements of this permit condition in the annual monitoring report and compliance certification required by Section V of this permit.

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-09</td>
<td>Grain Dryer, 31 MMBtu/hr natural gas, 7.61 tph grain</td>
</tr>
</tbody>
</table>

PERMIT CONDITION 020
10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-09</td>
<td>Grain Dryer, 31 MMBtu/hr natural gas, 7.61 tph grain</td>
</tr>
</tbody>
</table>

Emission Limitation:
The permittee shall not emit PM in excess of the limits given in the following table: [10 CSR 10-6.400(3)(A)3.1]

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-06</td>
<td>(2) DDGS Dryers, 68.5 MMBtu/hr natural gas each, 22.83 tph DDGS Control Equipment: Cyclone (C006) and RTO (C005), 18 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-09</td>
<td>Grain Dryer, 31 MMBtu/hr natural gas, 7.61 tph grain</td>
</tr>
</tbody>
</table>
Compliance Demonstration:
The following table demonstrates that the emission sources are in compliance with the regulation:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>MHDR (tph)</th>
<th>PM Emission Factor (lb/ton)</th>
<th>Emission Factor Source</th>
<th>Potential PM Emission Rate (lb/hr)</th>
<th>PM Emission Limit (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-06</td>
<td>22.83</td>
<td>0.09</td>
<td>November 2015 Stack Test</td>
<td>2.11&lt;sup&gt;11&lt;/sup&gt;</td>
<td>33.34</td>
</tr>
<tr>
<td>EP-09</td>
<td>7.61</td>
<td>0.22</td>
<td>AP-42 Table 9.9.1-1</td>
<td>1.67</td>
<td>15.97</td>
</tr>
</tbody>
</table>

Monitoring/Recordkeeping/Reporting:
The compliance demonstration shows that the emission sources are in compliance; therefore, no additional monitoring, recordkeeping, or reporting is required at this time.

<sup>11</sup>This is a controlled emission rate as the cyclone and RTO were in operation during the stack testing event. Practically enforceable requirements for the operation of the cyclone and RTO are in Permit Conditions 002 and 006.
IV. Core Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the CFR and CSR for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect on the date of permit issuance. The following are only excerpts from the regulation or code, and are provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

1. General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.

2. Certain types of materials may be open burned provided an open burning permit is obtained from the Director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the permittee fails to comply with the conditions or any provisions of the permit.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

1. In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the Director within two business days, in writing, the following information:
   a) Name and location of installation;
   b) Name and telephone number of person responsible for the installation;
   c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
   d) Identity of the equipment causing the excess emissions;
   e) Time and duration of the period of excess emissions;
   f) Cause of the excess emissions;
   g) Air pollutants involved;
   h) Estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
   i) Measures taken to mitigate the extent and duration of the excess emissions; and
   j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.

2. The permittee shall submit the paragraph 1 information to the Director in writing at least ten days prior to any maintenance, start-up or shutdown activity which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, notice shall be given as soon as practicable prior to the activity.

3. Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under §643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the Director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under §§643.080 or 643.151, RSMo.

4. Nothing in this rule shall be construed to limit the authority of the Director or commission to take appropriate action, under §§643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
5. Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

**10 CSR 10-6.060 Construction Permits Required**

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

**10 CSR 10-6.065 Operating Permits**

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than 18 months. The permittee shall retain the most current operating permit issued to this installation on-site. The permittee shall immediately make such permit available to any Missouri Department of Natural Resources’ personnel upon request. Failure to submit an application in a timely manner will result in the application not receiving an application shield.


The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M - National Emission Standard for Asbestos.

**10 CSR 10-6.110 Reporting of Emission Data, Emission Fees and Process Information**

1. The permittee shall submit a Full Emissions Report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on EIQ paper forms on the frequency specified in this rule and in accordance with the requirements outlined in this rule. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the Director.
2. Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
3. The permittee shall submit a full EIQ for the 2017, 2020, and 2023 reporting years. In the interim years the installation may submit a Reduced Reporting Form; however, if the installation’s emissions increase or decrease by more than five tons when compared to their last submitted full EIQ, the installation shall submit a full EIQ rather than a Reduced Reporting Form.
4. In addition to the EIQ submittal schedule outlined above, any permit issued under 10 CSR 10-6.060(5) or (6) triggers a requirement that a full EIQ be submitted in the first full calendar year after the permitted equipment initially operates.

**10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential**

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.
10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.165 Restriction of Emission of Odors

This is a State Only permit requirement.

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

10 CSR 10-6.170 Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

Emission Limitation:

1. The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the Director.

2. The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.

3. Should it be determined that noncompliance has occurred, the Director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
   a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
   b) Paving or frequent cleaning of roads, driveways and parking lots;
   c) Application of dust-free surfaces;
   d) Application of water; and
   e) Planting and maintenance of vegetative ground cover.

Monitoring:

1. The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.

2. The permittee shall maintain the following monitoring schedule:
   a) The permittee shall conduct weekly observations for a minimum of eight consecutive weeks after permit issuance.
   b) Should no violation of this regulation be observed during this period then-
      i) The permittee may observe once every two weeks for a period of eight weeks.
      ii) If a violation is noted, monitoring reverts to weekly.
      iii) Should no violation of this regulation be observed during this period then-
(1) The permittee may observe once per month.
(2) If a violation is noted, monitoring reverts to weekly.
   c) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

**Recordkeeping:**
1. The permittee shall document all readings on Attachment I, or an equivalent form, noting the following:
   a) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
   b) Whether equipment malfunctions contributed to an exceedance.
   c) Any violations and any corrective actions undertaken to correct the violation.

**10 CSR 10-6.180 Measurement of Emissions of Air Contaminants**
1. The Director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The Director may specify testing methods to be used in accordance with good professional practice. The Director may observe the testing. All tests shall be performed by qualified personnel.
2. The Director may conduct tests of emissions of air contaminants from any source. Upon request of the Director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
3. The Director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

**10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements**
The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees.

**10 CSR 10-6.280 Compliance Monitoring Usage**
1. The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
   a) Monitoring methods outlined in 40 CFR Part 64;
   b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, “Operating Permits”, and incorporated into an operating permit; and
   c) Any other monitoring methods approved by the Director.
2. Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at an installation:
a) Monitoring methods outlined in 40 CFR Part 64;
b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, “Operating Permits”, and incorporated into an operating permit; and
c) Compliance test methods specified in the rule cited as the authority for the emission limitations.

3. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
   a) Applicable monitoring or testing methods, cited in:
      i) 10 CSR 10-6.030, “Sampling Methods for Air Pollution Sources”;
      ii) 10 CSR 10-6.040, “Reference Methods”;
      iii) 10 CSR 10-6.070, “New Source Performance Standards”;
      iv) 10 CSR 10-6.080, “Emission Standards for Hazardous Air Pollutants”; or
   b) Other testing, monitoring, or information gathering methods, if approved by the Director, that produce information comparable to that produced by any method listed above.

40 CFR Part 82 Protection of Stratospheric Ozone (Title VI)

This is a Federal Only permit requirement.

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
   a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
   b) The placement of the required warning statement must comply with the requirements of §82.108.
   c) The form of the label bearing the required warning statement must comply with the requirements of §82.110.
   d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B of 40 CFR Part 82:
   a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices described in §82.156.
   b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment described in §82.158.
   c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
   d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with the record keeping requirements of §82.166. ("MVAC-like" appliance as defined at §82.152).
   e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
   f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A - Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air
conditioner (MVAC), the permittee is subject to all the applicable requirements contained in 40 CFR Part 82, Subpart B - Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in 40 CFR Part 82, Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in 40 CFR Part 82, Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G - Significant New Alternatives Policy Program.
V. General Permit Requirements
The installation shall comply with each of the following requirements. Consult the appropriate sections in the CFR and CSR for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

### 10 CSR 10-6.065, §(5)(C)1, §(6)(C)1.B, §(5)(E)2.C Permit Duration
This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed. If a timely and complete application for a permit renewal is submitted, but the Air Pollution Control Program fails to take final action to issue or deny the renewal permit before the end of the term of this permit, this permit shall not expire until the renewal permit is issued or denied. Timely means no earlier than 18 months, but no later than six months prior to the expiration date of this permit. Failure to submit an application in a timely manner will result in the application not receiving an application shield.

### 10 CSR 10-6.065, §(5)(C)1 and §(6)(C)1.C General Record Keeping and Reporting Requirements

1) Record Keeping
   a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
   b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources’ personnel upon request.

2) Reporting
   a) All reports shall be submitted to the Air Pollution Control Program, Compliance and Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
   b) The permittee shall submit a report of all required monitoring by:
      i) April 1st for monitoring which covers the January through December time period.
      ii) Exception. Monitoring requirements which require reporting more frequently than annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
   c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit.
   d) Submit supplemental reports as required or as needed. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
      i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7 of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.

iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's annual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.

e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.

f) The permittee may request confidential treatment of information submitted in any report of deviation.

<table>
<thead>
<tr>
<th>10 CSR 10-6.065 §(5)(C)1 and §(6)(C)1.D Risk Management Plan Under § 112(r)</th>
</tr>
</thead>
</table>
If the installation is required to develop and register a risk management plan pursuant to § 112(R) of the Act, the permittee will verify that it has complied with the requirement to register the plan.

<table>
<thead>
<tr>
<th>10 CSR 10-6.065(5)(C)1.A General Requirements</th>
</tr>
</thead>
</table>
1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.

2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.

5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted under this rule.

6) Failure to comply with the limitations and conditions that qualify the installation for an Intermediate permit make the installation subject to the provisions of 10 CSR 10-6.065(6) and enforcement action for operating without a valid part 70 operating permit.

<table>
<thead>
<tr>
<th>10 CSR 10-6.065(5)(C)1.C Reasonably Anticipated Operating Scenarios</th>
</tr>
</thead>
</table>
None.
10 CSR 10-6.065, §(5)(B)4; §(5)(C)1, §(6)(C)3.B; and §(6)(C)3.D; and §(5)(C)3 and §(6)(C)3.E.(I)
– (III) and (V) – (VI) Compliance Requirements

1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.

2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation’s right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
   a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
   b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
   d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.

3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
   a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
   b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.

4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to the Air Pollution Control Program, Compliance and Enforcement Section at P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov. All deviations and exceedances must be included in the compliance certifications. The compliance certification shall include the following:
   a) The identification of each term or condition of the permit that is the basis of the certification;
   b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
   c) Whether compliance was continuous or intermittent;
   d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
   e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065, §(5)(C)1 and §(6)(C)7 Emergency Provisions

1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
b) That the installation was being operated properly,
c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.

2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(5)(C)5 Off-Permit Changes

1) Except as noted below, the permittee may make any change in its permitted installation’s operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Off-permit changes shall be subject to the following requirements and restrictions:

a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is a Title I modification; Please Note: Changes at the installation which affect the emission limitation(s) classifying the installation as an intermediate source (add additional equipment to the record keeping requirements, increase the emissions above major source level) do not qualify for off-permit changes.

b) The permittee must provide contemporaneous written notice of the change to the Air Pollution Control Program, Compliance and Enforcement Section at P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change; and

b) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes.

10 CSR 10-6.020(2)(R)34 Responsible Official

The application utilized in the preparation of this permit was signed by Stephen M. Murphy, General Manager. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.
10 CSR 10-6.065 §(5)(E)4 and §(6)(E)6.A(III)(a)-(c) Reopening-Permit for Cause

This permit may be reopened for cause if:
1) The Missouri Department of Natural Resources (MDNR) or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
2) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
   a) The permit has a remaining term of less than three years;
   b) The effective date of the requirement is later than the date on which the permit is due to expire; or
   c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
3) MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.


This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.
Attachment A
NOX Tracking Sheet

This sheet covers the period from _______ to _______.
(month, year)   (month, year)

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>Description</th>
<th>Monthly Usage</th>
<th>NOX Emission Factor</th>
<th>Emission Factor Source</th>
<th>Monthly NOX Emissions 12 (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-06</td>
<td>DDGS Dryers &amp; RTO while fermentation scrubber flow rate is 45 gpm</td>
<td>Gal beer produced</td>
<td>2.4678 x 10^-4 lb/gal beer produced 13</td>
<td>March 2015 Stack Test</td>
<td></td>
</tr>
<tr>
<td>EP-06</td>
<td>DDGS Dryers &amp; RTO while fermentation scrubber flow rate is 20 gpm</td>
<td>Gal beer produced</td>
<td>2.7602 x 10^-4 lb/gal beer produced 14</td>
<td>November 2015 Stack Test</td>
<td></td>
</tr>
<tr>
<td>EP-08</td>
<td>Boiler #1</td>
<td>MMscf</td>
<td>100 lb/MMscf</td>
<td>AP-42 Table 1.4-1</td>
<td></td>
</tr>
<tr>
<td>EP-09</td>
<td>Grain Dryer</td>
<td>MMscf</td>
<td>100 lb/MMscf</td>
<td>AP-42 Table 1.4-1</td>
<td></td>
</tr>
<tr>
<td>EP-30</td>
<td>Boiler #2</td>
<td>MMscf</td>
<td>100 lb/MMscf</td>
<td>AP-42 Table 1.4-1</td>
<td></td>
</tr>
<tr>
<td>EP-31</td>
<td>Flare</td>
<td>0.0567 MMBtu/hr</td>
<td>0.068 lb/MMBtu</td>
<td>AP-42 Table 13.5-1</td>
<td>0.001</td>
</tr>
</tbody>
</table>

**Installation Monthly NOX Emissions 15 (tons):**

**Installation 12-Month Rolling Total NOX Emissions 16 (tons):**

---

12 Monthly NOX Emissions (tons) = Monthly Usage x NOX Emission Factor x 0.0005 tons/lb.

13 This NOX Emission Factor may be replaced by a newer stack tested emission factor. The newer stack tested emission factor shall be based on approved stack testing and shall be determined by dividing the stack tested hourly NOX emission rate (lb/hr) by the beer production rate during the stack testing (gal/hr).

14 This NOX Emission Factor may be replaced by a newer stack tested emission factor. The newer stack tested emission factor shall be based on approved stack testing and shall be determined by dividing the stack tested hourly NOX emission rate (lb/hr) by the beer production rate during the stack testing (gal/hr).

15 Installation Monthly NOX Emissions (tons) = the sum of the Monthly NOX Emissions (tons) from each emission source.

16 Installation 12-Month Rolling Total NOX Emissions (tons) = the sum of the 12 most recent Installation Monthly NOX Emissions (tons) + the sum of all start-up, shutdown, and malfunction NOX emissions as reported to the Air Pollution Control Program’s Compliance/Enforcement Section during the same 12-month period. **Installation 12-Month Rolling Total NOX Emissions of less than 92.74 tons indicates compliance with Permit Condition PW001.**
Attachment B1
Daily Material Tracking Sheet

<table>
<thead>
<tr>
<th>Date (Month/Day/Year)</th>
<th>Grain Receiving(^{17}) (tons)</th>
<th>DDGS, Wetcake, and Syrup(^{18}) (tons)</th>
<th>Chemicals (Enzymes, Urea, Acid, and Caustic) and Denaturant(^{19}) (gallons)</th>
<th>CO(^{20}) (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{17}\) Daily grain receiving of less than or equal to 6,300 tons indicates compliance with Permit Condition PW002.

\(^{18}\) Daily DDGS, Wetcake, and Syrup shipment of less than or equal to 3,500 tons indicates compliance with Permit Condition PW002.

\(^{19}\) Daily Chemical (Enzymes, Urea, Acid, and Caustic) delivery and Denaturant delivery combined of less than or equal to 30,000 gallons indicates compliance with Permit Condition PW002.

\(^{20}\) Daily CO\(_2\) shipment of less than 550 tons indicates compliance with Permit Condition PW002.
### Attachment B2
12-Month Rolling Total Material Tracking Sheet

<table>
<thead>
<tr>
<th>Date (Month/Year)</th>
<th>Monthly Quantity of Material Handled</th>
<th>12-Month Rolling Total Quantity of Material Handled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21 Materials to be tracked are: tons of grain received, tons of DDGS shipped, tons of wetcake shipped, gallons of anhydrous ethanol produced, gallons of denatured ethanol shipped, tons of syrup shipped, gallons of denaturant received, tons of CO$_2$ shipped, and gallons of chemicals (enzymes, urea, acid, and caustic) received.

22 12-Month Rolling Total Quantity of Material Handled is the sum of the 12 most recent Monthly Quantity of Material Handled. 12-Month Rolling Total Quantity of Material Handled of less than or equal to 666,800 tons of grain received, 200,000 tons of DDGS shipped, 80,000 tons of wetcake shipped, 55,000,000 gallons of anhydrous ethanol produced, 58,000,000 gallons of denatured ethanol shipped, 20,000 tons of syrup shipped, 3,000,000 gallons of denaturant received, 135,000 tons of CO$_2$ shipped, and 1,600,000 gallons of chemicals (enzymes, urea, acid, and caustic) received indicates compliance with Permit Condition PW002.
# Attachment C

## Bypass Tracking Sheet

<table>
<thead>
<tr>
<th>Date (Month/Year)</th>
<th>Monthly Bypass Operation (hours)</th>
<th>12-Monthly Rolling Total Bypass Operation (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Control Device

23 The permittee shall maintain an Attachment C for each of the following control devices: Scrubber (C003) and RTO (C005).

24 12-Month Rolling Total Bypass Operation (hours) = the sum of the 12 most recent Monthly Bypass Operation (hours). **12-Month Rolling Total Bypass Operation of less than or equal to 75 hours for Scrubber (C003) and 500 hours for RTO (C005) demonstrates compliance with Permit Condition 002.**
### Attachment D
DDGS Shipment Haul Road Tracking Sheet

<table>
<thead>
<tr>
<th>Date (Month/Day/Year)</th>
<th>Was the RTO shutdown at any time(^{25})?</th>
<th>Beginning of DDGS Shipment Haul Road Usage (Hour:Minute)</th>
<th>End of DDGS Shipment Haul Road Usage (Hour:Minute)</th>
<th>DDGS Shipment Haul Road Usage(^{26}) (Hours)</th>
<th>Daily DDGS Shipment Haul Road Usage(^{27}) (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{25}\) On days during which the RTO (C005) was shutdown for any length of time, the permittee shall monitor the hours of DDGS shipment haul road usage. On days during which the RTO (C005) operated all day, the permittee is only required to complete the first two columns of this table.

\(^{26}\) DDGS Shipment Haul Road Usage (Hours) = End of DDGS Shipment Haul Road Usage (Hour:Minute) – Beginning of DDGS Shipment Haul Road Usage (Hour:Minute).

\(^{27}\) Daily DDGS Shipment Haul Road Usage (Hours) = the sum of each DDGS Shipment Haul Road Usage (Hours) for the calendar date. **Daily DDGS Shipment Haul Road Usage of less than 16 hours indicates compliance with Permit Condition 007.**
**Attachment E**

Cooling Tower TDS Concentration Tracking Sheet

<table>
<thead>
<tr>
<th>Date (Month/Year)</th>
<th>Tested TDS Concentration(^{28}) (ppm)</th>
<th>12-month Rolling Average TDS Concentration(^{29}) (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{28}\) A TDS sample is required to be collected and tested at least once per calendar month per Permit Condition 008.

\(^{29}\) 12-Month Rolling Average TDS Concentration (ppm) = the average of all Tested TDS Concentrations (ppm) obtained within the most recent 12 months. A **12-Month Rolling Average TDS Concentration of less than 1,500 ppm indicates compliance with Permit Condition 008.**
## Method 22 Visible Emission Observations

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Emission Source</th>
<th>Visible Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
## Method 9 Opacity Emissions Observations

<table>
<thead>
<tr>
<th>Hour</th>
<th>Minute</th>
<th>Seconds</th>
<th>Steam Plume (check if applicable)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>0 15 30 45 Attached Detached</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SUMMARY OF AVERAGE OPACITY

<table>
<thead>
<tr>
<th>Set Number</th>
<th>Time</th>
<th>Opacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start</td>
<td>End</td>
</tr>
</tbody>
</table>

Readings ranged from ____________ to ____________ % opacity.

Was the emission unit in compliance at the time of evaluation?  

YES  NO  Signature of Observer
## Attachment H

**Inspection/Maintenance/Repair/Malfunction Log**

Emission Unit # or CVM # ________________________________

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Inspection/Maintenance Activities</th>
<th>Malfunction Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Malfunction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Attachment I
10 CSR 10-6.170 Fugitive Emission Observations

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Visible Emissions Beyond Property Boundary</th>
<th>Visible Emissions</th>
<th>Corrective Action</th>
<th>Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Cause</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STATEMENT OF BASIS

Voluntary Limitations
In order to qualify for this Intermediate State Operating Permit, the permittee has accepted voluntary, federally enforceable emission limitations. Per 10 CSR 10-6.065(5)(C)1.A.(VI), if these limitations are exceeded, the installation immediately becomes subject to 10 CSR 10-6.065(6) and enforcement action for operating without a valid part 70 operating permit. It is the permittee’s responsibility to monitor emission levels and apply for a part 70 operating permit far enough in advance to avoid this situation. This may mean applying more than eighteen months in advance of the exceedance, since it can take that long or longer to obtain a part 70 operating permit.

INSTALLATION DESCRIPTION

POET Biorefining – Macon, LLC operates an ethanol production plant in Macon, MO. Up to 19 million bushels of grain are processed to produce 55,000,000 gallons of 200 proof ethanol. The installation is a synthetic minor source of NOx.

EP-01, EP-38, and FS001 Grain Receiving and Handling
The grain is received and stored on site prior to cleaning and milling. Only 95% of emissions of grain receiving are captured. The uncaptured emissions are reported under FS001. The grain handling equipment is enclosed and vented to baghouses (C001 or C022) with negative pressure.

EP-09 Grain Dryer
Approximately 10% of the grain is dried to reduce the moisture content.

Once the grain is cleaned, it is then ground with hammermills. Emissions from each of the four hammermills and grain cleaners are controlled by baghouses (C013, C014, C015, and C016) with negative pressure.

The milled grain is then blended with water and enzymes to form a mash slurry for the fermentation process. Yeast and more enzymes are added to this mash in the 11 fermentation tanks. After batch fermentation, the resultant ethanol mixture (beer) is stored in the beer well. Emissions from the fermentation process are controlled by a scrubber (C003) and an RTO (C005). When the RTO (C005) is bypassed, emissions from the scrubber (C003) are vented to the atmosphere and reported under EP-04. When the scrubber (C003) is bypassed, emissions from the fermentation process are routed to the RTO (C005). Emissions from the RTO (C005) are reported under EP-06. Emissions from leaking equipment are reported under FS002.

EP-05, EP-06, and FS002 Distillation Process
Beer is distilled in a series of distillation columns. The resultant products are approximately 190 proof ethanol and whole stillage. Using molecular sieves, most of the remaining water will be removed from the ethanol to produce 200 proof ethanol. Emissions from the distillation process are controlled by a scrubber (C004) and an RTO (C005). When the RTO (C005) is bypassed, emissions from the scrubber (C004) are vented to the atmosphere and reported under EP-05. When the scrubber (C004) is bypassed,
the distillation process is required to be shutdown. Emissions from the RTO (C005) are reported under EP-06. Emissions from leaking equipment are reported under FS002.

**EP-06, FS006, and FS002 Wet Cake**
The whole stillage is centrifuged to yield thin stillage and solid fractions (wet cake). Emissions from the centrifuge are vented to the RTO (C005). Emissions from the RTO (C005) are reported under EP-06. Some of the wet cake is stored on a concrete pad and sold. Wet cake production is limited to 80,000 tons per year. Emissions from leaking equipment are reported under FS002.

**EP-06 and FS002 DDGS Dryers**
The thin stillage is further evaporated in a series of evaporators to produce a syrup. This syrup is combined with the centrifuged wetcake and dried and cooled in a series of ring dryers to produce DDGS. Two ring dryers are used to dry the DDGS. The air and water vapor from this process go through cyclones to collect additional DDGS product which has an added benefit of reducing the DDGS dust load before being vented to the RTO (C005). When the RTO (C005) is bypassed, the DDGS dryers are required to be shutdown. During RTO bypass DDGS cannot be produced and only wet cake is produced. Emissions from the RTO are reported under EP-06. Emissions from leaking equipment are reported under FS002.

The DDGS is conveyed by a fluid bed cooler and stored in an enclosed silo. Emissions from the fluid bed cooler are reported under EP-27. When the fluid bed cooler is bypassed, emissions are reported under EP-07. Emissions from the DDGS silo, transfer, and loadout are reported under EP-28. The fluid bed cooler, silo, transfer, loadout, and bypass are all required to vent to baghouses (C009, C010, and C006). Only 95% of emissions from DDGS loadout are captured. The uncaptured emissions are reported under FS001.

**EP-08 and EP-30 Steam Production**
Process steam is produced by two natural gas-fired boilers.

Grain may be shipped out rather than processed to produced ethanol. The grain is conveyed from storage and loaded out using a telescoping spout. The conveyor and spout are each required to be vented to baghouses (C023 and C024). Only 95% of emissions from grain loadout are captured. The uncaptured emissions are reported under FS007.

A 67,000-gallon storage tank is available for 190 proof ethanol. Denaturant (gasoline) is stored in two storage tanks, one 49,000 gallons and the other 18,000 gallons. 200-proof ethanol is stored in three storage tanks, two 180,000 gallons and one 1,000,000 gallons. Corrosion inhibitor is stored in a 1,000 gallon tank. Gasoline for grounds maintenance engines is stored in a 250 gallon tank. Emissions from leaking tank equipment are reported under FS005.

Denaturant and 200-proof ethanol are blended inline during loadout into trucks. Emissions from truck loadout are controlled by a flare (C019). VOC and HAP emissions from ethanol loadout are reported under EP-18. Combustion emissions from the flare (C019) are reported under EP-31.
FS003 Cooling Tower
Process water is cooled in a cooling tower.

EP-17 Haul Roads
Raw materials and products enter and leave the plant by trucks or railcars. Emissions from truck movement on the haul roads are reported under EP-17. Portions of the haul roads at the plant are paved while other portions are unpaved.

Reported Air Pollutant Emissions, tons per year

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>46.01</td>
<td>44.01</td>
<td>29.79</td>
<td>38.74</td>
<td>46.61</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>43.96</td>
<td>41.88</td>
<td>27.92</td>
<td>30.74</td>
<td>36.32</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>25.98</td>
<td>25.18</td>
<td>18.97</td>
<td>22.91</td>
<td>26.12</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}\textsuperscript{30}</td>
<td>17.63</td>
<td>17.33</td>
<td>12.33</td>
<td>15.12</td>
<td>0.02</td>
</tr>
<tr>
<td>SO\textsubscript{x}</td>
<td>0.14</td>
<td>0.12</td>
<td>0.07</td>
<td>0.09</td>
<td>0.13</td>
</tr>
<tr>
<td>VOC</td>
<td>21.86</td>
<td>23.12</td>
<td>14.66</td>
<td>19.18</td>
<td>18.58</td>
</tr>
<tr>
<td>HAP</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
</tr>
<tr>
<td>Acetaldehyde (75-07-0)</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Permit Reference Documents
These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

1. Intermediate Operating Permit Application, received May 28, 2010;
4. Construction Permits 042017-011, 052016-005, 102012-011, 032003-008C, 102007-014

Other Air Regulations Determined Not to Apply to the Operating Permit
The Air Pollution Control Program has determined that the following requirements are not applicable to this installation at this time for the reasons stated.

10 CSR 10-6.100 *Alternate Emission Limits* is not applicable to the installation and has not been applied within this permit. The installation is located in an ozone attainment area.

10 CSR 10-6.260 *Restriction of Emission of Sulfur Compounds* is not applicable to the installation. Combustion equipment that uses exclusively pipeline grade natural gas is exempt per 10 CSR 10-6.260(1)(A)2.

\textsuperscript{30} Actual PM\textsubscript{2.5} emissions are higher than potential PM\textsubscript{2.5} emissions as stack testing conducted in March 2015 indicated a lower particulate emission rate from the RTO than previously documented. The installation reported an RTO emission rate of 4.3 lb/hr PM\textsubscript{10} and 3.19 lb/hr PM\textsubscript{2.5}, but is limited to 2.11 lb/hr of Primary PM\textsubscript{10} by Permit Condition 005.
10 CSR 10-6.261 *Control of Sulfur Dioxide Emissions* is not applicable to the installation. Individual units fueled exclusively with natural gas are exempt per 10 CSR 10-6.261(1)(A).

10 CSR 10-6.360 *Control of NOₓ Emissions From Electric Generating Units and Non-Electric Generating Boilers* is not applicable to the installation. The installation is located in Macon county which is not one of the applicable counties at 10 CSR 10-6.360(1)(A).

10 CSR 10-6.405 *Restriction of PM Emissions from Fuel Burning Equipment Used for Indirect Heating* is not applicable to the installation. An installation is exempt per 10 CSR 10-6.405(1)(E) if all of the installation’s applicable units are fueled only by natural gas.
### Updated Potential to Emit for the Installation

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Potential to Emit (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>70.66</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>&lt;92.74</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>33.60</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}</td>
<td>16.32</td>
</tr>
<tr>
<td>SO\textsubscript{x}</td>
<td>0.82</td>
</tr>
<tr>
<td>VOC</td>
<td>81.36\textsuperscript{32}</td>
</tr>
<tr>
<td>HAP</td>
<td>8.25</td>
</tr>
<tr>
<td>Hexane (110-54-3)</td>
<td>3.33</td>
</tr>
<tr>
<td>Acetaldehyde (75-07-0)</td>
<td>2.97</td>
</tr>
<tr>
<td>Formaldehyde (50-00-0)</td>
<td>1.14</td>
</tr>
<tr>
<td>Acrolein (107-02-8)</td>
<td>0.56</td>
</tr>
<tr>
<td>Methanol (67-56-1)</td>
<td>0.48</td>
</tr>
<tr>
<td>Benzene (71-43-2)</td>
<td>0.18</td>
</tr>
<tr>
<td>Toluene (108-88-3)</td>
<td>0.03</td>
</tr>
<tr>
<td>Xylene (1330-20-7)</td>
<td>0.01</td>
</tr>
</tbody>
</table>

\textsuperscript{31} The potential to emit was obtained from Construction Permit 042017-011 and is based on 8,760 hours of uncontrolled annual operation unless otherwise noted:
- Material handling was limited to the rates specified in Permit Condition PW002.
- Particulate emissions from EP-37 are based on the maximum grain outlet concentration of the baghouse required by Permit Condition 001.
- The fermentation process was evaluated with scrubber and RTO controls for 8,185 hours per year, 500 hours of scrubber only control (RTO bypass) per year, and 75 hours of RTO only control (scrubber bypass) per year as required by Permit Condition 002.
- The distillation process was evaluated with scrubber and RTO controls for 8,260 hours per year and 500 hours of scrubber only control (RTO bypass) per year as required by Permit Condition 002.
- The DDGS dryers were evaluated with cyclone and RTO control as required by Permit Conditions 002 and 006.
- Particulate emissions from EP-34, EP-35, and EP-36 were evaluated with baghouse control as required by Permit Condition 003.
- VOC emissions from equipment leaks, FS002 and FS005, were evaluated with LDAR control as required by Permit Condition 013.
- VOC emissions from ethanol loadout, EP-18, were evaluated with flare control as required by Permit Condition 015.
- Particulate emissions from EP-38, EP-39, and EP-40 were evaluated with baghouse control as required by Permit Condition 018.
- This PTE does not include EP-41.

\textsuperscript{32} VOC emissions from the RTO are based on a maximum VOC emission rate of 3.64 lb/hr from the RTO during testing in March 2015 at an operating temperature of 1657°F while the CO\textsubscript{2} plant is offline and 1671°F while the CO\textsubscript{2} plant is online.
Construction Permit History

Construction Permit 042017-011, Issued April 25, 2017:
- This Section (5) NSR permit is for an increase in anhydrous ethanol production to 55,000,000 gallons per year, 75 hours per year of fermentation scrubber bypass, and an increase in grain handling associated with new grain loadout equipment.
- Special Condition 1 states that the conditions of this permit supersede Special Conditions 2 and 5 of Construction Permit 102012-011 and Special Conditions 2.A, 2.B, 2.C, 2.D, 3, 6, and 12 of Construction Permit 032003-008C.
- Special Condition 2 has been applied in Permit Condition PW001. This special condition limits EP-06, EP-08, EP-09, EP-30, and EP-31 to 92.74 tons per year of NOx. This limit is a 40 tons per year (de minimis) increase above baseline actual emissions (52.74 tons per year) and allows the installation to avoid NOx modeling. Unconditioned NOx emissions at a production rate of 55,000,000 gallons per year of anhydrous ethanol result in potential NOx emissions of 111.56 tons per year; therefore, this NOx limit and the 55,000,000 gallons per year anhydrous ethanol production limit combined ensure that potential emissions of the installation remain below the major source threshold.
- Special Condition 3 has been applied in Permit Condition PW002.
- Special Conditions 4 and 5 have been applied in Permit Condition 002.
- Special Condition 6 has been applied in Permit Condition 014.
- Special Condition 7 has been applied in Permit Condition 005.
- Special Condition 8 has been applied in Permit Condition 015.
- Special Condition 9 has been applied in Permit Condition 017.
- Special Condition 10 has been applied in Permit Conditions PW001, PW002, 002, 014, 015, and 018.
- Special Condition 11 has been applied in Permit Conditions PW001, 002, and 005.
- Special Condition 12 has been applied in Permit Condition 018.

Construction Permit 052016-005, Issued May 24, 2016:
- This Section (5) NSR permit is for reduced scrubber liquid flow rate during CO2 plant operation.
- Special Condition 1 states that the conditions of this permit superseded Special Condition 5.E of Construction Permit 102012-011 and Special Condition 9.B of Construction Permit 032003-008C.
- Special Condition 2 has been applied in Permit Condition 002.
- Special Conditions 3 and 4 are duplicative with Construction Permit 042017-011 Special Conditions 5 and 10.

Construction Permit 102012-011, Issued October 23, 2012:
- This Section (5) NSR permit is for the installation of EP-37 Hammermill #4 and three fermentation tanks (EP-06 during RTO operation, EP-04 during bypass).
- Special Condition 1 states that the conditions of this permit supersede Special Conditions 4.A and 4.B of Construction Permit 032003-008C.
- Special Conditions 2 and 5 were superseded by Construction Permit 042017-011.
- Special Condition 3 required the removal of a hot slurry tank and three liquefaction tanks associated with EP-5. These emission sources have been removed as required. These emission sources are no longer at the installation and; therefore, have not been included in this operating permit.
- Special Condition 4 has been applied within this permit (see Permit Condition 001).
Special Conditions 6 and 7 required one time performance testing to determine the particulate emission rate from EP-37 and the VOC and acetaldehyde emission rates from EP-04 during RTO bypass. This testing was completed in February of 2014. The following tables provide the stack testing results:

<table>
<thead>
<tr>
<th>Hammermill Baghouse (C016) PM Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pressure Drop (inches H₂O)</strong></td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>1.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fermentation Scrubber (C003) VOC Results during RTO (C005) Bypass</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scrubber Water Flow Rate (gpm)</strong></td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>45.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fermentation Scrubber (C003) Acetaldehyde Results during RTO (C005) Bypass</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scrubber Water Flow Rate (gpm)</strong></td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>45.0</td>
</tr>
</tbody>
</table>

Special Condition 8 indicated the requirements that were to be undertaken if the permittee failed the testing required by Special Conditions 6 and 7. This testing has been completed successfully; therefore, this special condition was not included in this permit.

Construction Permit 032003-008, Issued February 18, 2003:
Construction Permit 032003-008A, Issued July 23, 2007:
Construction Permit 032003-008B, Issued September 8, 2009:
Construction Permit 032003-008C, Issued November 14, 2011:
- This Section (6) NSR permit is for modifications to the existing ethanol plant to increase production to 50,000,000 gallons per year of ethanol and replaces Construction Permit 052002-001.
- Amendment A is for the replacement of the existing grain receiving pit, conveyors, storage bins, and ethanol truck loadout flare with new equipment.
- Amendment B is for the replacement of the existing RTO with a new RTO.
- The RTO failed to achieve compliance with the PM₁₀ emission limit in Amendment B; therefore, Amendment C reevaluated PM₁₀ emission limitations and required new modeling which imposed new modeling restrictions. The hammermills constructed by 102007-014 were included in the modeling analysis.
- Special Condition 1 states that the conditions of this permit supersede all special conditions found in Construction Permits 052002-001, 0399-011, and 0399-011A.
- Special Condition 2.A, 2.B, 2.C, 2.D, 3, 6, and 12 were superseded by Construction Permit 042017-011.
- Special Condition 2.E has been applied in this permit (see Permit Condition 004).
Special Conditions 7 and 2.F requires that the RTO be bypassed for no more than 500 hours per year. This requirement is duplicative with Special Condition 5.A of Construction Permit 042017-011 (see Permit Condition 002).

Special Condition 4 was superseded by Construction Permit 102012-011.

Special Condition 5 has been applied in this permit (see Permit Condition 003).

Special Condition 9 requires the DDGS Dryers to be controlled by the RTO and contains RTO temperature monitoring. These requirements are duplicative with Special Condition 5 of Construction Permit 042017-011 (see Permit Condition 002).

Special Conditions 8 and 10 have been applied in this permit (see Permit Condition 006).

Special Condition 11 has been applied in this permit (see Permit Condition 007).

Special Condition 13 has been applied in this permit (see Permit Condition 008).

Portions of the one time performance testing required by Special Conditions 14 and 15 have already been performed. Results from this performance testing are available in the following table:

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Stack ID</th>
<th>Description</th>
<th>Pollutant</th>
<th>Stack Test Results</th>
<th>Stack Test Date</th>
<th>Operational Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-06</td>
<td>SV006</td>
<td>RTO</td>
<td>VOC</td>
<td>3.28 lb/hr</td>
<td>March 2015</td>
<td>Beer Feed Rate: 34,200 gph</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acetaldehyde</td>
<td>0.14 lb/hr</td>
<td></td>
<td>RTO Operating Temp.: 1657°F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acrolein</td>
<td>0.10 lb/hr</td>
<td></td>
<td>Ferm. Scrubber Water Flow Rate: 45 gpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Methanol</td>
<td>0.06 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Formaldehyde</td>
<td>0.03 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO</td>
<td>2.33 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NOx</td>
<td>8.44 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM10</td>
<td>1.45 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VOC</td>
<td>2.52 lb/hr</td>
<td>November 2015</td>
<td>Beer Feed Rate: 34,200 gph</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acetaldehyde</td>
<td>0.12 lb/hr</td>
<td></td>
<td>RTO Operating Temp.: 1671°F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acrolein</td>
<td>0.06 lb/hr</td>
<td></td>
<td>Ferm. Scrubber Water Flow Rate: 20 gpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Methanol</td>
<td>0.05 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Formaldehyde</td>
<td>0.09 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO</td>
<td>0.64 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NOx</td>
<td>9.44 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM10</td>
<td>1.90 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP-01 &amp; EP-38</td>
<td>SV001</td>
<td>Corn Receiving, Transfer, Storage, Conveyors, Scaler, and Surge Bin</td>
<td>PM10</td>
<td>0.036 lb/hr</td>
<td>September 2003</td>
<td>Beer Feed Rate: 4,799 bushel/hr</td>
</tr>
<tr>
<td>EP-27</td>
<td>SV017</td>
<td>DDG Fluid Bed Cooler</td>
<td>PM10</td>
<td>0.756 lb/hr</td>
<td>August 2003</td>
<td>Beer Feed Rate: 460 gpm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VOC</td>
<td>1.65 lb/hr</td>
<td></td>
<td>Pressure Drop: 0.7 psi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acetaldehyde</td>
<td>0.10 lb/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP-28</td>
<td>SV018</td>
<td>DDGS Silo, Transfer, and Loading</td>
<td>PM10</td>
<td>0.015 lb/hr</td>
<td>March 2015</td>
<td>DDGS Feed Rate: 15 tph</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pressure Drop: 4.67 in. H2O</td>
</tr>
<tr>
<td>EP-30</td>
<td>SV019</td>
<td>Boiler #2</td>
<td>PM10</td>
<td>0.030 lb/hr</td>
<td>March 2015</td>
<td>Natural Gas Combustion Rate: 49.5 MMBtu/hr</td>
</tr>
<tr>
<td>EP-05</td>
<td>SV005</td>
<td>Distillation Bypass</td>
<td>VOC</td>
<td>0.036</td>
<td>August</td>
<td>Beer Feed Rate:</td>
</tr>
<tr>
<td>Emission Point</td>
<td>Stack ID</td>
<td>Description</td>
<td>Pollutant</td>
<td>Stack Test Results</td>
<td>Stack Test Date</td>
<td>Operational Parameters</td>
</tr>
<tr>
<td>----------------</td>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acetaldehyde</td>
<td>lb/hr 0.0004 lb/hr</td>
<td>2003</td>
<td>460 gpm Pressure Drop: 0 psi Scrubber Water Flow Rate: 6.6 gpm</td>
</tr>
</tbody>
</table>

- This Intermediate operating permit fulfills the requirements of Special Condition 16.
- Special Condition 17 has been applied in this permit (see Permit Conditions 003, 005, 006, 007, and 008).
- Special Condition 18 has been applied in this permit (see Permit Condition 009).
- The installation no longer operates a separate bypass stack for centrifuges 1 - 4. During periods of RTO shutdown, emissions from the centrifuges are routed to EP-05 SV005 Distillation Bypass.
- SV003 EP-03 Pneumatic Flour Conveyor/Receiver and SV011 EP-21 Hammermill have been dismantled and removed from the installation.
- The fermentation scrubber is already required by Construction Permit 102012-011; therefore, duplicative provisions from Construction Permit 032003-008C were not included in this permit.
- The hot slurry tank and three of the liquefaction tanks were removed by Construction Permit 102012-001. The fourth liquefaction tank was converted to a preblend tank by Construction Permit 102012-001.

Construction Permit 102007-014, Issued October 24, 2007:
- This Section (5) NSR permit is for the installation of four new hammermills. The fourth hammermill, EP-37 was not installed within two years of the issuance date of this permit. EP-37 Hammermill #4 was later installed under Construction Permit 102012-011.
- Special Conditions 1 – 3 have been applied in this permit (see Permit Condition 010).

Construction Permit 052002-001, Issued April 30, 2002:
- This Section (6) NSR was for the modification of the existing ethanol plant to increase production to 50,000,000 gallons per year.
- All of the special conditions of this permit were superseded by Special Condition 1 of Construction Permit 032003-008C.

Construction Permit 0399-011, Issued February 10, 1999:
Construction Permit 0399-011A, Issued October 15, 1999:
- This Section (6) NSR permit is for the installation of a 15,000,000 gallon ethanol manufacturing plant.
- Amendment A was issued to include an additional beer well.
- The special conditions of this permit were superseded by Special Condition 1 of Construction Permit 032003-008C.

New Source Performance Standards Applicability

40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units is applicable to EP-08 Boiler #1 and EP-30 Boiler #2 and has been applied in this permit (see Permit Condition 011).
40 CFR Part 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 is applicable to ethanol tanks EP-11, EP-12, EP-14, EP-15, and EP-32 (see Permit Condition 012). This regulation is not applicable to the fermentation tanks or beer well which meet the definition of process tanks at §60.111b. This regulation is not applicable to EP-33 Corrosion Inhibitor Tank or EP-41 Gasoline Tank as they each have a capacity of less than 75 m³.

40 CFR Part 60, Subpart DD – Standards of Performance for Grain Elevators is not applicable to the installation. Although the installation does handle grain, the installation does not meet the definitions of grain terminal elevator or grain storage elevator in §60.300. The installation is not a grain storage elevator as they are not wheat flour mill, wet corn mill, dry corn mill, rice mill, or soybean oil extraction plant. The installation is not a grain terminal elevator as permanent storage capacity does not exceed 2.5 million bushels. The installation has a permanent storage capacity of 2,455,842 bushels.

40 CFR Part 60, Subpart VVa – Standards of Performance for Equipment Leaks for VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006 is applicable to FS002 Equipment Leaks and FS005 Tank Leaks (see Permit Condition 013).

40 CFR Part 60, Subpart XX – Standards of Performance for Bulk Gasoline Terminals is not applicable to the installation. The installation does not meet the definition of bulk gasoline terminal at §60.501 as the installation does not receive gasoline by pipeline, ship or barge, and does not have a gasoline throughput greater than 75,700 liters per day.

40 CFR Part 60, Subpart III – Standards of Performance for VOC Emissions From the SOCMI Air Oxidation Unit Processes is not applicable to the installation. This regulation applies to air oxidation reactors per §60.610(b). The installation does not operate any air oxidation reactors.

40 CFR Part 60, Subpart NNN - Standards of Performance for Volatile Organic Compound Emissions from SOCMI Distillation Operations is not applicable to the installation. Ethanol is listed as a chemical affected by NSPS NNN; however, background documentation created during the development of the standard indicates creation of ethanol by fermentation (biological synthesis) was excluded from the scope of NSPS NNN.

40 CFR Part 60, Subpart RRR - Standards of Performance for Volatile Organic Compound Emissions from SOCMI Reactor Processes is not applicable to the installation. Ethanol is listed as a chemical affected by NSPS RRR; however, background documentation created during the development of the standard indicates creation of ethanol by fermentation (biological synthesis) was excluded from the scope of NSPS RRR.

Maximum Achievable Control Technology Applicability

40 CFR Part 63, Subpart Q – National Emission Standards for HAP from Industrial Process Cooling Towers is not applicable to the installation. The installation does not use chromium-based water treatment chemical in FS003 Cooling Tower; therefore, the installation does not meet the applicability requirements of §63.400(a).
40 CFR Part 63, Subpart R – *National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)* is not applicable to the installation. The installation does not meet the definition of *bulk gasoline terminal* at §63.421 as the installation does not receive gasoline by pipeline, ship or barge, and does not have a gasoline throughput greater than 75,700 liters per day.

40 CFR Part 63, Subpart EEEE – *National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)* is not applicable to the installation. The installation is not a major source of HAPs.

40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters* is not applicable to the installation. The installation is not a major source of HAPs. If the installation becomes a major source of HAP, this regulation will apply to the DDGS dryers, the boilers, and the grain dryer.

40 CFR Part 63, Subpart BBBBBB – *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities* is not applicable to the installation. The installation does not meet the definition of *bulk gasoline plant* or *bulk gasoline terminal* at §63.11100 as the installation does not have a gasoline throughput greater than 20,000 gallons per day.

40 CFR Part 63, Subpart CCCCCC – *National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities* is applicable to the installation (see Permit Condition 016). This regulation does not apply to EP-12 or EP-13 Denaturant Tanks as the gasoline stored in these tanks is not dispensed into the fuel tank of a motor vehicle, motor vehicle engine, nonroad vehicle, or nonroad engine, including a nonroad vehicle or nonroad engine used solely for competition. The gasoline stored in EP-12 and EP-13 is not dispensed into on- and off-road, street, or highway motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment.

40 CFR Part 63, Subpart JJJJJJ – *National Emission Standards for HAP from Industrial, Commercial, and Institutional Boilers Area Sources* is not applicable to the installation and has not been applied within this permit. §63.11195(e) exempts gas-fired boilers.

40 CFR Part 63, Subpart VVVVVV – *National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources* is not applicable to the installation. The installation does generate some acetaldehyde as a byproduct; however, the concentration of acetaldehyde in each liquid stream (process or waste) and continuous process vent are less than 0.1 wt%; therefore, the installation does not meet the applicability requirements of §63.11494(a)(2)(iii). Data from POET’s Alexandria, Indiana plant indicates that the concentration of acetaldehyde is 0.003 wt% in the beerwell, 0.009 wt% in the scrubber bottoms, 0.0001 wt% in the beer stripper bottoms, and 0.027 wt% in the 200-proof storage tank. No data is available indicating the inlet concentration at the scrubber; however, data from similarly sized installation’s indicates concentrations of <200 ppmv.
40 CFR Part 63, Subpart DDDDDDD – *National Emission Standards for Hazardous Air Pollutants for Area Sources: Prepared Feeds Manufacturing* is not applicable to the installation. The installation does not add any material containing chromium or manganese to their DDGS.

**National Emission Standards for Hazardous Air Pollutants Applicability**

40 CFR Part 61, Subpart M – *National Emission Standards for Asbestos* is applicable to the installation and has been applied within this permit (see Section IV. Core Permit Requirements).

**Other Regulatory Determinations**

10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants* is applicable to the installation and has been applied in Permit Condition 019.
- EP-08 and EP-30 Boilers are regulated by NSPS Dc; therefore, they are exempt per 10 CSR 10-6.220(1)(H).
- Although 10 CSR 10-6.220(1)(L) exempts emission units burning only natural gas, the DDGS dryer and grain dryer are subject because in addition to combusting natural gas they dry material.
- This regulation is applicable to EP-31 Flare; however, the flare is subject to a more restrictive zero visible emissions limit in Permit Condition 015.
- Fugitive emission sources, FS001, FS003, EP-17A, EP-17B, FS006, and FS007, are exempt per 10 CSR 10-6.220(1)(K) as they are subject to 10 CSR 10-6.170.

10 CSR 10-6.400 *Restriction of Emission of PM From Industrial Processes* is applicable to the installation (see Permit Condition 020).
- This regulation is not applicable to EP-01, EP-38, and FS001 as the corn receiving and handling operations as 95% of emissions are captured and vented to baghouses required by Permit Condition 003 and 018 for an overall control efficiency of 94.05% which meets the exemption at 10 CSR 10-6.400(1)(B)15.
- This regulation is not applicable to EP-07, EP-27, and EP-28 as they are required to operate baghouses by Permit Condition 003. Baghouses control greater than 90% of particulate emissions; therefore, these emission sources are exempt per 10 CSR 10-6.400(1)(B)15.
- This regulation is not applicable to EP-34, EP-35, and EP-36 as they are required to operate baghouses by Permit Condition 010. Baghouses control greater than 90% of particulate emissions; therefore, these emission sources are exempt per 10 CSR 10-6.400(1)(B)15.
- This regulation is not applicable to EP-08 and EP-30 as indirect heating sources are exempt per 10 CSR 10-6.400(1)(B)6.
- This regulation is not applicable to EP-37 as it is required to operate a baghouse by Permit Condition 001. Baghouses control greater than 90% of particulate emissions; therefore, this emission source is exempt per 10 CSR 10-6.400(1)(B)15.
- This regulation is not applicable to EP-39, EP-40, and EP-41 as they are required to operate baghouses by Permit Condition 018. Baghouses control greater than 90% of particulate emissions; therefore, these emission sources are exempt per 10 CSR 10-6.400(1)(B)15.
- This regulation is not applicable to EP-31 which have potential PM emissions of less than 0.5 lb/hr and are exempt per 10 CSR 10-6.400(1)(B)12.
- Fugitive emission sources, FS001, FS003, EP-17A, EP-17B, FS006, and FS007 are exempt per 10 CSR 10-6.400(1)(B)7.
Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons.

1) The specific pollutant regulated by that rule is not emitted by the installation.
2) The installation is not in the source category regulated by that rule.
3) The installation is not in the county or specific area that is regulated under the authority of that rule.
4) The installation does not contain the type of emission unit which is regulated by that rule.
5) The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the Air Pollution Control Program's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).
Response to Public Comments

The draft Intermediate Operating Permit, Project 2010-05-083, for POET Biorefining – Macon, LLC (121-0028) was placed on public notice as of September 29, 2017, for a 30-day comment period. The public notice was published on the Department of Natural Resources’ Air Pollution Control Program’s web page at: http://www.dnr.mo.gov/env/apcp/PermitPublicNotices.htm on Friday, September 29, 2017. The Missouri Air Pollution Control Program received no comments during the public notice period.
NOV 16 2017

Mr. Mike Primrose
POET Biorefining – Macon, LLC
30211 Major Avenue
Macon, MO 63552

Re: POET Biorefining – Macon, LLC, 121-0028
Permit Number: OP2017-080

Dear Mr. Primrose,

Enclosed with this letter is your intermediate operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance. It is very important that you read and understand the requirements contained in your permit.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at http://dnr.mo.gov/regions/. The online CAV request can be found at http://dnr.mo.gov/cav/compliance.htm.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.078.16 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If you send your appeal by registered or certified mail, we will deem it filed on the date you mailed it. If you send your appeal by a method other than registered or certified mail, we will deem it filed on the date the AHC receives it.

If you have any questions or need additional information regarding this permit, please contact the Air Pollution Control Program (APCP) at (573) 751-4817, or you may write to the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Michael J. Stansfield, P.E.
Operating Permit Unit Chief

MJS:ahj

Enclosures

c: PAMS File: 2010-05-083