PART 70
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.

Operating Permit Number: OP2017-035
Expiration Date: APR 10 2022
Installation ID: 033-0036
Project Number: 2011-06-007

Installation Name and Address
Show-Me Ethanol, LLC
26530 Highway 24 East
Carrollton, MO 64633
Carroll County

Parent Company's Name and Address
Show-Me Ethanol, LLC
26530 Highway 24 East
Carrollton MO, 64633

Installation Description:
Show-Me Ethanol, LLC is a 73 million gallon per year fuel grade ethanol manufacturing facility. In addition to ethanol, the plant will produce distiller's dried grains and solubles (DDGS), and corn oil for animal feed as a by-product of the alcohol manufacturing process.

Show-Me Ethanol, LLC., Ray-Carroll Fuels LLC., and Ray-Carroll County Grain Growers Inc. are considered a single installation for permitting purposes. A separate Part 70 Operating Permit is issued for each plant. The installation is a major source of Carbon Monoxide (CO).

Prepared by
Nicole Weidenbenner, PE
Operating Permit Unit

Director or Designee
Department of Natural Resources

APR 10 2017
Effective Date
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## I. Installation Equipment Listing

### EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this plant that emits air pollutants and that are identified as having unit-specific emission limitations. These units are subject to both plant wide emission limitations and emission unit specific limitations. Emission point numbers are from the most recent Emissions Inventory Questionnaire (EIQ).

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Control device</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-10</td>
<td>Thermal Oxidizer, 150 MMBtu/hr natural gas and methane, with heat routed to HRSG</td>
<td>2 DDGS Dryers: drum dryers fueled by natural gas and process gas; MHDR 50 MMBtu/hr and 22.5 tons DDGS/hr each</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process Vents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HRSG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Distillation columns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 centrifuges</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 evaporators</td>
</tr>
<tr>
<td>SME-20</td>
<td>Truck Grain Receiving Baghouse (C20)</td>
<td>Truck Grain Receiving; 420 tons/hr</td>
</tr>
<tr>
<td>SME-30</td>
<td>Hammermill Baghouse (C30)</td>
<td>4 Hammermills</td>
</tr>
<tr>
<td>SME-40</td>
<td>Fermentation scrubber (high efficiency packed bed scrubber) (C40)</td>
<td>5 Fermentation tanks; 6.561 Mgal/hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beer Well</td>
</tr>
<tr>
<td>SME-50</td>
<td>Loading Flare, 6.4 MMBtu/hr, natural gas fired</td>
<td>Loadout of Ethanol to truck, 35 Mgal/hr</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>Receiving of denaturant (gasoline) by truck</td>
</tr>
<tr>
<td>SME-60</td>
<td>Biomethanator Flare, 3.84 MMBtu/hr</td>
<td>Methanator</td>
</tr>
<tr>
<td>SME-70</td>
<td>DDGS Cooler cyclone vented to Baghouse (C70)</td>
<td>DDGS Cooling system, 22.5 tons/hr</td>
</tr>
<tr>
<td>SME-80</td>
<td>None</td>
<td>Cooling Tower, 1.5 MMgal/hr</td>
</tr>
<tr>
<td>SME-90</td>
<td>DDGS loadout baghouse (C90)</td>
<td>DDGS Loadout to trucks or railcars</td>
</tr>
<tr>
<td>SME-100</td>
<td>None</td>
<td>Ethanol Rail Loadout</td>
</tr>
<tr>
<td>SME-220</td>
<td>None</td>
<td>Emergency Fire Water Pump, 300 HP, manufactured after 2006, displacement &lt;30 L</td>
</tr>
<tr>
<td>SME-F90</td>
<td>None</td>
<td>Fugitive equipment leaks</td>
</tr>
<tr>
<td>SME-110</td>
<td>None</td>
<td>Haul Road Emissions</td>
</tr>
<tr>
<td>SME-200</td>
<td>None</td>
<td>DDGS Storage/Loadout fugitives</td>
</tr>
<tr>
<td>(Seg 1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Segment 1)
<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Control device</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-200 (Seg 2)</td>
<td>None</td>
<td>Truck Grain Receiving fugitives</td>
</tr>
<tr>
<td>SME-200 (Seg 3)</td>
<td>None</td>
<td>Grain handling/storage in 1 silo</td>
</tr>
<tr>
<td>SME-200 (Seg 4)</td>
<td>None</td>
<td>Grain Scalping fugitives</td>
</tr>
<tr>
<td>SME-T61</td>
<td>None</td>
<td>Denatured Ethanol Storage Tank 1, 750,000 gallons</td>
</tr>
<tr>
<td>SME-T62</td>
<td>None</td>
<td>Denatured Ethanol Storage Tank 2, 750,000 gallons</td>
</tr>
<tr>
<td>SME-T63</td>
<td>None</td>
<td>200-proof ethanol storage tank, 165,000 gallons</td>
</tr>
<tr>
<td>SME-T64</td>
<td>None</td>
<td>Denaturant (gasoline) storage tank, 165,000 gallons</td>
</tr>
<tr>
<td>SME-T65</td>
<td>None</td>
<td>190 proof ethanol storage tank, 165,000 gallons</td>
</tr>
</tbody>
</table>

**EMISSION UNITS WITHOUT SPECIFIC LIMITATIONS**

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance. These units are subject to plant wide emission limitations.

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-TCI</td>
<td>Corrosion inhibitor tank</td>
</tr>
<tr>
<td>None</td>
<td>Slurry mixer-closed loop system</td>
</tr>
<tr>
<td>None</td>
<td>Slurry cooker-closed loop system</td>
</tr>
<tr>
<td>None</td>
<td>WDGS storage and handling</td>
</tr>
</tbody>
</table>
II. Plant Wide Emission Limitations

The plant shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (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. The plant wide conditions apply to all emission units at this plant. All emission units are listed in Section I under Emission Units with Limitations and Emission Units without Limitations. These permit conditions apply on a plant wide basis to Show-Me Ethanol, but do not apply on an installation wide basis with Ray Carroll Grain Growers Inc. and Ray Carroll Fuels, LLC.

<table>
<thead>
<tr>
<th>Permit Condition PW1</th>
</tr>
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<tbody>
<tr>
<td>10 CSR 10-6.060, Construction Permits Required</td>
</tr>
<tr>
<td>Construction Permit 122015-005, Issued December 10, 2015</td>
</tr>
</tbody>
</table>

Emissions Limitation:
Special Condition 8A: The permittee shall limit the amount of acetaldehyde emitted from the entire plant to less than 10 tons in any consecutive 12-month period.

Operational Limitation:
Special Condition 7A: The permittee shall limit its annual denatured ethanol production rate to 73,000,000 gallons per any consecutive 12-month period.

Monitoring/Recordkeeping:
1. The permittee shall monitor the monthly and consecutive 12-month total emissions of acetaldehyde and the denatured ethanol production rate and shall use Attachment J, or an equivalent to demonstrate compliance with the emission limitation.
2. Special Condition 10A: The permittee shall maintain all records 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. Special Condition 10B: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record shows an exceedance of the emission limitation.
2. The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V, General Permit Requirements.
### III. Emission Unit Specific Emission Limitations

The plant shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (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.

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<td>Emergency Fire Water Pump, 300 HP, manufactured after 2006, displacement &lt;30 L</td>
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</tr>
<tr>
<td>SME-200 (Seg 1)</td>
<td>None</td>
<td>DDGS Storage/Loadout fugitives</td>
</tr>
<tr>
<td>SME-200 (Seg 2)</td>
<td>None</td>
<td>Truck Grain Receiving fugitives</td>
</tr>
</tbody>
</table>
### Equipment Subject to Permit Condition 1

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<tbody>
<tr>
<td>SME-200 (Seg 3)</td>
<td>None</td>
<td>Grain handling/storage in 1 silo</td>
</tr>
<tr>
<td>SME-200 (Seg 4)</td>
<td>None</td>
<td>Grain Scalping fugitives</td>
</tr>
</tbody>
</table>

### Permit Condition 1

10 CSR 10-6.060, Construction Permits Required  
Construction Permit 122015-005, Issued December 10, 2015  
Construction Permit 042008-004B, Issued November 23, 2010

### Operational Limitations:

1. **042008-004B, Special Condition 2B:** The permittee shall maintain and/or repair the road surface as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas.

2. **042008-004B, Special Condition 2C:** The permittee shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

3. **042008-004B, Special Condition 4A:** The permittee shall not receive grain from truck or from Ray- Carroll County Grain Growers, Inc. from 7PM to 7AM.

4. **042008-004B, Special Condition 4B:** The permittee shall not loadout distillers dried grains with solubles (DDGS) from 5PM to 7AM.

5. **042008-004B, Special Condition 6A, B and 122015-005 Special Condition 6A, B:** The permittee shall meet the following requirements:
   a) The grain storage, handling and process equipment, and grain milling equipment shall be enclosed by ductwork or located in a building. The enclosures/building shall be maintained under negative pressure and exhausted to baghouses.
   b) The permittee shall demonstrate negative pressure by using visual indicators, such as negative pressure gauges, at each opening of the enclosure.

6. **042008-004B, Special Condition 7A, B, C and 122015-005 Special Condition 2A, B, C:** The permittee shall comply with the following:
   a) Baghouses must be in use at all times when the following equipment are in operations:
      | EIQ # | Emission unit description | Control device |
      |-------|----------------------------|----------------|
      | SME-20 | Grain receiving, handling, and storage | Baghouse C20 |
      | SME-30 | Hammermills                | Baghouse C30  |
      | SME-70 | DDGS Cooling System Cyclone | Baghouse C70  |
      | SME-90 | DDGS Loading               | Baghouse C90  |
   b) The baghouses and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer’s specifications. The baghouses shall be equipped with gauges or meters, which indicate the pressure drop across the baghouses. These gauges or meters shall be located such that Department of Natural Resources’ employees may easily observe them.
   c) Replacement bags 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).
7. 042008-004B, Special Condition 9A and 122015-005 Special Condition 4A: The permittee must use the thermal oxidizer at all times when the DDGS dryers, heat recovery steam generator (HRSG), and distillation process are in operation or any time that regulated PM10, VOC, or HAP emissions are possible. The thermal oxidizer shall be operated and maintained in accordance with the manufacturer’s specifications.

8. 042008-004B, Special Condition 10A and 122015-005 Special Condition 5A, B, C: The permittee must use the fuel loadout flare at all times during denatured ethanol loadout into dedicated truck tanks. Emissions from the methanator will be directed to the thermal oxidizer/dryers, or the biomethanator flare. The flares shall be operated and maintained in accordance with the manufacturer’s specifications.

9. 042008-004B, Special Condition 11A: The permittee shall operate and maintain the cooling tower(s) in accordance with the manufacturer’s specifications.

10. 042008-004B, Special Condition 11B: The permittee shall not exceed a cooling water recirculation rate of 25,000 gallons per minute.

11. 042008-004B, Special Condition 11D: The permittee shall not exceed 0.005 percent of the water circulation rate lost to drift. 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.

12. 042008-004B, Special Condition 11E: The permittee shall not exceed a total dissolved solids (TDS) concentration in the circulated cooling water of 1,800 parts per million (ppm). A TDS sample shall be collected and the results recorded monthly to verify the TDS concentration. Monthly sampling cannot occur within 48 hours of each sampling event.

13. 042008-004B, Special Condition 11F: The permittee may submit a request to the Air Pollution Control Program that the requirements for TDS sample collection be eliminated or the frequency reduced if sampling results demonstrate compliance for 24 consecutive months.

14. 042008-004B, Special Condition 12A: The permittee shall not exceed 500 hours of operation per consecutive 12-month period of the emergency fire pump. The emergency fire pump shall be equipped with a non-resettable running time meter.

15. 122015-005 Special Condition 3A,B: The permittee shall comply with the following requirements:
   a) The wet scrubber must be in use at all times when the following equipment is in operation:
      
      | Equipment                           | Wet Scrubber                        |
      |-------------------------------------|-------------------------------------|
      | Five fermentation tanks and One Beer Well | Packed Bed CO₂ Scrubber (C40) |

   b) The scrubber and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer’s specifications and the conditions determined from the most recent performance test. The scrubber shall be equipped with a gauge or meter that indicates the pressure drop across the scrubber. The scrubber shall be equipped with a water flow meter that indicates the water flow through the scrubber. These gauges and meters shall be located such that Department of Natural Resources’ employees may easily observe them.

16. 122015-005 Special Condition 9A: The permittee shall limit the total amount of grain received at the receiving pit (SME-20) to less than 1,400 tons per day.

**Monitoring/Recordkeeping:**

1. 042008-004B, Special Condition 6C and 122015-005 Special Condition 6C: The permittee shall perform a visual indicator check for each emission point under negative pressure at least once every 24 hour period while the grain handling, grain storage, and grain milling equipment are in operation.
2. 042008-004B, Special Condition 6D and 122015-005 Special Condition 6D: The permittee shall maintain an operating and maintenance log for the grain storage, handling equipment and process equipment 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.
   c) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Paper or electronic formats are acceptable.

3. 042008-004B, Special Condition 7D and 122015-005 Special Condition 2D, E: The permittee shall monitor and record, in an operating and maintenance log, the operating pressure drop across the baghouse(s) at least once every 24 hours. Paper or electronic formats are acceptable. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer’s performance warranty. The performance warranty shall be kept on site. If the pressure drop reading falls outside of this normal operating range, then the associated equipment shall be shut down as quickly as is feasible and corrective action taken to address the cause of the pressure drop problem. The problem shall be corrected and the baghouse shall be operational before restarting equipment.

4. 042008-004B, Special Condition 7E and 122015-005 Special Condition 2F: 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;
   b) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
   c) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Paper or electronic formats are acceptable.

5. 042008-004B, Special Condition 9B and 122015-005 Special Condition 4B: The permittee shall continuously monitor and record the operating temperature of the thermal oxidizer during operation. The operating temperature of the thermal oxidizer shall be maintained on a rolling 3-hour average within 50 degrees Fahrenheit of the average temperature of the oxidizer recorded during the latest approved compliance test. The acceptable temperature range may be re-established by performing a new set of emission tests.

6. 042008-004B, Special Condition 9C and 122015-005 Special Condition 4C: The permittee shall maintain an operating and maintenance log for the thermal oxidizer 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.
   c) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Paper or electronic formats are acceptable.

7. 042008-004B, Special Condition 10B and 122015-005 Special Condition 5AD: The permittee shall maintain an operating and maintenance log for each flare 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.
c) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Paper or electronic formats are acceptable.

d) A written record of the total numbers of hours the flare is operated including the time and date of operation.

8. 042008-004B, Special Condition 11A: The permittee shall keep manufacturer’s specifications for the cooling towers on site and made readily available to Department of Natural Resources’ employees.

9. 042008-004B, Special Condition 11C: The permittee shall keep records of the monthly and 12-month rolling totals of the cooling water circulation rate.

10. 042008-004B, Special Condition 12B: The permittee shall record the monthly and consecutive 12-month total hours of operation of the emergency fire pump.

11. 122015-005 Special Condition 3C: The permittee shall monitor and record the operating pressure drop across the scrubber at least once every 24 hours while the equipment is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer’s performance warranty.

12. 122015-005 Special Condition 3D: The permittee shall monitor and record the water flow rate through the scrubber at least once every 24 hours while the equipment is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer’s performance warranty.

13. 122015-005 Special Condition 3E: The permittee shall maintain an operating and maintenance log for the 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.
   c) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Paper or electronic formats are acceptable.

14. 122015-005 Special Condition 9B: The permittee shall monitor and record the daily rate of grain received at the receiving pit (SME-20).

15. 042008-004B, Special Condition 14A and 122015-005 Special Condition 10A: The permittee shall maintain all records 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.

16. The permittee shall use the following Attachments, or equivalents, to demonstrate compliance with this permit condition: D (operating/maintenance log), E (pressure drop), F (cooling water recirculation rate), G (firewater pump hours), H (scrubber water flow rate), and I (receiving grain pit tracking).

**Reporting:**

1. 042008-004B, Special Condition 14B and 122015-005 Special Condition 10B:: The permittee shall report to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record shows an exceedance of the operational limitations.

2. The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V, General Permit Requirements.
Equipment Subject to Permit Condition 2

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Control device</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-10</td>
<td>Thermal Oxidizer, 150 MMBtu/hr natural gas and methane, with heat routed to HRSG</td>
</tr>
</tbody>
</table>

Permit Condition 2
10 CSR 10-6.070, New Source Performance Standards
40 CFR part 60 Subpart A, General Provisions; and
40 CFR part 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Note: The permittee has opted to comply with the NOx standards by the installation of a CEMS.

Emission Limitations:
1. The permittee shall not cause to be discharged into the atmosphere from the thermal oxidizer/heat recovery steam generator (SME-10) any gases that contain NO\textsubscript{X} (expressed as NO\textsubscript{2}) in excess of 0.10 lb/MMBtu. [§60.44b(a)(1)]
2. For purposes of §60.44b(i), the NO\textsubscript{X} standards apply at all times including periods of startup, shutdown, or malfunction. [§60.44b(h)]
3. Compliance with the emission limits is determined on a 30-day rolling average basis. [§60.44b(i)]
4. The NO\textsubscript{X} emission standards under §60.44b apply at all times. [§60.46b(a)]

Testing:
1. Compliance with the NO\textsubscript{X} emission standards under §60.44b shall be determined through performance testing under §60.46b(e). [§60.46b(c)]
2. To determine compliance with the emission limits for NO\textsubscript{X} required under §60.44b, the permittee shall conduct the performance test as required under §60.8 using the continuous system for monitoring NO\textsubscript{X} under §60.48(b). [§60.46b(e)]
   a) For the initial compliance test, NO\textsubscript{X} from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NO\textsubscript{X} emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period. [§60.46b(e)(1)]
   b) Following the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, the permittee shall upon request determine compliance with the NO\textsubscript{X} standards in §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO\textsubscript{X} emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NO\textsubscript{X} emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO\textsubscript{X} emission data for the preceding 30 steam generating unit operating days. [§60.46b(e)(4)]

Monitoring:
1. CEMS Option. Except as provided under §60.48b(g), and (i), the permittee shall comply with §60.48b(b)(1). [§60.48b(b)]
   a) Install, calibrate, maintain, and operate CEMS for measuring NO\textsubscript{X} and O\textsubscript{2} (or CO\textsubscript{2}) emissions discharged to the atmosphere, and shall record the output of the system; or [§60.48b(b)(1)]
b) The CEMS required under §60.48b(b) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [§60.48b(c)]

c) The 1-hour average NOX emission rates measured by the continuous NOX monitor required by §60.48b(b) and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2). [§60.48b(d)]

d) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. [§60.48b(e)]

i) For affected facilities combusting natural gas, the span value for NOX is determined using one of the following procedures: [§60.48b(e)(2)]

(1) Except as provided under §60.48b(e)(2)(ii), NOX span value for natural gas shall be 500 ppm NOx: [§60.48b(e)(2)(i)]

(2) As an alternative to meeting the requirements of §60.48b(e)(2)(i), the permittee may elect to use the NOX span values determined according to section 2.1.2 in appendix A to part 75 of chapter 40. [§60.48b(e)(2)(ii)]

ii) Span values computed under §60.48b(e)(2)(ii) shall be rounded off according to section 2.1.2 in appendix A to part 75 of chapter 40. [§60.48b(e)(3)]

e) When NOX emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of part 60, Method 7A of appendix A of part 60, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days. [§60.48b(f)]

Recordkeeping/Reporting:

1. The permittee shall submit to the Director the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of part 60. [§60.49b(b)]

2. The permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. [§60.49b(d)(1)]

3. The permittee shall maintain records of the following information for each steam generating unit operating day: [§60.49b(g)]

a) Calendar date; [§60.49b(g)(1)]

b) The average hourly NOX emission rates (expressed as NO2) (ng/J or lb/MMBtu heat input) measured or predicted; [§60.49b(g)(2)]

c) The 30-day average NOX emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days; [§60.49b(g)(3)]

d) Identification of the steam generating unit operating days when the calculated 30-day average NOX emission rates are in excess of the NOX emissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken; [§60.49b(g)(4)]
e) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken; [§60.49b(g)(5)]

f) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data; [§60.49b(g)(6)]

g) Identification of the times when the pollutant concentration exceeded full span of the CEMS; [§60.49b(g)(8)]

h) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and[§60.49b(g)(9)]

i) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part. [§60.49b(g)(10)]

4. The permittee is required to submit excess emission reports for any excess emissions that occurred during the reporting period. [§60.49b(h)]

a) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NOX emission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b. [§60.49b(h)(4)]

b) The owner or operator of any affected facility subject to the continuous monitoring requirements for NOX under §60.48(b) shall submit reports containing the information recorded under §60.49b(g). [§60.49b(i)]

5. The permittee, which has chosen to demonstrate that the affected facility combusts only very low sulfur natural gas or other fuels that are known to contain an insignificant amount of sulfur in §60.42b(k), shall obtain and maintain at the affected facility fuel receipts from the fuel supplier that certify that the gaseous fuel meets the definition of natural gas as defined in §60.41b and the applicable sulfur limit. Reports shall be submitted to the Director certifying that only very low sulfur natural gas and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period; or [§60.49b(r)(1)]

6. The permittee may submit electronic quarterly reports for NOX in lieu of submitting the written reports required under §60.49b (h) or (i). The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. [§60.49b(v)]

7. The reporting period for the reports required under subpart Db is each 6 month period. All reports shall be submitted to the Director and shall be postmarked by the 30th day following the end of the reporting period. [§60.49b(w)]

8. The permittee shall maintain all records for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request.

9. The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V, General Permit Requirements.
Equipment Subject to Permit Condition 3

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-T61</td>
<td>Denatured Ethanol Storage Tank 1, 750,000 gallons</td>
</tr>
<tr>
<td>SME-T62</td>
<td>Denatured Ethanol Storage Tank 2, 750,000 gallons</td>
</tr>
<tr>
<td>SME-T63</td>
<td>200-proof ethanol storage tank, 165,000 gallons</td>
</tr>
<tr>
<td>SME-T64</td>
<td>Denaturant (gasoline) storage tank, 165,000 gallons</td>
</tr>
<tr>
<td>SME-T65</td>
<td>190 proof ethanol storage tank, 165,000 gallons</td>
</tr>
</tbody>
</table>

Permit Condition 3

10 CSR 10-6.070, New Source Performance Standards
40 CFR part 60 Subpart A, General Provisions; and
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

Operational Specifications:

1. The permittee shall equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications: [§60.112b(a)(1)]
   a) 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)]
   b) 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)]
      i) 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)]
      ii) 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 must be continuous. [§60.112b(a)(1)(ii)(B)]
      iii) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof. [§60.112b(a)(1)(ii)(C)]
   c) 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)]
   d) 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)]
e) 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)]
f) 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)]
g) 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)]
h) 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)]
i) 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)]

Monitoring:

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 (if one is in service), 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) For vessels equipped with a liquid-mounted or mechanical shoe primary seal, 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 must 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 5 years; or  
   [§60.113b(a)(3)(i)]
   ii) Visually inspect the vessel as specified in §60.113b(a)(2).  
   [§60.113b(a)(3)(ii)]
d) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), 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 10 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 Subpart Kb occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in §60.113b(a)(2) and (a)(3)(ii) and at intervals no greater than 5 years in the case of vessels specified in §60.113b(a)(3)(i). [§60.113b(a)(4)]

**Recordkeeping:**

1. The permittee shall keep records and furnish reports as required by §60.115b and §60.116b. The permittee shall keep copies of all reports and records required for at least 5 years with the following exception: [§60.115b and §60.116b(a)]
   a) The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source. [§60.116b(b)]

2. After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the permittee shall meet the following recordkeeping requirements. [§60.115b(a)]
   a) Keep a record of each inspection performed as required by §60.113b(a)(1), (a)(2), (a)(3), and (a)(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)]

3. 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 above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. 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 crude oil or 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)]
      ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa. [§60.116b(e)(2)(ii)]
   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 Director; or [§60.116b(e)(3)(iii)]
      iv) Calculated by an appropriate method approved by the Director. [§60.116b(e)(3)(iv)]
5. The permittee of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements. [§60.116b(f)]

a) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in §60.116b(e). [§60.116b(f)(1)]

b) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods: [§60.116b(f)(2)]

   i) ASTM D2879-83, 96, or 97 (incorporated by reference-see §60.17); or [§60.116b(f)(1)(i)]

   ii) ASTM D323-82 or 94 (incorporated by reference-see §60.17); or [§60.116b(f)(1)(ii)]

   iii) As measured by an appropriate method as approved by the Director. [§60.116b(f)(1)(iii)]

6. The permittee shall make all records available immediately to any Missouri Department of Natural Resources’ personnel upon request.

**Reporting:**

1. After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the permittee shall meet the following reporting 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) 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)]

   c) 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 §61.112b(a)(1) or §60.113b(a)(3) and list each repair made. [§60.115b(a)(4)]

   d) 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 (a)(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 owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Director at least 7 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 7 days prior to the refilling. [§60.113b(a)(5)]

2. The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V, General Permit Requirements.
Equipment Subject to Permit Condition 4

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-F90</td>
<td>Fugitive equipment leaks</td>
</tr>
</tbody>
</table>

**Permit Condition 4**

10 CSR 10-6.070, New Source Performance Standards  
40 CFR part 60 Subpart A, General Provisions; and  
40 CFR part 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOCMI)

**Emission Limitations:**

**Standards: General**

1. The permittee shall demonstrate compliance with the requirements of §§60.482-1 through 60.482-10 or §60.480(e) for all equipment within 180 days of initial startup. [§60.482-1(a)]

2. Compliance with §§60.482-1 to 60.482-10 will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485. [§60.482-1(b)]

3. The permittee may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482-2, 60.482-5, 60.482-6, 60.482-7, and 60.482-8 as provided in §60.484. [§60.482-1(c)(1)]

4. If the Director makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482-2, 60.482-5, 60.482-6, 60.482-7, or 60.482-8, the permittee shall comply with the requirements of that determination. [§60.482-1(c)(2)]

5. Equipment that is in vacuum service is excluded from the requirements of §§60.482–2 to 60.482–10 if it is identified as required in §60.486(e)(5). [§60.482-1(d)]

6. Equipment that a permittee designates as being in VOC service less than 300 hours/yr is excluded from the requirements of §§60.482–2 through 60.482-10 if it is identified as required in §60.486(e)(6) and it meets any of the conditions specified in §60.482-1(e)(1) through (3). [§60.482-1(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. [§60.482-1(e)(1)]

   b) The equipment is in VOC service only during process malfunctions or other emergencies. [§60.482-1(e)(2)]

   c) The equipment is backup equipment that is in VOC service only when the primary equipment is out of service. [§60.482-1(e)(3)]

7. If a dedicated batch process unit operates less than 365 days during a year, the permittee may monitor to detect leaks from pumps and valves at the frequency specified in the following table instead of monitoring as specified in §§60.482-2, 60.482-7, and 60.483-2: [§60.482-1(f)(1)]
### Equivalent monitoring frequency time in use

<table>
<thead>
<tr>
<th>Operating time (percent of hours during year)</th>
<th>Equivalent monitoring frequency time in use</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to &lt;25</td>
<td>Quarterly, Annually, Annually</td>
</tr>
<tr>
<td>25 to &lt;50</td>
<td>Quarterly, Semiannually, Annually</td>
</tr>
<tr>
<td>50 to &lt;75</td>
<td>Bimonthly, Three quarters, Semiannually</td>
</tr>
<tr>
<td>75 to 100</td>
<td>Monthly, Quarterly, Semiannually</td>
</tr>
</tbody>
</table>

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

**b)** The monitoring frequencies specified in §60.482-1(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 in §60.482-1(f)(3)(i) through (iv). [§60.482-1(f)(3)(i)]

i) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

ii) When monitoring is conducted semiannually (i.e., once every 2 quarters), monitoring events must be separated by at least 60 calendar days. [§60.482-1(f)(3)(ii)]

iii) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days. [§60.482-1(f)(3)(iii)]

iv) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days. [§60.482-1(f)(3)(iv)]

### Equivalence of means of emission limitation

1. The permittee may apply to the Director for 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 subpart VV. [§60.484(a)]

2. Determination of equivalence to the equipment, design, and operational requirements of subpart VV will be evaluated by the following guidelines: [§60.484(b)]

   a) The permittee shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation. [§60.484(b)(1)]

   b) The Director will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements. [§60.484(b)(2)]

   c) The Director may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements. [§60.484(b)(3)]

3. Determination of equivalence to the required work practices in subpart VV will be evaluated by the following guidelines: [§60.484(c)]

   a) Each permittee applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation. [§60.484(c)(1)]
b) For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated. [§60.484(c)(2)]

c) For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated. [§60.484(c)(3)]

d) The permittee shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice. [§60.484(c)(4)]

e) The Director will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in §60.484(c)(4). [§60.484(c)(5)]

f) The Director may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice. [§60.484(c)(6)]

4. The permittee may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation. [§60.484(d)]

5. After a request for determination of equivalence is received, the Director will publish a notice in the Missouri Register and provide the opportunity for public hearing if the Director judges that the request may be approved. [§60.484(e)(1)]

6. After notice and opportunity for public hearing, the Director will determine the equivalence of a means of emission limitation and will publish the determination in the Missouri Register. [§60.484(e)(2)]

7. Any equivalent means of emission limitations approved under §60.484 shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air Act. [§60.484(e)(3)]

**Monitoring:**

**Standards: Pumps in light liquid service**

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

3. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [§60.482-2(b)(1)]

4. If there are indications of liquids dripping from the pump seal, the permittee shall follow the procedure specified in either §60.482-2(b)(2)(i) or (ii). This requirement does not apply to a pump that was monitored after a previous weekly inspection if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event. [§60.482-2(b)(2)]

a) Monitor the pump within 5 days as specified in §60.485(b). If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. The leak shall be repaired using the procedures in §60.482-2(c). [§60.482-2(b)(2)(i)]
b) Designate the visual indications of liquids dripping as a leak, and repair the leak within 15 days of detection by eliminating the visual indications of liquids dripping. [§60.482-2(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 §60.482-9. [§60.482-2(c)(1)]

6. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in §60.482-2(c)(2)(i) and (ii), where practicable. [§60.482-2(c)(2)]
   a) Tightening the packing gland nuts; [§60.482-2(c)(2)(i)]
   b) Ensuring that the seal flush is operating at design pressure and temperature. [§60.482-2(c)(2)(ii)]

7. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of §60.482-2(a), provided the requirements specified in §60.482-2(d)(1) through (6) are met. [§60.482-2(d)]
   a) Each dual mechanical seal system is- [§60.482-2(d)(1)]
      i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or [§60.482-2(d)(1)(i)]
      ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482-10; or [§60.482-2(d)(1)(ii)]
      iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere. [§60.482-2(d)(1)(iii)]
   b) The barrier fluid system is in heavy liquid service or is not in VOC service. [§60.482-2(d)(2)]
   c) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both. [§60.482-2(d)(3)]
   d) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals. [§60.482-2(d)(4)(i)]
      i) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either §60.482-2(d)(4)(ii)(A) or (B). [§60.482-2(d)(4)(ii)]
         1. Monitor the pump within 5 days as specified in §60.485(b) to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [§60.482-2(d)(4)(ii)(A)]
         2. Designate the visual indications of liquids dripping as a leak. [§60.482-2(d)(4)(ii)(B)]
   e) Each sensor as described in §60.482-2(d)(3) is checked daily or is equipped with an audible alarm. [§60.482-2(d)(5)(i)]
      i) The permittee determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. [§60.482-2(d)(5)(ii)]
      ii) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in §60.482-2(d)(5)(ii), a leak is detected. [§60.482-2(d)(5)(iii)]
   f) When a leak is detected pursuant to §60.482-2(d)(4)(ii)(A), it shall be repaired as specified in §60.482-2(c). [§60.482-2(d)(6)(i)]
      i) A leak detected pursuant to §60.482-2(d)(5)(iii) shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor. [§60.482-2(d)(6)(ii)]
      ii) A designated leak pursuant to §60.482-2(d)(4)(ii)(B) shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping. [§60.482-2(d)(6)(iii)]
8. Any pump that is designated, as described in §60.486(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 §60.482-2(a), (c), and (d) if the pump: [§60.482-2(e)]
   a) Has no externally actuated shaft penetrating the pump housing, [§60.482-2(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 §60.485(c), and [§60.482-2(e)(2)]
   c) Is tested for compliance with §60.482-2(e)(2) initially upon designation, annually, and at other times requested by the Director. [§60.482-2(e)(3)]

9. If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482-10, it is exempt from §60.482-2(a) through (e). [§60.482-2(f)]

10. Any pump that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of §§60.482-2(a) and (d)(4) through (6) if: [§60.482-2(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 §60.482-2(a); and [§60.482-2(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 §60.482-2(c) if a leak is detected. [§60.482-2(g)(2)]

**Standards: 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 §60.482-1(c) and §60.482-5(c). [§60.482-5(a)]

2. Each closed-purge, closed-loop, or closed-vent system as required in §60.482-5(a) shall comply with the requirements specified in §60.482-5(b)(1) through (4). [§60.482-5(b)]
   a) Gases displaced during filling of the sample container are not required to be collected or captured. [§60.482-5(b)(1)]
   b) Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied. [§60.482-5(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. [§60.482-5(b)(3)]
   d) Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either §60.482-5(b)(4)(i), (ii), (iii), or (iv). [§60.482-5(b)(4)]
      i) Return the purged process fluid directly to the process line. [§60.482-5(b)(4)(i)]
      ii) Collect and recycle the purged process fluid to a process. [§60.482-5(b)(4)(ii)]
      iii) Capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482-10. [§60.482-5(b)(4)(iii)]
      iv) Collect, store, and transport the purged process fluid to any of the following systems or facilities: [§60.482-5(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 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams; [§60.482-5(b)(4)(iv)(A)]
(2) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; [§60.482-5(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; [§60.482-5(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 [§60.482-5(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. [§60.482-5(b)(4)(iv)(E)]

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

Standards: 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 §60.482-1(c) and §60.482-6(d) and (e). [§60.482-6(a)(1)]
   a) 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. [§60.482-6(a)(2)]

2. 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. [§60.482-6(b)]

3. 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 §60.482-6(a) at all other times. [§60.482-6(c)]

4. 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 §60.482-6(a), (b) and (c). [§60.482-6(d)]

5. 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 §60.482-6(a) through (c) are exempt from the requirements of §60.482-6(a) through (c). [§60.482-6(e)]

Standards: 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 §60.485(b) and shall comply with §60.482-7(b) through (e), except as provided in §60.482-7(f), (g), and (h), §60.482-1(c) and (f), and §§60.483-1 and 60.483-2. [§60.482-7(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 must be monitored according to §60.482-7(a)(2)(i) or (ii), except for a valve that replaces a leaking valve and except as provided in §60.482-7(f), (g), and (h), §60.482-1(c), and §§60.483-1 and 60.483-2. [§60.482-7(a)(2)]
   a) Monitor the valve as in §60.482-7(a)(1). The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation. [§60.482-7(a)(2)(i)]
   b) If the valves on the process unit are monitored in accordance with §60.483-1 or §60.483-2, count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483-2(b)(5). If less than 2.0 percent of the valves are leaking for that process unit, the valve
must 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. [§60.482-7(a)(2)(ii)]

3. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [§60.482-7(b)]

4. Any valve for which a leak is not detected for 2 successive months may be monitored the first month
of every quarter, beginning with the next quarter, until a leak is detected. [§60.482-7(c)(1)(i)]
   a) 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 2 or 3 subgroups of valves and monitor each subgroup in
      a different month during the quarter, provided each subgroup is monitored every 3 months. The
      permittee must keep records of the valves assigned to each subgroup. [§60.482-7(c)(1)(ii)]

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

6. 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 §60.482-9. [§60.482-7(d)(1)]
   a) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
      [§60.482-7(d)(2)]

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

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

9. Any valve that is designated, as described in §60.486(f)(1), as an unsafe-to-monitor valve is exempt
   from the requirements of §60.482-7(a) if: [§60.482-7(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 §60.482-7(a), and
      [§60.482-7(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. [§60.482-7(g)(2)]

10. Any valve that is designated, as described in §60.486(f)(2), as a difficult-to-monitor valve is exempt
    from the requirements of §60.482-7(a) if: [§60.482-7(h)]
    a) The permittee demonstrates that the valve cannot be monitored without elevating the monitoring
       personnel more than 2 meters above a support surface. [§60.482-7(h)(1)]
    b) The process unit within which the valve is located either becomes an affected facility through
       §60.14 or §60.15 or the permittee designates less than 3.0 percent of the total number of valves
       as difficult-to-monitor, and [§60.482-7(h)(2)]
    c) The permittee of the valve follows a written plan that requires monitoring of the valve at least
       once per calendar year. [§60.482-7(h)(3)]
Standards: Pressure relief devices in light liquid and connectors
1. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the permittee shall follow either one of the following procedures: [§60.482-8(a)]
   a) The permittee shall monitor the equipment within 5 days by the method specified in §60.485(b) and shall comply with the requirements of §60.482-8(b) through (d). [§60.482-8(a)(1)]
   b) The permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection. [§60.482-8(a)(2)]
2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [§60.482-8(b)]
3. 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 §60.482-9. [§60.482-8(c)(1)]
4. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [§60.482-8(c)(2)]
5. First attempts at repair include, but are not limited to, the best practices described under §§60.482-2(c)(2) and 60.482-7(e). [§60.482-8(d)]

Standards: Delay of repair
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. [§60.482-9(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. [§60.482-9(b)]
3. Delay of repair for valves will be allowed if: [§60.482-9(c)]
   a) The permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and [§60.482-9(c)(1)]
   b) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482-10. [§60.482-9(c)(2)]
4. Delay of repair for pumps will be allowed if: [§60.482-9(d)]
   a) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and [§60.482-9(d)(1)]
   b) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected. [§60.482-9(d)(2)]
5. 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 6 months after the first process unit shutdown. [§60.482-9(e)]
6. When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve 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. [§60.482-9(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. [§60.483-1(a)]
2. The following requirements shall be met if the permittee wishes to comply with an allowable percentage of valves leaking: [§60.483-1(b)]
   a) The permittee must 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 §60.487(d). [§60.483-1(b)(1)]
   b) A performance test as specified in §60.483-1(c) shall be conducted initially upon designation, annually, and at other times requested by the Director. [§60.483-1(b)(2)]
   c) If a valve leak is detected, it shall be repaired in accordance with §60.482-7(d) and (e). [§60.483-1(b)(3)]

3. Performance tests shall be conducted in the following manner: [§60.483-1(c)]
   a) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485(b) (see Testing). [§60.483-1(c)(1)]
   b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. [§60.483-1(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. [§60.483-1(c)(3)]

4. Permittees who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in §60.485(h). [§60.483-1(d)]

Alternative standards for valves - skip period leak detection and repair
1. The permittee may elect to comply with one of the alternative work practices specified in §60.483-2(b)(2) and (3). [§60.483-2(a)(1)]
   a) The permittee must notify the Director before implementing one of the alternative work practices, as specified in §60.487(d). [§60.483-2(a)(2)]

2. The permittee shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482-7. [§60.483-2(b)(1)]
   a) After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, the permittee may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service. [§60.483-2(b)(2)]
   b) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, the permittee may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service. [§60.483-2(b)(3)]
   c) If the percent of valves leaking is greater than 2.0, the permittee shall comply with the requirements as described in §60.482-7 but can again elect to use this section. [§60.483-2(b)(4)]
   d) The percent of valves leaking shall be determined as described in §60.485(h). [§60.483-2(b)(5)]
   e) The permittee must keep a record of the percent of valves found leaking during each leak detection period. [§60.483-2(b)(6)]
   f) 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 this section must be monitored in accordance with §60.482-7(a)(2)(i) or (ii) before the provisions of this section can be applied to that valve. [§60.483-2(b)(7)]

Testing:
1. In conducting the performance tests required in §60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of part 60 or other methods and procedures as specified in §60.485, except as provided in §60.8(b). [§60.485(a)]
2. The permittee shall determine compliance with the standards in §§60.482-1 through 60.482-10, 60.483, and 60.484 as follows: [§60.485(b)]
   a) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: [§60.485(b)(1)]
      i) Zero air (less than 10 ppm of hydrocarbon in air); and [§60.485(b)(1)(i)]
      ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [§60.485(b)(1)(ii)]

3. The permittee shall determine compliance with the no detectable emission standards in §§60.482-2(e), 60.482-7(f), and 60.482-10(e) as follows: [§60.485(c)]
   a) The requirements of §60.485(b) shall apply. [§60.485(c)(1)]
   b) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [§60.485(c)(2)]

4. The permittee shall test each piece of equipment unless they demonstrate that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: [§60.485(d)]
   a) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference - see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment. [§60.485(d)(1)]
   b) Organic compounds that are considered by the Director to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid. [§60.485(d)(2)]
   c) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Director disagrees with the judgment, §60.485(d)(1) and (2) shall be used to resolve the disagreement. [§60.485(d)(3)]

5. The permittee shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply: [§60.485(e)]
   a) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference-see §60.17) shall be used to determine the vapor pressures. [§60.485(e)(1)]
   b) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 °F) is equal to or greater than 20 percent by weight. [§60.485(e)(2)]
   c) The fluid is a liquid at operating conditions. [§60.485(e)(3)]

6. Samples used in conjunction with §60.485(d), (e), and (g) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [§60.485(f)]

7. The permittee shall determine compliance with §60.483-1 or §60.483-2 as follows: [§60.485(h)]
   a) The percent of valves leaking shall be determined using the following equation: [§60.485(h)(1)]
      \[ \%V_L = \left( \frac{VL}{VT} \right) \times 100 \]
      Where:
      \( \%V_L = \) Percent leaking valves
      \( V_L = \) Number of valves found leaking
      \( V_T = \) The sum of the total number of valves monitored
b) The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored. [§60.485(h)(2)]

c) The number of valves leaking shall include valves for which repair has been delayed. [§60.485(h)(3)]

d) Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service. [§60.485(h)(4)]

e) If the process unit has been subdivided in accordance with §60.482-7(c)(1)(ii), the sum of valves found leaking during a monitoring period includes all subgroups. [§60.485(h)(5)]

f) The total number of valves monitored does not include a valve monitored to verify repair. [§60.485(h)(6)]

Recordkeeping:
1. The permittee shall comply with the following recordkeeping requirements. [§60.486(a)(1)]
   a) The permittee of more than one affected facility subject to the provisions of subpart VV may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility. [§60.486(a)(2)]

2. When each leak is detected as specified in §§60.482-2, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply: [§60.486(b)]
   a) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. [§60.486(b)(1)]
   b) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482-7(c) and no leak has been detected during those 2 months. [§60.486(b)(2)]
   c) The identification on equipment except on a valve, may be removed after it has been repaired. [§60.486(b)(3)]

3. When each leak is detected as specified in §§60.482-2, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location: [§60.486(c)]
   a) The instrument and operator identification numbers and the equipment identification number. [§60.486(c)(1)]
   b) The date the leak was detected and the dates of each attempt to repair the leak. [§60.486(c)(2)]
   c) Repair methods applied in each attempt to repair the leak. [§60.486(c)(3)]
   d) “Above 10,000” if the maximum instrument reading measured by the methods specified in §60.485(a) after each repair attempt is equal to or greater than 10,000 ppm. [§60.486(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. [§60.486(c)(5)]
   f) The signature of the permittee (or designate) whose decision it was that repair could not be effected without a process shutdown. [§60.486(c)(6)]
   g) The expected date of successful repair of the leak if a leak is not repaired within 15 days. [§60.486(c)(7)]
   h) Dates of process unit shutdowns that occur while the equipment is unrepaired. [§60.486(c)(8)]
   i) The date of successful repair of the leak. [§60.486(c)(9)]

4. The following information pertaining to all equipment subject to the requirements in §§60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location: [§60.486(e)]
   a) A list of identification numbers for equipment subject to the requirements of subpart VV. [§60.486(e)(1)]
b) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482-2(e) and 60.482-7(f). [§60.486(e)(2)(i)]

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

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

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

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

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

h) A list of identification numbers for equipment that the permittee designates as operating in VOC service less than 300 hr/yr in accordance with §60.482-1(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. [§60.486(e)(6)]

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

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

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

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

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

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

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

8. The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480(d): [§60.486(i)]

a) An analysis demonstrating the design capacity of the affected facility, [§60.486(i)(1)]

b) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and [§60.486(i)(2)]

c) An analysis demonstrating that equipment is not in VOC service. [§60.486(i)(3)]

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. [§60.486(j)]

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

11. The permittee shall maintain all records for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request.
**Reporting:**

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

2. The initial semiannual report to the Director shall include the following information: [§60.487(b)]
   a) Process unit identification. [§60.487(b)(1)]
   b) Number of valves subject to the requirements of §60.482-7, excluding those valves designated for no detectable emissions under the provisions of §60.482-7(f). [§60.487(b)(2)]
   c) Number of pumps subject to the requirements of §60.482-2, excluding those pumps designated for no detectable emissions under the provisions of §60.482-2(e) and those pumps complying with §60.482-2(f). [§60.487(b)(3)]

3. All semiannual reports to the Director shall include the following information, summarized from the information in §60.486: [§60.487(c)]
   a) Process unit identification. [§60.487(c)(1)]
   b) For each month during the semiannual reporting period, [§60.487(c)(2)]
      i) Number of valves for which leaks were detected as described in §60.482-7(b) or §60.483-2, [§60.487(c)(2)(i)]
      ii) Number of valves for which leaks were not repaired as required in §60.482-7(d)(1), [§60.487(c)(2)(ii)]
      iii) Number of pumps for which leaks were detected as described in §60.482-2(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii), [§60.487(c)(2)(iii)]
      iv) Number of pumps for which leaks were not repaired as required in §60.482-2(c)(1) and (d)(6), [§60.487(c)(2)(iv)]
      v) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible. [§60.487(c)(2)(vii)]
   c) Dates of process unit shutdowns which occurred within the semiannual reporting period. [§60.487(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. [§60.487(c)(4)]

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

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

6. The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V, General Permit Requirements.
### Equipment Subject to Permit Condition 5

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-220</td>
<td>Emergency Fire Water Pump, 300 HP, manufactured after 2006, displacement &lt;30 L</td>
</tr>
</tbody>
</table>

### Permit Condition 5

10 CSR 10-6.070, New Source Performance Standards  
40 CFR part 60 Subpart A, General Provisions; and  
40 CFR part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines  
10 CSR 10-6.075 Maximum Achievable Control Technology Regulations  
40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

**Applicability:**  
The permittee meets the requirements of Subpart ZZZZ by meeting the requirements in Subpart IIII. No further requirements of Subpart ZZZZ apply. [Subpart ZZZZ, §63.6590(c)(1)]

**Operational Specifications:**

1. The permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in §60.4205 according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer, over the entire life of the engine. [§60.4206]  
2. The permittee shall comply with the following emission standards [§60.4205(c) and NSPS IIII Table 4]  
   a) NMHC + NOx: 10.5 g/kW-hr (7.8 g/HP-hr)  
   b) CO: 3.5 g/kW-hr (2.6 g/HP-hr)  
   c) PM: 0.54 g/kW-hr (0.40 g/HP-hr)  
3. Beginning October 1, 2010, the permittee must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. [§60.4207(b)]  
4. The permittee may petition the Director for approval to use remaining non-compliant fuel that does not meet the fuel requirements of §60.4207(a) and (b) beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the permittee is required to submit a new petition to the Director. [§60.4207(c)]

**Monitoring:**

1. The permittee must install a non-resettable hour meter prior to startup of the engine. [§60.4209(a)]  
2. The permittee must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, permittee may only change those settings that are permitted by the manufacturer. The permittee must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they applicable. [§60.4211(a)]  
3. The permittee must demonstrate compliance according to one of the methods specified in §60.4211(b)(1). [§60.4211(b)]
a) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications. \([\text{§60.4211(b)(1)}]\)

4. Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For permittees of emergency engines meeting standards under \(\text{§60.4205}\), any operation other than emergency operation, and maintenance and testing as permitted in \(\text{§60.4211}\), is prohibited. \([\text{§60.4211(e)}]\)

**Recordkeeping:**

1. The permittee shall maintain records that verify compliance with the diesel fuel requirements in \(\text{§60.4207(a) and (b)}\).
2. The permittee shall maintain all records for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources’ personnel upon request.

**Reporting:**

The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by Section V, General Permit Requirements.

<table>
<thead>
<tr>
<th>EIQ Point</th>
<th>Control device</th>
<th>Emission Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-10</td>
<td>Thermal Oxidizer, 150 MMBtu/hr natural gas and methane, with heat routed to HRSG</td>
<td>2 DDGS Dryers: drum dryers fueled by natural gas and process gas; MHDR 50 MMBtu/hr and 22.5 tons DDGS/hr each</td>
</tr>
<tr>
<td>SME-20</td>
<td>Truck Grain Receiving Baghouse (C20)</td>
<td>Truck Grain Receiving; 420 tons/hr</td>
</tr>
<tr>
<td>SME-30</td>
<td>Hammermill Baghouse (C30)</td>
<td>4 Hammermills</td>
</tr>
<tr>
<td>SME-40</td>
<td>Fermentation scrubber (high efficiency packed bed scrubber) (C40)</td>
<td>5 Fermentation tanks; 6.561 Mgal/hr</td>
</tr>
<tr>
<td>SME-70</td>
<td>DDGS Cooler cyclone vented to Baghouse (C70)</td>
<td>DDGS Cooling system, 22.5 tons/hr</td>
</tr>
<tr>
<td>SME-90</td>
<td>DDGS loadout baghouse (C90)</td>
<td>DDGS Loadout to trucks or railcars</td>
</tr>
<tr>
<td>SME-100</td>
<td>None</td>
<td>Ethanol Rail Loadout</td>
</tr>
<tr>
<td>SME-200 (Seg 3)</td>
<td>None</td>
<td>Grain handling/storage in 1 silo</td>
</tr>
</tbody>
</table>
Permit Condition 6
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

**Emission Limitation:**
1) The permittee shall not cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

**Monitoring/Recordkeeping/Reporting:**
As detailed in Core Permit Requirements.
IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances 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. 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 owner or operator 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 section 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 section 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 sections 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 eighteen 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.

### 10 CSR 10-6.100 Alternate Emission Limits

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

### 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 Emission Inventory Questionnaire (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 pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079.

### 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. This odor evaluation shall be taken at a location outside of the installation’s property boundary.

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:

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.

The permittee shall maintain the following monitoring schedule:

1) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.

2) Should no violation of this regulation be observed during this period then-
   a) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
   b) If a violation is noted, monitoring reverts to weekly.
   c) Should no violation of this regulation be observed during this period then-
      i) The permittee may observe once per month.
      ii) If a violation is noted, monitoring reverts to weekly.

3) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.
**Recordkeeping:**
The permittee shall document all readings on Attachment A, or its equivalent, noting the following:
1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
2) Whether equipment malfunctions contributed to an exceedance.
3) 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 10-6.220  Restriction of Emission of Visible Air Contaminants**

**Emission Limitation:**
The permittee shall not cause or permit to be discharged into the atmosphere from any source not exempted under 10 CSR 10-6.220 any visible emissions in excess of the limits specified by this rule. This permit will contain the opacity limits identified (10, 20 or 40 percent) for the specific emission units.

**Monitoring:**
1) The permittee shall conduct opacity readings on each emission unit using the procedures contained in USEPA Test Method 22. The permittee is only required to take readings when the emission unit is operating and when the weather conditions allow. If the permittee observes no visible or other significant emissions using these procedures, then no further observations are required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
2) The permittee must maintain the following monitoring schedule:
   a) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
   b) Should the permittee observe no violations of this regulation during this period then-
      i) The permittee may observe once every two (2) weeks for a period of eight (8) 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.
3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.
**Recordkeeping:**
The permittee shall maintain records of all observation results using Attachments B, C, and D (or equivalents), noting:
1) Whether any air emissions (except for water vapor) were visible from the emission units;
2) All emission units from which visible emissions occurred;
3) Whether the visible emissions were normal for the process;
4) The permittee shall maintain records of any equipment malfunctions, which may contribute to visible emissions; and,
5) The permittee shall maintain records of all USEPA Method 9 opacity tests performed.

**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)**
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 40 CFR §82.106.
   b) The placement of the required warning statement must comply with the requirements of 40 CFR §82.108.
   c) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR §82.110.
d) No person may modify, remove, or interfere with the required warning statement except as described in 40 CFR §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 40 CFR §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 40 CFR §82.158.
   c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR §82.161.
   d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with the record keeping requirements of 40 CFR §82.166. ("MVAC-like" appliance as defined at 40 CFR §82.152).
   e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR §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 40 CFR §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 Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in 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. Federal Only - 40 CFR Part 82.
V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (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(6)(C)1.B 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.

10 CSR 10-6.065(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) October 1st for monitoring which covers the January through June time period, and
      ii) April 1st for monitoring which covers the July through December time period.
   c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
   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.A 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 semiannual 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.

**10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)**

If the installation is required to develop and register a risk management plan pursuant to Section 112(r) of the Act, the permittee will verify that it has complied with the requirement to register the plan.

**10 CSR 10-6.065(6)(C)1.F Severability Clause**

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

**10 CSR 10-6.065(6)(C)1.G General Requirements**

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 pursuant to 10 CSR 10-6.065(6)(C)1.

**10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions**

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

**10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios**

None
**10 CSR 10-6.065(6)(C)3 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 EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, as well as the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions 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(6)(C)6 Permit Shield**

1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
   a) The applicable requirements are included and specifically identified in this permit, or
b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.

2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
   a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
   b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
   c) The applicable requirements of the acid rain program,
   d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
   e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

### 10 CSR 10-6.065(6)(C)7 Emergency Provisions

1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7 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(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate
applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.

a) Before making a change under this provision, the permittee shall provide advance written notice to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the APCP as soon as possible after learning of the need to make the change.

b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes
1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the permit, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. 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 subject to any requirements under Title IV of the Act or is a Title I modification;

b) The permittee must provide contemporaneous written notice of the change to the Air Pollution Control Program, Compliance and Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 11201 Renner Blvd., Lenexa, KS 66219. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3 of this rule. 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.

c) 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; and

d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)34 Responsible Official
The application utilized in the preparation of this permit was signed by Richard Hanson, General Manager/CFO. 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 source 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.

<table>
<thead>
<tr>
<th>10 CSR 10-6.065(6)(E)6  Reopening-Permit for Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>This permit may be reopened for cause if:</td>
</tr>
<tr>
<td>1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,</td>
</tr>
<tr>
<td>2) 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,</td>
</tr>
<tr>
<td>3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:</td>
</tr>
<tr>
<td>a) The permit has a remaining term of less than three years;</td>
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<tr>
<td>b) The effective date of the requirement is later than the date on which the permit is due to expire; or</td>
</tr>
<tr>
<td>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,</td>
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<tr>
<td>4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or</td>
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<tr>
<td>5) MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.</td>
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<table>
<thead>
<tr>
<th>10 CSR 10-6.065(6)(E)1.C  Statement of Basis</th>
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</thead>
<tbody>
<tr>
<td>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.</td>
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VI. Attachments

Attachments follow.
## Attachment A
Fugitive Emission Observations

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Visible Emissions</th>
<th>Abnormal Emissions</th>
<th>Corrective Action</th>
<th>Initial</th>
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<td>Cause</td>
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## Attachment B

Visible Emission Observations

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Emission Source</th>
<th>Visible Emissions</th>
<th>Excess Emissions</th>
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<td></td>
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<td>No</td>
<td>Yes¹</td>
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¹If there are visible emissions, the permittee shall complete the excess emissions columns.
# Attachment C

## Method 9 Opacity Emissions Observations

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<th>Company</th>
<th>Observer</th>
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<th>Location</th>
<th>Observer Certification Date</th>
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<th>Control Device</th>
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<th>Seconds</th>
<th>Steam Plume (check if applicable)</th>
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## SUMMARY OF AVERAGE OPACITY

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<td>End</td>
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Readings ranged from ____________ to ____________ % opacity.

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

[YES] [NO]  Signature of Observer
## Attachment D

### Inspection/Maintenance/Repair/Malfunction Log

Emission Unit # ________________________________

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Inspection/Maintenance Activities</th>
<th>Malfunction Activities</th>
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### Attachment E
Pressure Drop Log

<table>
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<tr>
<th>Control Device ID</th>
<th>Week Beginning (Month/Day/Year)</th>
<th>Week Ending (Month/Day/Year)</th>
<th>Pressure Drop (inches water)</th>
<th>Within specifications? (Yes/No)</th>
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</tbody>
</table>
**Attachment F**  
Cooling Water Recirculation Rate Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Cooling Water Recirculation Rate (gallons/minute)</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

The cooling water recirculation rate must not exceed 25,000 gallons per minute for compliance.
# Attachment G
Emergency firewater pump hours of operation log

<table>
<thead>
<tr>
<th>Date (Month/Year)</th>
<th>Hours of Operation</th>
<th>* 12-Month Total</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

* The 12-month total is determined by the addition of the current month to the total of the previous 11 months. 500 hours of operation during this 12-month period is considered to be in compliance.
## Attachment H

Scrubber water flow rate log

<table>
<thead>
<tr>
<th>Date</th>
<th>Scrubbing water flow rate (gallons/minute)</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
**Attachment I**

Truck Grain Receiving log

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount of grain received at receiving pit (tons/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

Daily grain receiving at the receiving pit must be less than 1,400 tons/day for compliance.
**Attachment J**

Acetaldehyde and Denatured Ethanol Production

This sheet covers the month of:

<table>
<thead>
<tr>
<th>Date</th>
<th>Process throughput</th>
<th>Throughput Units</th>
<th>Acetaldehyde Emission Factor (lbs/ton or lbs/gallon)</th>
<th>Acetaldehyde Tons Emitted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tons dried DDGS</td>
<td>0.00000729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gallons ethanol</td>
<td>0.00011075</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tons dried DDGS</td>
<td>0.00000729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gallons ethanol</td>
<td>0.00011075</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tons dried DDGS</td>
<td>0.00000729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gallons ethanol</td>
<td>0.00011075</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tons dried DDGS</td>
<td>0.00000729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gallons ethanol</td>
<td>0.00011075</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tons dried DDGS</td>
<td>0.00000729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gallons ethanol</td>
<td>0.00011075</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tons dried DDGS</td>
<td>0.00000729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gallons ethanol</td>
<td>0.00011075</td>
<td></td>
</tr>
</tbody>
</table>

Acetaldehyde emissions during start-up, shut-down, and malfunction events:

Total tons Acetaldehyde emitted this month:

12 month consecutive rolling total of acetaldehyde emissions: 

Total gallons ethanol produced this month:

12 month consecutive rolling total of ethanol production: 

Notes:

Calculate acetaldehyde emissions using the following equation:

\[
E = \left( \frac{\text{tons DDGS dried} \times \text{Emission Factor} + \text{gallons ethanol produced} \times \text{Emission Factor}}{2000} \right)
\]

The 12-month total is determined by the addition of the current month to the total of the previous 11 months.

Emission factors from 2009 Performance Testing.

Compliance is demonstrated when:

12 month rolling total of acetaldehyde emissions is less than 10 tons, including SSM events
12 month rolling total of ethanol production is less than 73,000,000
STATEMENT OF BASIS

INSTALLATION DESCRIPTION
Show-Me Ethanol, LLC., Ray-Carroll Fuels LLC., and Ray-Carroll County Grain Growers Inc. are considered a single installation for permitting purposes, with each plant having an individual installation ID number and separate Part 70 Operating Permits as detailed in the table below:

<table>
<thead>
<tr>
<th>Plant ID</th>
<th>Plant Description</th>
<th>Part 70 Operating Permit project number</th>
</tr>
</thead>
<tbody>
<tr>
<td>033-0023</td>
<td>Ray-Carroll County Grain Growers, Inc.</td>
<td>2011-06-008</td>
</tr>
<tr>
<td>033-0036</td>
<td>Show-Me Ethanol, LLC.</td>
<td>2011-06-007</td>
</tr>
<tr>
<td>033-0037</td>
<td>Ray-Carroll Fuels LLC.</td>
<td>2011-06-009</td>
</tr>
</tbody>
</table>

Ray-Carroll Fuels, LLC is a fueling station that offers gasoline, diesel, and biodiesel. Fuel is sold to farm customers and local traffic, including vehicles from the ethanol plant. The fuel station is located at the entrance of the installation on the existing haul road loop. The fuel plant is not considered a named source for permitting purposes, and fugitive emissions are not included in determining the plant’s potential emissions. The major source threshold for the fuel plant is 250 tons/year for construction permitting purposes and 100 tons/year for operating permit purposes.

Show-Me Ethanol, LLC is a 73million gallon per year fuel grade ethanol manufacturing facility. In addition to ethanol, the plant produces distiller’s dried grains and solubles (DDGS) for animal feed as a by-product of the alcohol manufacturing process. Process operations include grain handling and storage, fermentation and distillation, DDGS drying and storage, storage tanks and ethanol loadout, cooling tower, haul roads, and an emergency fire pump. According to Construction Permit 122015-005, the ethanol plant is considered a nested named source, and is classified under item 20, Chemical process plants. The ethanol plant’s major source level is 100 tons/year for both construction and operating permit purposes, and fugitive emissions are counted toward major source applicability.

Ray-Carroll County Grain Growers, Inc. operates a county grain elevator and fertilizer mixing plant in Carrollton, Missouri. The grain elevator receives grain by truck or rail, which is then dried, stored, cleaned, and loaded out by truck or rail. The fertilizer plant receives various types of fertilizer by truck and these fertilizers are mixed and shipped by truck. The grain plant is not considered a named source for permitting purposes, and fugitive emissions are not included in determining the plant’s potential emissions. The major source threshold for the grain plant is 250 tons/year for construction permitting purposes and 100 tons/year for operating permit purposes.

The permitting history of the installation is summarized in the table below. The permit documents are presented in chronological order, see the associated Part 70 Operating Permit for detailed permit histories for each plant:

<table>
<thead>
<tr>
<th>Construction Permit Number</th>
<th>Plant Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0494-019*</td>
<td>Ray-Carroll County Grain Growers, Inc.</td>
</tr>
<tr>
<td>0596-014*</td>
<td>Ray-Carroll County Grain Growers, Inc.</td>
</tr>
<tr>
<td>012003-009*</td>
<td>Ray-Carroll County Grain Growers, Inc.</td>
</tr>
<tr>
<td>042008-004*</td>
<td>Show-Me Ethanol, LLC.</td>
</tr>
<tr>
<td>Pollutant</td>
<td>Ray-Carroll County Grain Growers, Inc.</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>PM10</td>
<td>50.95</td>
</tr>
<tr>
<td>SOx</td>
<td>1.41</td>
</tr>
<tr>
<td>NOx</td>
<td>12.25</td>
</tr>
<tr>
<td>VOC</td>
<td>0.94</td>
</tr>
<tr>
<td>CO</td>
<td>7.07</td>
</tr>
<tr>
<td>Total HAP</td>
<td>0.16</td>
</tr>
<tr>
<td>Individual HAP</td>
<td></td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

*These permits are superseded by subsequent permitting actions.

**Only specific Special Conditions are superseded by later permitting actions. Some conditions of the permit are still effective.

The potential emissions from each plant and the installation totals are shown in the table below:

1From Construction Permit 042008-004B and 092016-014
2From Construction Permits 042008-004B and 122015-005
3From Construction Permit 072008-003A and 042008-004B
4Per construction permits, natural individual HAP potentials are less than 10 ton/yr each, except for acetaldehyde which requires a synthetic limit.
The previous five years of reported emissions are presented in the tables below, for each plant and the combined installation. HAPs are not reported for any of the years.

### Reported Emissions, tons per year

<table>
<thead>
<tr>
<th>Pollutants</th>
<th>2011</th>
<th>Total 2011</th>
<th>2012</th>
<th>Total 2012</th>
<th>2013</th>
<th>Total 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grain</td>
<td>Fuels</td>
<td>Ethanol</td>
<td>Grain</td>
<td>Fuels</td>
<td>Ethanol</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>4.21</td>
<td>NR</td>
<td>12.76</td>
<td>NR</td>
<td>15.34</td>
<td>19.44</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>NR</td>
<td>0.14</td>
<td>8.91</td>
<td>NR</td>
<td>0.26</td>
<td>8.47</td>
</tr>
<tr>
<td>SO$_x$</td>
<td>NR</td>
<td>0.97</td>
<td>0.97</td>
<td>NR</td>
<td>0.84</td>
<td>0.84</td>
</tr>
<tr>
<td>NO$_x$</td>
<td>NR</td>
<td>48.74</td>
<td>48.74</td>
<td>NR</td>
<td>42.33</td>
<td>42.33</td>
</tr>
<tr>
<td>VOC</td>
<td>0.70</td>
<td>15.11</td>
<td>15.81</td>
<td>0.89</td>
<td>15.61</td>
<td>16.46</td>
</tr>
<tr>
<td>CO</td>
<td>NR</td>
<td>29.26</td>
<td>29.26</td>
<td>NR</td>
<td>25.42</td>
<td>25.42</td>
</tr>
</tbody>
</table>

### 2014

<table>
<thead>
<tr>
<th>Pollutants</th>
<th>2014</th>
<th>Total 2014</th>
<th>2015</th>
<th>Total 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grain</td>
<td>Fuels</td>
<td>Ethanol</td>
<td>Grain</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>4.17</td>
<td>NR</td>
<td>15.11</td>
<td>3.55</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>0.61</td>
<td>NR</td>
<td>8.72</td>
<td>0.59</td>
</tr>
<tr>
<td>SO$_x$</td>
<td>0.06</td>
<td>NR</td>
<td>0.85</td>
<td>NR</td>
</tr>
<tr>
<td>NO$_x$</td>
<td>0.54</td>
<td>NR</td>
<td>42.80</td>
<td>NR</td>
</tr>
<tr>
<td>VOC</td>
<td>0.04</td>
<td>0.94</td>
<td>16.47</td>
<td>0.85</td>
</tr>
<tr>
<td>CO</td>
<td>0.31</td>
<td>NR</td>
<td>25.70</td>
<td>NR</td>
</tr>
</tbody>
</table>

NR=Not Reported
Plant Description

This Part 70 Operating Permit is for the Show-Me Ethanol, LLC plant. Process operations include grain handling and storage, fermentation and distillation, DDGS drying and storage, storage tanks and ethanol loadout, cooling tower, haul roads, and an emergency fire pump. According to Construction Permit 122015-005, the ethanol plant is considered a named source, and is classified under item 20, Chemical process plants. The ethanol plant’s major source level is 100 tons/year for both construction and operating permit purposes, and fugitive emissions are counted toward major source applicability.

Show-Me Ethanol receives grain (primarily corn) by mechanical conveyor from the Ray-Carroll Grain Growers grain elevator. Grain is stored at Show-Me Ethanol in one grain storage silo of less than 1.0 million bushels storage capacity. During events when the grain elevator is down, grain is received at the plant in onsite dump pits. From grain receiving, grain is stored in a day storage bin with a capacity of 180,000 bushels prior to being conveyed to 4 hammermills where it is dry milled into process powder and mechanically conveyed to the mixer. Emissions from the storage and milling operations are controlled by a baghouse.

In the mixer, the milled corn is mixed with recycled process water from the cook water tank to form a slurry. This slurry is then cooked in order to liquefy and breakdown the starch into sugars. After cooking, the slurry is then cooled with non-contact water and conveyed to fermenter process vessels where the fermentation process, along with added yeast, converts the sugars to ethanol and carbon dioxide. The fermentation process produces a fermented mash called beer. The fermented slurry (or beer) is pumped from the fermenter to the beer well. The beer well is a process vessel that provides a continuous flow of beer slurry to the distillation column. The carbon dioxide from the fermenters and the beer well pass through a high efficiency water scrubber in order to remove residual amounts of ethanol and other volatile organic compounds (VOCs). The scrubber is capable of using sodium bisulfite injection to further reduce VOCs and HAPs. The water from the fermentation scrubber is pumped to the cook water tank to be recycled in the process.

The beer contains approximately 10% ethanol in addition to non-fermentable corn solids. The ethanol is separated from the beer by distillation and subsequently leaves the distillation section as 190 proof ethanol where it is stored in an internal floating roof tank. The 190 proof ethanol contains residual water. It passes through a molecular sieve in order to remove any remaining water, thereby producing 200 proof ethanol, which is stored in an internal floating roof tank. The 200 proof ethanol is then mixed with a denaturant (natural gasoline or unleaded gasoline) and stored in an internal floating roof tank for truck or ethanol rail loadout.

The distillation process removes the ethanol from the beer, non-fermentable corn solids, and water. The residual mash (whole sillage) leaving distillation is transferred from the base of the distillation column to the stillage processing area. The whole stillage then passes through a centrifuge process to remove the majority of the water. The underflow from the centrifuge is called wet distillers grains (WDGS). The WDGS is partially dried (passes through one dryer) or dried the two dryers to produce a product called Dried Distillers Grains and Solubles (DDGS). The DDGS upon leaving the dryers is cooled prior to storage and loadout onto railcars or trucks. DDGS loadout is vented to a high efficiency baghouse for particulate control.

The overflow from the centrifuge, called thin stillage, enters the evaporator system to reduce the water content. The concentrated stream from the evaporator is mixed with the centrifuge underflow stream.
before entering the dryer. The water stream from the evaporators goes to the methanator. The methanator is an anaerobic biological water treatment system that converts organic material in the process water into fuel gas (primarily methane) which supplements the fuel gas for the dryers. When the thermal oxidizer and dryers are not in operation, the methane is routed to the methanator’s flare. The water from the methanator is recycled to the cook water tank for reuse in the process.

The storage tanks onsite include 2-750,000 gallon internal floating roof tanks, 3-165,000 gallon internal floating roof tanks, 1-165,000 gallon internal floating roof tank, and 1-18,000 gallon pressurized anhydrous ammonia storage tank.

**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) Part 70 Operating Permit Application, received June 2, 2011; revised May 27, 2011;
2) 2015 Emissions Inventory Questionnaire, received 4/26/16;
4) webFIRE;
5) Construction Permit 1186-020;
6) Construction Permit 0790-005;
7) Construction Permit 0494-019;
8) Construction Permit 012003-009;
9) Construction Permit 042008-005;
10) Construction Permit 042008-004;
11) Construction Permit 072008-003;
12) Construction Permit 042008-005A;
13) Construction Permit 042008-004A;
14) Construction Permit 072008-003A;
15) Construction Permit 042008-004A;
16) Construction Permit 122010-010;
17) Construction Permit 082014-019;
18) Construction Permit 122015-005;
19) Construction Permit 122015-005A; and
20) Construction Permit 092016-014.

**Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits**

In the operating permit application, the plant indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the plant is subject to the following regulation(s) for the reasons stated.

See MACT Applicability

**Other Air Regulations Determined Not to Apply to the Operating Permit**

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this plant at this time for the reasons stated.
Construction Permit History

The following permits were issued to this plant:

1. Construction Permit 042008-004
   This permit was issued April 9, 2008 to authorize construction of a 60.5 million gallon per year denatured, fuel grade ethanol plant. Upon issuance of Construction Permit 072008-003 for the fuel plant, Special Condition # 4C of this permit was superseded. However, this decision was reversed in Construction Permit 072008-003A. The Special Conditions of this permit were replaced by permit amendment 042008-004A. This permit was superseded by 042008-004B.

2. Construction Permit Amendment 042008-004A
   This permit amendment was issued November 5, 2008 to revise several emission points and increase the grain receiving limit. This amendment also addresses the removal of the HAP limit in the fuel plant permit (see 072008-003A), and clarifies that the 10/25 HAP limit is reinstated with this amendment and applies to the entire installation. This amendment replaces all the Special Conditions in Construction Permit 042008-004. This amendment was superseded by 042008-004B.

3. Construction Permit Amendment 042008-004B
   This permit amendment was issued December 31, 2009 to revise modeling to incorporate completed performance testing as well as equipment and operational changes at the grain and ethanol plants. This amendment supersedes 042008-004 and 042008-004A. This permit does not restate the 10/25 HAP limit and supersedes the permit that contained the limit, therefore the 10/25 HAP limit no longer applies. There are no specific limitations on HAP emissions in this permit. Special Conditions 3, 5, 8, and 13 are superseded by Construction Permit 122015-005. Special Condition #2A is a one time requirement to pave the haul roads. This requirement has been satisfied and is therefore not included in the permit. The remaining Special Conditions have been incorporated into this Operating Permit.

4. Construction Permit 122015-005
   This permit was issued December 10, 2015 to authorize the installation of a new fermentation vessel and hammermill. This permit supersedes Special Conditions 3, 5, 8, and 13 of Construction Permit 042008-004B, and establishes a 10 ton/year limitation on acetaldehyde (a HAP). The Special Conditions have been incorporated into this Operating Permit. The acetaldehyde limitation is only applied in this permit because Ray-Carroll Fuels, LLC and Ray-Carroll County Grain Growers are not expected to emit acetaldehyde.

Special Condition # 3A and B require the scrubber to be operated and maintained in accordance with the manufacturer specifications and the conditions determined from the most recent performance test. The installation conducted testing in August and September 2009. The operating parameters of the 2009 test are in the following table:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum flow rate</td>
<td>43</td>
<td>Gallons per minute</td>
</tr>
<tr>
<td>Pressure drop</td>
<td>0.297-0.732 (8.2-20.3)</td>
<td>PSI (inches water column)</td>
</tr>
</tbody>
</table>

The report indicated the units of pressure drop were measured in inches of water column. This is incorrect. During testing, the pressure drop was measured in units of pounds per square inch (PSI). The installation has the capability to monitor the pressure drop in units of PSI.

Special Condition # 9B requires the thermal oxidizer operating temperature to be maintained within 50 degrees Fahrenheit of the average temperature recorded during the most recent test. The testing used to establish the operating temperature of the thermal oxidizer was conducted in August and
September 2009. The average temperature for the thermal oxidizer was calculated to be 1474 degrees Fahrenheit.

5. **Construction Permit Amendment 122015-005A**
   This permit amendment was issued July 27, 2016 to correct a typographical error in permit 122015-005. The error corrects the reference to the grain elevator project number that is listed in the ethanol plant permit 122015-005 to clarify the correct project number. There are no other changes to the issued permit, and all conditions of 122015-005 are still valid.

**New Source Performance Standards (NSPS) Applicability**

40 CFR part 60 Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

This regulation applies to steam generating units that commence construction, modification, or reconstruction after June 19, 1984 and have a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 MMBtu/hr).

This regulation applies to the thermal oxidizer and heat recovery steam generator (SME-10).

1. **SO2 Standard:** According to §60.42b(k)(2), units firing only gaseous fuel with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input are exempt from the SO2 limits in §60.42b(k)(1). The thermal oxidizer/HRSG system combuts pipeline quality natural gas supplemented by methane from the methanator. Performance testing at the plant in November 2008 resulted in an average SO2 emission rate of 0.0028 lb/MMBtu. Therefore, the thermal oxidizer/HRSG units are exempt from the SO2 limits.

2. **PM and Opacity Standards:** There are no applicable standards for gas fired units.

3. **NOx Standards:** Pursuant to §60.44b, the NOx emissions from the thermal oxidizer/HRSG units (SME-10) shall not exceed 0.1 lb/MMBtu. Performance testing at the facility conducted in November 2008 resulted in an average NOx emission rate of 0.0450 lb/MMBtu. The permittee has opted to determine compliance with the NOx standards with the installation of a CEMS as provided in §60.48(b).

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

This regulation applies to storage vessels with capacities greater than or equal to 75 cubic meters (m³) (19,813 gallons) that are used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

Each of the storage tanks (SME-T61 through T65) have a design capacity greater than or equal to 151 m³ and contain a volatile organic liquid (VOL) that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa. According to §60.112b(a), the permittee shall equip each of these storage vessel with either (1) a fixed roof in combination with an internal floating roof, (2) an external floating roof, (3) a closed vent system and control device or (4) an alternative means of emission limitation. The permittee has chosen to equip each storage vessel with a fixed roof in combination with an internal floating roof. Therefore §60.112b(a)(1) of this regulation applies.
This regulation does not apply Corrosion Inhibitor Tank (SME-TCI) because it has a storage capacity of 3,000 gallons.

40 CFR part 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOCMI)

Ethanol production plants are classified as Synthetic Organic Chemical Manufacturing Industry (SOCMI) facilities; therefore, this rule applies to the installation. The permittee does not own or operate the following equipment; therefore, sections of Part 60, Subpart VV that relate to this equipment are not included in this operating permit:

1) Compressors;
2) Pressure relief devices in gas/vapor service;
3) Pumps, valves, and connectors in heavy liquid service and pressure relief devices in heavy liquid service; and,
4) Closed vent systems and control devices.

40 CFR part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The emergency firewater pump engine is classified as an emergency engine. The provisions that apply to pre-2007, 300 HP emergency engines, with displacement <30 liters, have been included in this permit.

40 CFR part 60, Subpart III, Standards of Performance for VOC Emissions from SOCMI Air Oxidation Unit Processes

This rule does not apply to the plant because there are no air oxidation units involved in the processes.

40 CFR part 60, Subpart NNN, Standards of Performance for VOC Emissions from SOCMI Distillation Operations

40 CFR part 60, Subpart RRR, Standards of Performance for VOC Emissions from SOCMI Reactor Processes

These rules do not apply to the plant because the rule does not apply to fuel ethanol manufacturing facilities that produce ethanol through fermentation (biological synthesis).

Maximum Achievable Control Technology (MACT) Applicability

40 CFR part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The emergency firewater pump engine meets the requirements of §63.6590(c)(1), and therefore meets the requirements of this MACT by meeting the requirements of NSPS Subpart IIII.

40 CFR part 63, Subpart Q, National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers

This rule applies to industrial process cooling towers that are operated with chromium-based water treatment chemicals and are either major sources of hazardous air pollutants (HAP) or are integral parts of installations that are major sources of HAP. The cooling tower has never used chromium-based water treatment chemicals, and the installation is not a major source of HAPs, therefore this regulation does not apply.
National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability
In the permit application and according to APCP records, there was no indication that any Missouri Air Conservation Law, Asbestos Abatement, 643.225 through 643.250; 10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants, Subpart M, National Standards for Asbestos; and 10 CSR 10-6.250, Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements apply to this installation. The installation is subject to these regulations if they undertake any projects that deal with or involve any asbestos containing materials. None of the installation's operating projects underway at the time of this review deal with or involve asbestos containing material. Therefore, the above regulations were not cited in the operating permit. If the installation should undertake any construction or demolition projects in the future that deal with or involve any asbestos containing materials, the installation must follow all of the applicable requirements of the above rules related to that specific project.

Compliance Assurance Monitoring (CAM) Applicability
40 CFR Part 64, Compliance Assurance Monitoring (CAM)
The CAM rule applies to each pollutant specific emission unit that:
• Is subject to an emission limitation or standard, and
• Uses a control device to achieve compliance, and
• Has pre-control emissions that exceed or are equivalent to the major source threshold.
40 CFR Part 64 is not applicable because none of the pollutant-specific emission units uses a control device to achieve compliance with a relevant standard.

Greenhouse Gas Emissions
Note that this source may be subject to the Greenhouse Gas Reporting Rule. However, the preamble of the GHG Reporting Rule clarifies that Part 98 requirements do not have to be incorporated in Part 70 permits operating permits at this time. In addition, Missouri regulations do not require the installation to report CO2 emissions in their Missouri Emissions Inventory Questionnaire; therefore, the installation’s CO2 emissions were not included within this permit. If required to report, the applicant is required to submit the data directly to EPA. The public may obtain CO2 emissions data by visiting http://epa.gov/ghgreporting/ghgdata/reportingdatasets.html.

Other Regulatory Determinations
10 CSR 10-6.220, Restriction of Emission of Visible Air Contaminants
This regulation applies to the following equipment, which all meet the definition of new and are subject to the 20% opacity emission limitation:
SME-10 DDGS dryers controlled by thermal oxidizer/HRSG
SME-20 Truck Grain Receiving Baghouse (C20) controlling Truck Grain Receiving
SME-20 Grain Receiving pit
SME-30 Hammermill Baghouse (C30) controlling 4 Hammermills
SME-40 Scrubber controlling fermentation tanks and beer well
SME-70 DDGS Cooler cyclone vented to Baghouse (C70) controlling DDGS Cooling system
SME-90 DDGS loadout baghouse (C90) controlling DDGS Loadout to trucks or railcars
SME-100 ethanol rail loadout
SME-200 (Seg 3) uncontrolled grain handling/storage in 1 silo
The regulation contains the following exemptions. All equipment not listed is not a source of visible emissions that can be quantified by opacity.

1. The following equipment all combust either natural gas or digester gas (methane), and therefore meet exemption 6.220(1)(L).
   a) Loading flare (SME-50)
   b) Biomethanator flare (SME-60)

2. The emergency firewater pump engine meets exemption 6.220(1)(A)

3. The following meet exemption 6.220(1)(K), fugitive emissions:
   a) Cooling Tower (SME-80)
   b) Haul roads (SME-110)
   c) DDGS Storage/Loadout fugitives (SME-200, Seg 1)
   d) Truck grain receiving fugitives (SME-200, Seg 2)
   e) Grain scalping fugitives (SME-200, Seg 3)
   f) WDGS storage and handling

10 CSR 10-6.260, Restriction of Emission of Sulfur Compounds, and 10 CSR 10-6.261, Control of Sulfur Dioxide Emissions

These regulations do not apply to the combustion units at this plant. All units combust either natural gas or methane, with the exemption of the emergency generator. The sulfur emissions from the emergency generator are regulated by the fuel oil sulfur content restrictions in 40 CFR part 60 Subpart IIII, which meets exemption 6.260(1)(A)1. and 6.261(1)(C)1.

10 CSR 10-6.400, Restriction of Emission of Particulate Matter from Industrial Processes

This regulation does not apply to the installation. The following table explains the rationale:

<table>
<thead>
<tr>
<th>EP #</th>
<th>Description</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>SME-10</td>
<td>Thermal oxidizer/HRSG</td>
<td>Gaseous fuel does not meet definition of process weight</td>
</tr>
<tr>
<td>SME-10</td>
<td>Process vents, distillation columns, centrifuges and evaporators</td>
<td>Not expected to emit PM</td>
</tr>
<tr>
<td>SME-10</td>
<td>DDGS dryers</td>
<td>(1)(B)16., 2009 stack test=0.026 lb PM/ton at MHDR=0.59 lb PM/hr. Allowed rate=33.02 lb/hr</td>
</tr>
<tr>
<td>SME-20</td>
<td>Truck grain receiving, controlled by baghouse C20</td>
<td>(1)(B)15., control system with 90% overall control</td>
</tr>
<tr>
<td>SME-30</td>
<td>Hammermills, controlled by baghouse C30</td>
<td>(1)(B)15., control system with 90% overall control</td>
</tr>
<tr>
<td>SME-40</td>
<td>Fermentation tanks and beer well, both controlled by scrubber</td>
<td>(1)(B)15., control system with 90% overall control</td>
</tr>
<tr>
<td>SME-50</td>
<td>Ethanol loading and flare</td>
<td>Gaseous fuel does not meet definition of process weight</td>
</tr>
<tr>
<td>SME-50</td>
<td>Gasoline unloading</td>
<td>Gaseous fuel does not meet definition of process weight</td>
</tr>
<tr>
<td>SME-60</td>
<td>Biomethanator Flare</td>
<td>Gaseous fuel does not meet definition of process weight</td>
</tr>
<tr>
<td>SME-60</td>
<td>Methanator controlled by flare</td>
<td>Not expected to emit PM</td>
</tr>
<tr>
<td>SME-70</td>
<td>DDGS cooling system, controlled by cyclone/baghouse C70</td>
<td>(1)(B)15., control system with 90% overall control</td>
</tr>
<tr>
<td>SME-80</td>
<td>Cooling Tower</td>
<td>(1)(B)7., fugitive</td>
</tr>
<tr>
<td>SME-90</td>
<td>DDGS truck/railcar loadout controlled by baghouse C90</td>
<td>(1)(B)15., control system with 90% overall control</td>
</tr>
<tr>
<td>SME-100</td>
<td>Ethanol Rail loadout</td>
<td>Not expected to emit PM</td>
</tr>
<tr>
<td>SME-220</td>
<td>Emergency firewater pump</td>
<td>Liquid fuel does not meet definition of process weight</td>
</tr>
<tr>
<td>SME-F90</td>
<td>Fugitive equipment leaks</td>
<td>Not expected to emit PM</td>
</tr>
<tr>
<td>SME-110</td>
<td>Haul roads</td>
<td>(1)(B)7.</td>
</tr>
<tr>
<td>SME-200 (Seg 1)</td>
<td>DDGS Storage/Loadout fugitives</td>
<td>(1)(B)7.</td>
</tr>
<tr>
<td>SME-200 (Seg 2)</td>
<td>Truck Grain Receiving fugitives</td>
<td>(1)(B)7.</td>
</tr>
<tr>
<td>SME-200 (Seg 3)</td>
<td>Grain handling/storage in 1 silo</td>
<td>(1)(B)15., control system with 90% overall control</td>
</tr>
<tr>
<td>SME-200 (Seg 4)</td>
<td>Grain Scalping fugitives</td>
<td>(1)(B)7.</td>
</tr>
<tr>
<td>SME-T51, T62, T63, T64, T65, TCI</td>
<td>Storage tanks</td>
<td>Not expected to emit PM</td>
</tr>
<tr>
<td>None</td>
<td>WDGS storage and handling</td>
<td>(1)(B)7.</td>
</tr>
</tbody>
</table>

10 CSR 10-6.405, Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating
This regulation does not apply to the emission units at this plant. The DDGS dryers and flares are direct combustion units, while the thermal oxidizer/HRSG meet exemption (1)(E) due to fuel type.

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 APCP'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 Part 70 Operating Permit for Show-Me Ethanol was placed on public notice February 17, 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](http://www.dnr.mo.gov/env/apcp/PermitPublicNotices.htm).

On March 15, 2017 the Air Pollution Control Program received comments from Mark Smith, EPA Region 7. The comments are addressed below in the order in which they appear within the letter.

******************************************************************************

**Comment #1:** Plant Wide Permit Condition PW1 limits the amount of acetaldehyde emitted from the entire installation to less than 10.0 tons in any consecutive 12-month period, as required by Special Condition 8.A. in Permit to Construct #122015-005. Permit Condition PW1 requires the use of Attachment J, or an equivalent, to demonstrate compliance with this emission limitation. 10 CSR 10-6.020(2)(I)17.B. defines installation as all source activities that belong to the same industrial group located on one or more contiguous or adjacent properties under control of the same person (or persons under common control). Show-Me Ethanol LLC, Ray-Carroll Fuels LLC, and Ray-Carroll County Grain Growers Inc. should be limited by Permit Condition PW1. However, Attachment J appears to account for the acetaldehyde from only the Show-Me Ethanol, LLC portion of the entire installation. Therefore, EPA recommends Show-Me Ethanol and MDNR consider including an accounting of the acetaldehyde emitted from Ray-Carroll Fuels, LLC and Ray-Carroll County Grain Growers portion of the permitted installation, or explain in the statement of basis that no acetaldehyde emissions are expected from these operations.

**Response to Comment #1:** An explanation has been added to the statement of basis to clarify that Ray-Carroll Fuels, LLC and Ray-Carroll County Grain Growers are not expected to emit acetaldehyde.

**Comment #2:** Permit to Construct #042008-004, issued April 9, 2008, authorized the installation of a 60.5 million gallon per year denatured fuel-grade ethanol plant. The installation included baghouses to control hammermills, DDGS loadout and cooling cyclone; thermal oxidizers; flares; and wet scrubbers. Permit to Construct #042008-004 also required performance testing around these control devices to verify that the emission rates are in compliance with the construction permit special conditions. Compliance testing, to verify that the emission rates remain in compliance, were required once every five years. Permit to Construct #042008-004 was modified by Permit to Construct #042008-004A, issued November 5, 2008 to revise several emission points and included the addition of another baghouse. Permit to Construct #042008-004A included the same performance testing and every five year retesting requirements as specified in the initial construction permit. MDNR subsequently issued a second construction permit modification, Permit to Construct #042008-004B, on December 31, 2009 an inexplicably removed the performance testing and five year cyclical retesting requirements. The baghouses, wet scrubbers, thermal oxidizers and flares appear to be control devices critical to allow Show-Me Ethanol to achieve their emission limits. Therefore, EPA recommends MDNR exercise their authority, as given in 10 CSR 10-6.065(6)(C)1.C. and include control device performance testing at least once every operating permit cycle.

**Response to Comment #2:** Permit Condition 1 contains the requirements of Construction Permits #042008-004B and #1220015-005. The permit condition requires the use of the listed
control devices and requires monitoring and recordkeeping to ensure proper operation. The scrubber and thermal oxidizer operating parameters are based off the most recent performance test, ensuring current operations remain representative of the tested operating conditions. Due to the robust monitoring of the control devices, additional testing is not required at this time.

**Comment #3:** Permit Condition 5 incorporates the applicable New Source Performance Requirements (40 CFR part 60 Subpart IIII) and Maximum Achievable Control Technology Requirements (40 CFR part 63, Subpart ZZZZ) associated with a 300 horsepower emergency firewater pump manufactured after 2006. As limited by Plant Wide Condition PW1, Show-Me Ethanol is an area source of hazardous air pollutants (HAPs), and as specified in 10 CSR 10-6.075 MDNR relies on EPA for the compliance management of sources subject to 40 CFR part 63 Subpart ZZZZ. However, as per 10 CSR 10-6.070, MDNR maintains compliance management of sources subject to Subpart IIII. Permit Condition 5 indicates the permittee meets the requirements of Subpart ZZZZ by meeting the requirements of Subpart IIII and that no further requirements of Subpart ZZZZ apply. This scenario poses a question as to whether MDNR will provide compliance management of this area source HAP or rely on EPA. EPA suggests MDNR provide additional clarification regarding which agency will be coordinating the compliance management under Permit Condition 5.

**Response to Comment #3:** Subpart ZZZZ only has one applicable provision for this engine, requiring compliance with Subpart IIII, as cited in Permit Condition 5. Subpart IIII contains the applicable emission standards and operational standards, as well as the associated monitoring and recordkeeping requirements. Therefore, compliance management will be coordinated by MDNR, as indicated by the requirements to submit reports and petitions to the Director.
Mr. Richard Hanson  
Show-Me Ethanol, LLC  
26530 Highway 24 East  
Carrollton, MO 64633

Re: Show-Me Ethanol, LLC, 033-0036  
Permit Number: OP2017-035

Dear Mr. Hanson:

Enclosed with this letter is your Part 70 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 thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

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:nwj

Enclosures

c: PAMS File: 2011-06-007