Permit to Construct

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

Permit Number: 062006-016
Project Number: 2006-02-029
Owner: Renewable Power of Missouri, LLC
Owner's Address: 10200 Mohawk, Leawood, KS 66206
Installation Name: Renewable Power of Missouri, LLC
Installation Address: 3055 West Arrow, Marshall, MO 65340
Location Information: Saline County, S17, T50N, R21W

Application for Authority to Construct was made for:

Increase the production of a dry mill denatured ethanol plant from 32 million gallons to 50 million gallons and change the design configuration of the plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, Construction Permits Required.

☐ Standard Conditions (on reverse) are applicable to this permit.
☑ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

JUN 27 2006
STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. “Conditions required by permitting authority.”

Renewable Power of Missouri, LLC
Saline County, S17, T50N, R21W

1. Superseding Condition
   The conditions of this permit supersede all special conditions found in the previously issued construction permit (Permit Number 072002-008) from the Air Pollution Control Program.

2. Emission Limitation
   A. Renewable Power of Missouri, LLC shall emit less than 100 tons of Volatile Organic Compounds (VOCs) from this installation in any consecutive 12-month period.
      1) Renewable Power of Missouri, LLC shall record the monthly and the sum of the most recent consecutive twelve (12) months VOC emissions in tons from this installation. Attachment A, Monthly VOC Emission Tracking Record, or an equivalent form shall be used for this purpose. These records shall be kept on-site for five (5) years and shall be made immediately available for inspection to Department of Natural Resources’ personnel upon request. The emission rates shall be verified through performance testing, as detailed in Special Condition 8.
      2) Renewable Power of Missouri, LLC shall report to the Air Pollution Control Program’s (APCP) Enforcement Section, P.O. Box 176 Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records required by Special Condition Number 2.A(1) show that the emission limitation has been exceeded.

   B. Renewable Power of Missouri, LLC shall emit less than 100 tons of Carbon Monoxide (CO) from this installation in any consecutive 12-month period.
      1) Renewable Power of Missouri, LLC shall record the monthly and the sum of the most recent consecutive twelve (12) months CO emissions in tons from this installation. Attachment B, Monthly CO Emission Tracking Record, or an equivalent form shall be used for this purpose. These records shall be kept on-site for five (5) years...
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

and shall be made immediately available for inspection to Department of Natural Resources' personnel upon request. The emission rates shall be verified through performance testing, as detailed in Special Condition 8.

2) Renewable Power of Missouri, LLC shall report to the Air Pollution Control Program’s (APCP) Enforcement Section, P.O. Box 176 Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records required by Special Condition Number 2.B(1) show that the emission limitation has been exceeded.

C. Renewable Power of Missouri, LLC shall emit less than ten (10.0) tons of any individual Hazardous Air Pollutants (HAPs), specifically acetaldehyde, and twenty-five (25.0) tons of combined HAP from this installation in any consecutive twelve (12) month period. The remaining HAPs of concern shall be below their respective Screen Modeling Action Level (SMAL) as indicated in Attachment E.

1) Renewable Power of Missouri, LLC shall record the monthly and the sum of the most recent consecutive twelve (12) months HAP emissions in tons from this installation. Attachment C, Monthly Individual HAP Emission Tracking Record, Attachment D, Monthly Combined HAP Emission Tracking Record or an equivalent form shall be used for this purpose. These records shall be kept on-site for five (5) years and shall be made immediately available for inspection to Department of Natural Resources’ personnel upon request. The emission rates shall be verified through performance testing, as detailed in Special Condition 8.

2) Renewable Power of Missouri, LLC shall report to the APCP’s Enforcement Section, P.O. Box 176 Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records required by Special Condition Number 2.C(1) show that the emission limitation has been exceeded.

D. Renewable Power of Missouri, LLC shall not discharge PM$_{10}$ into the atmosphere from the following stacks in excess of the listed amounts:
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
<th>Lbs/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-1101</td>
<td>Grain Receiving</td>
<td>1.45</td>
</tr>
<tr>
<td>EP-1102</td>
<td>DDGS Loadout</td>
<td>0.21</td>
</tr>
<tr>
<td>EP-1201</td>
<td>Hammermill #1</td>
<td>0.39</td>
</tr>
<tr>
<td>EP-1202</td>
<td>Hammermill #2</td>
<td>0.39</td>
</tr>
<tr>
<td>EP-1801</td>
<td>DDGS Dryer #1</td>
<td>1.42</td>
</tr>
<tr>
<td>EP-1802</td>
<td>DDGS Dryer #2</td>
<td>1.42</td>
</tr>
</tbody>
</table>

These emission rates shall be verified through performance testing, as detailed in Special Condition 8.

E. Renewable Power of Missouri, LLC shall not discharge nitrogen oxides (NOx) into the atmosphere from the following stacks in excess of the listed amounts:

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
<th>Lbs/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-1801</td>
<td>DDGS Dryer #1</td>
<td>2.75</td>
</tr>
<tr>
<td>EP-1802</td>
<td>DDGS Dryer #2</td>
<td>2.75</td>
</tr>
<tr>
<td>EP-5001</td>
<td>Boiler #1</td>
<td>3.16</td>
</tr>
<tr>
<td>EP-5002</td>
<td>Boiler #2</td>
<td>3.16</td>
</tr>
</tbody>
</table>

These emission rates shall be verified through performance testing, as detailed in Special Condition 8.

3. Control Equipment - Baghouses
   A. The baghouses listed below must be in use at all times when the associated equipment is in operation:

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Emission Unit Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-1101</td>
<td>Grain Receiving</td>
</tr>
<tr>
<td>EP-1102</td>
<td>DDGS Loadout</td>
</tr>
<tr>
<td>EP-1201</td>
<td>Hammermill #1</td>
</tr>
<tr>
<td>EP-1202</td>
<td>Hammermill #2</td>
</tr>
</tbody>
</table>

   B. The baghouse(s) and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer’s specifications. The baghouse(s) shall be equipped with a gauge or meter that indicates the pressure drop across each baghouse. This gauge or
SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

meter shall be located in such a way it may be easily observed by Department of Natural Resources’ employees.

C. Replacement bags for all baghouse(s) 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).

D. Renewable Power of Missouri, LLC shall monitor and record the operating pressure drop across the baghouse(s) at least once in every twenty-four (24) hour period when the associated equipment is operated. The operating pressure drop shall be maintained within the normal operating range specified by the manufacturer’s performance warranty. If the pressure drop reading should fall outside of this normal operating range, then the associated equipment shall be shut down as quickly as is reasonably practical. Corrective actions shall be taken to address the cause of the non-normal pressure drop and the baghouse(s) shall be returned to normal operation before re-starting the equipment.

E. Renewable Power of Missouri, LLC shall inspect the baghouse(s) at least once every six (6) months and shall maintain an operating and maintenance log for the baghouse(s) which shall include the following:

1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and

2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

4. Control Equipment - Fermentation Wet Scrubbers

A. The scrubbers listed below must be in use at all times when the associated equipment is in operation:

<table>
<thead>
<tr>
<th>Control ID No.</th>
<th>Emission Point</th>
<th>Emission Unit controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1401</td>
<td>EP-1401</td>
<td>Pre-Fermentation Vent Scrubber</td>
</tr>
<tr>
<td>S-1402</td>
<td>EP-1402</td>
<td>Main Fermentation Vent Scrubber</td>
</tr>
<tr>
<td>S-1504</td>
<td>EP-1501</td>
<td>Distillation Vent Scrubber</td>
</tr>
</tbody>
</table>

B. The scrubbers and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's
SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

specifications. Each scrubber shall be equipped with a gauge or meter that indicates the pressure drop across the scrubber. Each scrubber shall be equipped with a flow meter that indicates the flow through the scrubber. These gauges and meters shall be located in such a way they may be easily observed by Department of Natural Resources’ employees.

C. Renewable Power of Missouri, LLC shall monitor and record the operating pressure drop across each scrubber at least once every twenty-four (24) hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer’s performance warranty.

D. Renewable Power of Missouri, LLC shall monitor and record the flow rate through the scrubber at least once every twenty-four (24) hours. The flow rate shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. Renewable Power of Missouri, LLC shall maintain an operating and maintenance log for the scrubber which shall include the following:
   1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
   3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

5. Control Equipment – Liquid Ring Vacuum Pumps
A. The vacuum pumps listed below must be in use at all times when the associated equipment is in operation and shall be operated and maintained in accordance with the manufacturer’s specifications.

<table>
<thead>
<tr>
<th>Control ID No.</th>
<th>Emission Point</th>
<th>Emission Unit controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP-1630</td>
<td>EPT-1601</td>
<td>Heat Recovery Evaporator</td>
</tr>
<tr>
<td>VP-1660</td>
<td>EPT-1651</td>
<td>Finish Evaporator</td>
</tr>
</tbody>
</table>

B. Renewable Power shall maintain an operating and maintenance log for the vacuum pump which shall include the following:
   1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
   2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
   3) A written record of regular inspection schedule, the date and results
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

6. Control Equipment – Burner and Incineration System for the Indirect Dryers
   A. The Burner and Incineration System must be in use at all times when the DDGS Dryers (EP-1801 and EP-1802) are in operation or any time that regulated \( PM_{10} \), volatile organic compounds (VOC) or hazardous air pollutant (HAP) emissions are possible. The Burner and Incineration System shall be operated and maintained in accordance with the manufacturer’s specifications. Emission rates of \( PM_{10} \), VOC, HAPs, CO and NO\(_x\) will be tested, as detailed in Special Condition 8, to verify these equipment are being operated as assumed.

   B. The operating temperature of the Burner and Incineration System shall be continuously monitored and recorded during operation. The operating temperature of the Burner and Incineration System shall be maintained on a rolling 3-hour average within 50 degrees Fahrenheit of the average temperature of the Burner and Incineration System recorded during the compliance test specified in Special Condition 8 which demonstrated compliance with the emission limits. The acceptable temperature range may be reestablished by performing a new set of emission tests. The most recent sixty (60) months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources’ personnel upon request.

   C. Renewable Power of Missouri, LLC shall maintain an operating and maintenance log for the Burner and Incineration System which shall include the following:
      1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
      2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
      3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

7. Control Equipment – Flare
   A. The flare must be in use at all times during denatured ethanol truck loadout (EP-2106). The flare shall be operated and maintained in accordance with the manufacturer’s specifications.

   B. Renewable Power of Missouri, LLC shall maintain an operating and
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

maintenance log for the flare which shall include the following:
1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.
4) A written record of the total number of hours the flare is bypassed including the date and time of the bypass.

8. Performance Testing
A. Renewable Power of Missouri, LLC shall conduct performance tests to verify the emission rates as follows:
1) The Pre-Fermentation Vent Scrubber (EP-1401), the Main Fermentation Vent Scrubber (EP-1402), the Distillation Vent Scrubber (EP-1501), the Heat Recovery Evaporator (EP-1601), Indirect Dryer #1 (EP-1801), Indirect Dryer #2 (EP-1802), and the Finish Evaporator Vent Condenser (EP-1651) shall be tested to determine the VOC and aggregate HAP emission rates when all the processes controlled by these devices are in operation. These emission rates shall be used in Attachments A and D for compliance with Special Condition 2.A. and 2.C.
2) The Pre-Fermentation Vent Scrubber (EP-1401), the Main Fermentation Vent Scrubber (EP-1402), the Distillation Vent Scrubber (EP-1501), the Heat Recovery Evaporator (EP-1601), Indirect Dryer #1 (EP-1801), Indirect Dryer #2 (EP-1802), and the Finish Evaporator Vent Condenser (EP-1651) shall be tested to determine the emission rates of the following individual HAPs: acetaldehyde, acrolein, formaldehyde and methanol. These emission rates shall be used in Attachment C for compliance with Special Condition 2.C.
3) Indirect Dryer #1 (EP-1801) and Indirect Dryer #2 (EP-1802) shall be tested to determine the CO emission rate when in operation. This emission rate shall be used in Attachment B for compliance with Special Condition 2.B.
4) The stacks associated with Special Condition 2.D. shall be tested to determine the PM$_{10}$ emission rates when in operation. These emission rates shall not exceed the amounts listed in Special Condition 2.D.
5) The stacks associated with Special Condition 2.E shall be tested to determine the NOx emission rates when in operation. This
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

emission rate shall not exceed the amounts listed in Special Condition 2.E.

6) The denatured ethanol loadout flare (EP-2106) shall be tested to determine the control efficiency of the flare and the VOC and CO emission rate prior to and post flare combustion during loadout operations. These emission rates and/or control efficiency shall be used in Attachment A and Attachment B for compliance with Special Condition 2.A. and 2.B.

B. The testing required in Special Condition 8.A(4) and 8.A(5) may be limited to conducting tests on a representative piece(s) of each type of equipment upon approval by the Director. In addition, an alternate method(s) of quantifying the emission rates of criteria air pollutants (e.g. PM$_{10}$ and NO$_x$) from these sources may be used in place of the above testing requirement if requested by Renewable Power of Missouri, LLC and approved by the Director.

C. These tests shall be performed within sixty (60) days after achieving the maximum production rate of the installation, but not later than 180 days after initial start-up for commercial operation and shall be conducted in accordance with the stack test procedures outlined in Special Condition 9.

D. Renewable Power of Missouri, LLC shall conduct performance tests to verify the emission rates as indicated in Special Condition 8.A once every 5 years from the date of the most recent performance tests.

9. Proposed Test Plan
A. A completed Proposed Test Plan Form must be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.

B. Two (2) copies of a written report of the performance test results shall be submitted to the Director within 30 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one (1) sample run.

C. The test report is to fully account for all operational and emission
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations.

D. If the performance testing required by Special Condition 8 of this permit indicates that any of the emission limits specified in Special Condition 2 are being exceeded, Renewable Power of Missouri, LLC must propose a plan to the Air Pollution Control Program within thirty (30) days of submitting the performance test results. This plan must demonstrate how Renewable Power of Missouri, LLC will reduce the emission rates below those stated in Special Condition 2. Renewable Power of Missouri, LLC shall implement any such plan immediately upon its approval by the Director.

10. Operating Permit Requirements
Renewable Power of Missouri, LLC shall apply for and receive an Intermediate Operating Permit from the Air Pollution Control Program for this installation.

11. Requirements for Future Emission Alterations
If a situation arises such that Renewable Power of Missouri, LLC wishes to alter Special Condition 2.A. and/or 2.B. of this permit in order to allow the existing installation to emit more than 100 tons per year of VOC and/or CO, Renewable Power of Missouri, LLC will be required to conduct a New Source Review in accordance with 10 CSR 10-6.060(8). Such a review will include a Best Available Control Technology (BACT) analysis utilizing current technologies and any other requirements that the Director deems necessary pursuant to 10 CSR 10-6.060(8).

12. Cooling Tower Operating Requirements
A. The cooling tower(s) shall be operated and maintained in accordance with the manufacturer’s specifications. Manufacturer’s specifications shall be kept on site and made readily available to Department of Natural Resources’ employees.

B. The cooling water circulation rate shall not exceed 24,000 gallons per minute.

C. Renewable Power of Missouri, LLC shall keep records of the monthly and 12-month rolling averages of the amount of water circulated.

D. The drift loss from the towers shall not exceed 0.005 percent of the water circulation rate. Verification of drift loss shall be by manufacturer’s guaranteed drift loss and shall be kept on site and made readily available
SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- to Department of Natural Resources’ employees upon request.

E. The total dissolved solids (TDS) concentration in the circulated cooling water shall not exceed a TDS concentration of 2,000 parts per million (ppm). A TDS sample shall be collected and the results recorded monthly to verify the TDS concentration.

F. The requirement for TDS sample collection may be eliminated or the frequency may be reduced upon written approval by the Air Pollution Control Program if TDS sampling results demonstrate compliance for 24 consecutive months.

13. Pavement of Haul Roads
   A. Renewable Power of Missouri, LLC shall pave the specified haul roads (EP-1100) with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the Program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve “Control of Fugitive Emissions” while the plant is operating.

   B. Maintenance and/or repair of the surfaces will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.

   C. Renewable Power of Missouri, LLC shall periodically water and/or wash 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.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW
Project Number: 2006-02-029
Installation ID Number: 195-0044
Permit Number: 

Renewable Power of Missouri, LLC
3055 West Arrow
P.O. Box 894
Marshall, MO 65340

3055 West Arrow
P.O. Box 894
Marshall, MO 65340

Complete: February 7, 2006
Reviewed: May 16, 2006

Parent Company:
Renewable Power of Missouri, LLC
10200 Mohawk
Leawood, KS 66206

Saline County, S17, T50N, R21W

REVIEW SUMMARY

• Renewable Power of Missouri, LLC has applied for authority to increase production of a 32 million gallon denatured ethanol plant to a 50 million gallon denatured ethanol plant and change design configuration of the plant.

• Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAPs expected are acetaldehyde, acrolein, formaldehyde and methanol. The main HAP of concern is acetaldehyde.

• New Source Performance Standards (NSPS) apply to this installation. Specifically, 40 CFR Part 60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels, applies to the storage tanks (TK01-TK06); Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional-Steam Generating Units applies to the boilers (EP-13 and 14); Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI) applies to this installation. Subpart III, Standards of Performance for VOC Emissions from SOCMI Air Oxidation Unit Processes, Subpart NNN, Standards of Performance for Volatile Organic Compound Emissions from SOCMI Distillation Operations, and Subpart RRR, Standards of Performance for Volatile Organic Compound Emissions from SOCMI Reactor Processes, do not apply to this installation. Subpart XX, Standards of Performance for Bulk Gasoline Terminals, does not apply since the fuel ethanol (alcohol/petroleum distillate blend) manufactured by the installation does not satisfy the Subpart XX definition of gasoline.

• None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
• Baghouses, wet scrubbers, vacuum pumps, and incineration systems will be used to control PM$_{10}$, VOC, NO$_x$, CO, and HAP emissions from the equipment in this permit.

• This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are conditioned to minor levels and CO and HAPs are conditioned to de minimis levels.

• This installation is located in Saline County, an attainment area for all criteria air pollutants.

• This installation is on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2], Number 20, *Chemical Process Plants*.

• Ambient air quality modeling was performed to determine the ambient impact of PM$_{10}$ and NO$_x$.

• Emissions testing is required for the source.

• An Intermediate Operating Permit is required for this installation within 30 days of equipment startup.

• Approval of this permit is recommended with special conditions.

**INSTALLATION DESCRIPTION**

Renewable Power of Missouri, LLC (RPM) is proposing to construct a new ethanol plant west of the City of Marshall, Saline County, Missouri. This is a new installation, but one construction permit has been issued to RPM from the Air Pollution Control Program. This installation will require an intermediate operating permit.

On July 2, 2002, the Air Pollution Control Program issued a Section (6) permit to RPM for the construction of a 31.5 million gallon per year denatured ethanol production plant west of the City of Marshall, Saline County, Missouri (Permit Number 072002-008). Two years from the date of issuance of that permit, construction of the plant had not commenced.

On February 7, 2006, an application was received to increase the capacity of the plant to 50 million gallons per year of denatured ethanol and to replace the design of the ethanol production plant previously permitted. As of yet, construction of the previously permitted ethanol production plant has not commenced. Therefore, Renewable Power of Missouri, LLC is still considered a new installation.

This installation has a Standard Industrial Classification (SIC) code designation 2869 that refers to *Industrial Organic Chemicals, Not Elsewhere Classified*. Subsequently, Renewable Power of Missouri, LLC is a named installation in 10 CSR 10-6.020(3)(B), Table 2, *Chemical Process Plant*. Therefore, the major source threshold for this
installation is 100 tons per year for each criteria pollutant. Upon issuance of this permit, Renewable Power of Missouri, LLC will be a minor source under construction permits and an Intermediate source under operating permits.

In past decisions, the U.S. Environmental Protection Agency (EPA) has concluded that fuel grade ethanol production plants are members of the Synthetic Organic Chemical Manufacturing Industry (SOCMI). Several of the New Source Performance Standards (NSPS) apply to SOCMI installations, including Subpart III, Standards of Performance for VOC Emissions from SOCMI Air Oxidation Unit Processes, Subpart NNN, Standards of Performance for VOC Emissions from SOCMI Distillation Operations, Subpart RRR, Standards of Performance for VOC Emissions from SOCMI Reactor Processes, and Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry. Subpart III does not apply to this installation, as there are no air oxidation units involved in these processes. After reviewing the background information documentation for the NSPS, it appears that EPA chose not to consider bio-processes in the development of Subparts NNN or RRR; therefore, these subparts are not applicable. However, since ethanol production plants are classified as SOCMI facilities, Subpart VV, dealing with equipment leaks, does apply to this installation.

PROJECT DESCRIPTION

RPM has applied for authority to install a new 50,000,000 gallon denatured ethanol plant. The installation purchases corn from area farmers. The corn is hauled to the facility by truck and unloaded into one of two storage bins. An unloading/loading dust collector (EP-1101) collects the dust from the grain unloading operation and returns it to the process ahead of the hammer mill. The hammer mill is used to dry mill the corn into powder through a dry milling process. The hammer mill dust collection is performed by the mill dust collector (EP-1201 and 1202). The dust collected is returned directly to the production stream. The dust and the ground corn from the milling operation is stored in a ground corn storage bin.

From the ground corn storage bin, the corn is conveyed to the mash mixer. In the mixer, it is mixed with recycled process water from the stripper operation and evaporation operations to form a slurry. The slurry is cooked to liquify and break down the starch to sugars. The slurry is cooled in two stages. First, the slurry is flash cooled with non-contact cooling water through a cooking cooling system. Following further processing through a series of two conversion tanks the slurry is flash cooled with non-contact cooling water through a chiller/cooling tower system (EP-4001). The cooled slurry is sent to fermenter process vessels where the fermentation process, along with added yeast, converts the sugars to ethanol and carbon dioxide (CO₂). This process produces a fermented mash called beer.

The beer or fermented slurry is pumped from the fermenters to the beer well. The beer well is a process tank that provides continuous flow of beer slurry to the distillation column. The CO₂ from the fermenters and the beer well passes through a pre-fermentation vent scrubber (EP-1401) and the main fermentation vent scrubber (EP-
1402) where water is used to scrub residual amounts of ethanol from the CO₂ before exiting the scrubber stack. The water from the scrubber is pumped into the beer well and recycled to the process. RPM plans to sell the carbon dioxide to an outside company. That company would permit and construct the facility at a future time.

The beer contains about ten percent ethanol in addition to non-fermentable corn solids. The ethanol is separated from the beer by distillation and leaves the distillation section as 190 proof ethanol.

Vapors from the distillation area condenser systems flow to a distillation vent scrubber (EP-1501) where water is used to scrub residual amounts of ethanol from the air before exiting the scrubber stack. The water from the scrubber is pumped into the beer well and recycled to the process.

A portion of the 190 proof ethanol is condensed and returned to the distillation system as reflux material. The remaining 190 proof ethanol passes through a molecular sieve to remove the remaining water making the ethanol 200 proof. The 200 proof ethanol passes through a condenser before entering one 480,000 gallon product Anhydrous Ethanol Storage Tank (EPT-2103). A 120,000 gallon off-spec storage tank (EP-2101) is available for recovering off quality product for reprocessing. The 200 proof ethanol is mixed with a denaturant, gasoline, from a 45,000 gallon gasoline storage tank (EP-2105). The denatured ethanol is stored in a 480,000 gallon denatured alcohol storage tank (EPT-2104). The denatured ethanol is loaded into trucks for delivery to customers through the alcohol storage area loadout system (EP-2106).

The distillation process removes the ethanol from the beer, non-fermentable corn solids, and water. The residue mash leaving the distillation system, called whole stillage, is transferred from the base of the beer column to the stillage processing area. The whole stillage passes through a centrifuge to remove the majority of the water. The underflow from the centrifuge is called wet distillers grain.

When possible, this wet distillers grain (or wet cake) is sold to local livestock owners as a high protein food for cattle. This material is stored in a pile (EP-1804) prior to being loaded out with a front loader. The material must be sold and consumed within a few days to prevent spoilage.

Wet cake is also transferred to a dryer where the wet distillers grain is dried to 10% moisture content. The grain, now called distillers dried grain with solubles (DDGS) is cooled and conveyed to the storage and loadout area. Dust generated during the DDGS loadout process is collected by the unloading/loading dust collector (EP-1102). The dryer exhaust passes through a waste heat evaporator before being incinerated in the dryer burner section, which discharges to atmosphere (EP-1801 and 1802).

The overflow from the centrifuge, called thin stillage, enters a heat recovery evaporator (EP-1601) to reduce the water content. The water content is reduced further as the stillage is passed through a finish evaporator (EPT-1651). The concentrated stream from the evaporator system is mixed with the centrifuge underflow stream before entering the dryer. The water stream from the evaporator system is used as process
water at the mash mixer or leaves the plant to a wastewater treatment plant.

EMISSIONS/CONTROLS EVALUATION

The pollutants of concern for the purpose of this review are PM$_{10}$, VOCs, CO, HAPs, and NO$_X$. These emissions are discussed according to the processes that emit them: Grain Handling and Storage, Fermentation and Distillation, DDGS Drying and Storage, Tanks and Loadout, and Haul Roads.

Grain Handling and Storage
PM$_{10}$ is primarily emitted from the grain handling, storage, milling and drying processes. The emission factors for estimating PM$_{10}$ emissions from these processes were obtained from the EPA document AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 9.9.1 Grain Elevators and Processes (5/98). Baghouses are used to control PM$_{10}$ emissions from grain handling and milling operations with a control efficiency of 99%. However, the applicant has provided estimates of emissions from these operations that exceed AP-42 estimations. Therefore, these operations will be tested to verify emissions.

Fermentation and Distillation
VOCs and HAPs are primarily emitted from the fermentation and distillation processes, which are controlled by packed bed scrubbers. Potential emissions of VOC and HAPs emitted from these processes were estimated by the applicant. Actual emissions will be verified through performance testing required by Special Condition 8.

Fugitive leaks will be controlled in accordance with New Source Performance Standards (NSPS) for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR Part 60, Subpart VV.

DDGS Drying and Storage
VOCs, HAPs, CO and PM$_{10}$ are emitted from DDGS drying. These emissions will be vented back into the dryer combustion chamber and controlled using a burner and incineration system.

PM$_{10}$, VOCs, NO$_X$, sulfur oxides (SO$_X$) and carbon monoxide (CO) are emitted from the combustion of natural gas for the DDGS dryers (EP-1801,1802). The emission factors used to determine combustion emissions from the DDGS Dryers (55 MMBtu/hr, each), and the two boilers (88.1 MMBtu/hr, each) were obtained from AP-42, Section 1.4, Natural Gas Combustion (3/98). However, due to the variability in emissions from ethanol production, potential emissions of VOCs, HAPs, CO, NO$_X$, and PM$_{10}$ emitted from the DDGS dryer were estimated by the applicant. Actual emissions will be verified through performance testing required by Special Condition 8. Emissions of SO$_X$ are not expected to be affected by the ethanol production process. Therefore, testing is not required for SO$_X$ emissions.

The DDGS is pneumatically transferred to storage silos. Emissions from the silos are controlled by a baghouse using negative pressure.
Tanks and Loadout

VOCs are emitted from storage tanks and truck loadout. Fugitive leaks will be controlled in accordance with New Source Performance Standards (NSPS) for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, 40 CFR Part 60, Subpart VV. Storage tank emissions were calculated using TANKS 4.0.

Loadout emissions were determined using AP-42, Section 5.2, Transportation and Marketing of Petroleum Liquids. It was assumed that dedicated ethanol tanks were not used for truck loadout. Therefore, loading loss emissions were calculated using gasoline as the displaced vapor. A flare will be used to control loadout emissions.

Cooling Tower

Cooling tower emissions were determined using AP-42, Section 13.4, Wet Cooling Towers. Cooling tower emissions were calculated assuming that the total dissolved solid content in the cooling tower is 2,000 parts per million and the drift loss is 0.005 percent.

Haul Roads

Unpaved haul road emissions were obtained from AP-42, Section 13.2.2, Unpaved Roads (9/98). A control efficiency of 95% is given to the haul roads for paving and washing.

Since Renewable Power of Missouri, LLC is a named source, the major source level for this installation is 100 tons per year of any criteria air pollutant, 10 tons per year for each individual HAP and 25 tons per year for aggregate HAPs. Testing by other ethanol installations has demonstrated that VOC, CO, and HAPs are emitted from these processes in larger quantities than previously expected. Based upon these findings, the potential emissions from ethanol production processes may be underestimated. Therefore, in order to avoid major review, a 100-ton per year limitation was set forth on the emissions of VOC and CO, each and a 10/25-ton per year limit was given for HAPs. The HAPs of concern from these processes are acetaldehyde, acrolein, formaldehyde and methanol. However, acetaldehyde is the HAP with the greatest emission rate.

Performance tests required by this permit will verify the emission rate of the aforementioned HAPs and determine compliance with the emission limitations given in Special Condition 2.D. and 2.E. If these limitations are exceeded, the applicant will be required to curtail production or install control equipment to meet these limitations.

This is a new installation. Therefore, no existing potential or actual emissions were determined. The installation conditioned potential emissions were based upon major source threshold levels for named installations. Special conditions for emissions of VOC, HAPs and CO are required for review under Section (6) of Missouri State Rule 10 CSR 10-6.060 rather than for major source review under Section (8) or Section (9). The following table provides an emissions summary for this project.
Table 1: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Regulatory De Minimis Levels</th>
<th>Existing Potential Emissions</th>
<th>Existing Actual Emissions (EIQ)</th>
<th>Potential Emissions of the Application</th>
<th>New Installation Conditioned Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>N/A</td>
<td>N/A</td>
<td>37.48</td>
<td>N/A</td>
</tr>
<tr>
<td>SO$_x$</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.71</td>
<td>N/A</td>
</tr>
<tr>
<td>NO$_x$</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>57.32</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>82.77</td>
<td>&lt;100</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/A</td>
<td>N/A</td>
<td>62.83</td>
<td>&lt;100</td>
</tr>
<tr>
<td>Acetaldehyde</td>
<td>9.0</td>
<td>N/A</td>
<td>N/A</td>
<td>9.77</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Acrolein</td>
<td>0.04</td>
<td>N/A</td>
<td>N/A</td>
<td>N/D**</td>
<td>&lt;0.04</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.09</td>
<td>&lt;2.0</td>
</tr>
<tr>
<td>Hexane</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>2.29</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Methanol</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.10</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>12.28*</td>
<td>&lt;25</td>
</tr>
</tbody>
</table>

N/A = Not Applicable; N/D = Not Determined

* Findings from other ethanol plants have indicated that VOC, CO, and HAP emissions are greater than previously expected. Therefore, the emissions of equipment in this application are limited to below major source levels.

**Potential emissions of acrolein will be determined by performance testing in accordance with Special Condition 8.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of VOC are conditioned to minor levels and CO and HAPs are conditioned to de minimis levels.

APPLICABLE REQUIREMENTS

Renewable Power of Missouri, LLC shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110
  The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
• Operating Permits, 10 CSR 10-6.065

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

• Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220

• Restriction of Emission of Odors, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

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

• New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Dc


• Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-3.060

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed using the Screen3 program to determine the ambient impact of NOx and PM10 from the ethanol process using stack parameters provided in the application.

Ambient air quality modeling was not performed for the HAP emissions occurring from the ethanol processes at this installation. The maximum HAP emissions expected from these sources are expected to be below their respective Screen Modeling Action Level (SMAL) for each of the HAP being emitted. Therefore, no additional HAP modeling was performed.

Almost all of the impact of PM10 from the installation results from the effects of the vehicular traffic on the paved haul roads. Vehicular traffic on the paved haul roads occurs with the delivery and shipping of grain, ethanol, gasoline and DDGS. On February 10, 2004, an interim policy went into effect that addressed the use of screen
models in the evaluation of fugitive emissions (i.e. haul roads emissions) from the construction industry. The applicant has agreed to use the Best Management Practices as defined in the signed attachments of the Interim Policy, and this installation has been reviewed under the Interim Policy.

As outlined in the Interim Policy, haul road emissions from this project have been assigned a concentration of 20 micrograms per cubic meter (µg/m³) and were not modeled using the screening program. Emissions from the remaining process have been modeled to demonstrate that the impact will not exceed 130 µg/m³ in a 24-hour period at the nearest property boundary. The annual concentration standard did not change under the Interim Policy. As seen in Table 2, the modeled impacts from the proposed project are in compliance with National Ambient Air Quality Standard (NAAQS) for PM_{10} for both averaging periods.

Since this analysis was based upon PM_{10} and NO_{x} emissions that were estimated by the applicant, Special Conditions were added to ensure the emissions of PM_{10} and NO_{x} do not exceed the estimation. With the Special Conditions of this permit, this installation will be in compliance with the NAAQS for PM_{10} and NO_{x}. The following table lists the modeled impact and the NAAQS for PM_{10} and NO_{x} in units of micrograms per cubic meter (µg/m³).

Table 2: Ambient Impact Results for PM_{10} and NO_{x}.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Modeled Impact (µg/m³)</th>
<th>NAAQS* (µg/m³)</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM_{10}</td>
<td>55.62</td>
<td>130</td>
<td>24-Hour</td>
</tr>
<tr>
<td></td>
<td>11.12</td>
<td>50</td>
<td>Annual</td>
</tr>
<tr>
<td>NO_{x}</td>
<td>20.35</td>
<td>100</td>
<td>Annual</td>
</tr>
</tbody>
</table>

*The NAAQS for PM_{10} is 150 µg/m³ for a 24-hour period. However, in accordance with Interim Policy, the modeled impact may not exceed 130 µg/m³ without consideration of the impact of haul roads.
STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, Construction Permits Required, I recommend this permit be granted with special conditions.

Emily E. Wilbur Date
Environmental Engineer

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 2, 2006, received February 7, 2006, designating Renewable Power of Missouri, LLC as the owner and operator of the installation.


Attachment A: Monthly VOC Emission Tracking Record

Renewable Power of Missouri, LLC
Saline County, S17, T50N, R21W
Project Number: 2006-02-029
Installation ID Number: 195-0044
Permit Number:

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

Copy this sheet as needed

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
<th>Column D</th>
<th>Column E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Point(s)</td>
<td>Description</td>
<td>Amount Processed</td>
<td>VOC Emission Factor</td>
<td>(a) VOC Emissions (tons)</td>
</tr>
<tr>
<td>E.PT.-1401</td>
<td>Fermentation Vent Scrubber</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-1501</td>
<td>Distillation Vent Scrubber</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-1601</td>
<td>Heat Recovery Evaporator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-5001</td>
<td>DDGS Dryer/Boiler – drying solids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-5001</td>
<td>DDGS Dryer – burning Natural Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-5001</td>
<td>Boiler – burning Natural Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Total VOC Emissions Calculated for this Month in Tons:

(c) 12-Month VOC Emissions Total From Previous Month's Worksheet A, in Tons:

(d) Monthly VOC Emissions Total (b) from Previously year's Worksheet A, In Tons:

(e) Current 12-month Total of VOC Emissions in Tons: [(b) + (c) - (d)]

(a) \[ [Column E] = [Column C] \times [Column D] \times 0.0005 \]. Emission factor obtained from performance tests required by this permit

(b) Summation of [Column E] in Tons;

(c) 12-Month VOC emissions total (e) from last month's Attachment A, in Tons;

(d) Monthly VOC emissions total (b) from previous year's Attachment A, in Tons;

(e) Calculate the new 12-month VOC emissions total.

A 12-Month VOC emissions total (e) of less than 100.0 tons indicates compliance.
Attachment B: Monthly CO Emission Tracking Record

Renewable Power of Missouri, LLC
Saline County, S17, T50N, R21W
Project Number: 2006-02-029
Installation ID Number: 195-0044
Permit Number: ________

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

Copy this sheet as needed

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
<th>Column D</th>
<th>Column E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Point(s)</td>
<td>Description</td>
<td>Amount Processed</td>
<td>CO Emission Factor</td>
<td>(a) CO Emissions (tons)</td>
</tr>
<tr>
<td>E.PT.-5001</td>
<td>DDGS Dryer/Boiler – drying solids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-5001</td>
<td>DDGS Dryer – burning Natural Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.PT.-5001</td>
<td>Boiler – burning Natural Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Total CO Emissions Calculated for this Month in Tons:

(c) 12-Month CO Emissions Total From Previous Month's Worksheet B, in Tons:

(d) Monthly CO Emissions Total (b) from Previous year's Worksheet B, In Tons:

(e) Current 12-month Total of CO Emissions in Tons : [(b) + (c) - (d)]

(a) \[\text{Column E} = \text{Column C} \times \text{Column D} \times 0.0005.\] Emission factor obtained from performance tests required by this permit.

(b) Summation of [Column E] in Tons;

(c) 12-Month CO emissions total (e) from last month's Attachment B, in Tons;

(d) Monthly CO emissions total (b) from previous year's Attachment B, in Tons;

(f) Calculate the new 12-month CO emissions total.

A 12-Month CO emissions total (e) of less than 100.0 tons indicates compliance.
Attachment C: Monthly Individual HAP Emission Tracking Record

Renewable Power of Missouri, LLC
Saline County, S17, T50N, R21W
Project Number: 2006-02-029
Installation ID Number: 195-0044
Permit Number:

HAP Name: ______________________________ CAS No.: _____________________________

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

Copy this sheet as needed

<table>
<thead>
<tr>
<th>Column A</th>
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<th>Column C</th>
<th>Column D</th>
<th>Column E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Point(s)</td>
<td>Description</td>
<td>Amount Processed</td>
<td>Individual HAP Emission Factor</td>
<td>(a) Individual HAP Emissions (tons)</td>
</tr>
<tr>
<td>(Columns)</td>
<td>(Columns)</td>
<td>(Columns)</td>
<td>(Columns)</td>
<td>(Columns)</td>
</tr>
</tbody>
</table>

(b) Total Individual HAP Emissions Calculated for this Month in Tons:
(c) 12-Month Individual HAP Emissions Total From Previous Month’s Worksheet C, in Tons:
(d) Monthly Individual HAP Emissions Total (b) from Previous year’s Worksheet C, in Tons:
(e) Current 12-month Total of Individual HAP Emissions in Tons : [(b) + (c) - (d)]

(a) \[ [\text{Column E}] = [\text{Column C}] \times [\text{Column D}] \times 0.0005. \] Emission factor obtained from performance tests required by this permit.
(b) Summation of [Column E] in Tons;
(c) 12-Month Individual HAP emissions total (e) from last month’s Attachment C, in Tons;
(d) Monthly Individual HAP emissions total (b) from previous year’s Attachment C, in Tons;
(g) Calculate the new 12-month Individual HAP emissions total.

A 12-Month Individual HAP emissions total (e) of less than 10.0 tons indicates compliance.
## Attachment D: Monthly Combined HAP Emission Tracking Record

Renewable Power of Missouri, LLC  
Saline County, S17, T50N, R21W  
Project Number: 2006-02-029  
Installation ID Number: 195-0044  
Permit Number: 

This sheet covers the period from [month, year] to [month, year].

Copy this sheet as needed

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
<th>Column D</th>
<th>Column E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Point(s)</td>
<td>Description</td>
<td>Amount Processed</td>
<td>HAP Emission Factor</td>
<td>(a) HAP Emissions (tons)</td>
</tr>
</tbody>
</table>

(a) $[\text{Column E}] = [\text{Column C}] \times [\text{Column D}] \times 0.0005$. Emission factor obtained from performance tests required by this permit.

(b) Summation of [Column E] in Tons;

(c) 12-Month HAP Emissions Total From Previous Month's Worksheet D, in Tons;

(d) Monthly HAP Emissions Total (b) from Previous year's Worksheet D, In Tons;

(e) Current 12-month Total of HAP Emissions in Tons : $([b] + [c]) - [d])$

(b) Total HAP Emissions Calculated for this Month in Tons:

(c) 12-Month HAP Emissions Total From Previous Month's Worksheet D, in Tons:

(d) Monthly HAP Emissions Total (b) from Previous year's Worksheet D, In Tons:

(e) Calculate the new 12-month HAP emissions total.

**A 12-Month HAP emissions total (e) of less than 25.0 tons indicates compliance.**
Mr. Chuck Schneider  
President  
Renewable Power of Missouri, LLC  
P.O. Box 894  
Marshall, MO 65340

RE: New Source Review Permit - Project Number: 2006-02-029

Dear Mr. Schneider:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Thank you,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:ewl

Enclosures

c: Northeast Regional Office  
PAMS File 2006-02-029  
Permit Number: