

STATE OF MISSOURI

PERMIT BOOK



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

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: 122015-005

Project Number: 2015-06-075

Installation Number: 033-0023

Parent Company: Show-Me Ethanol, LLC

Parent Company Address: 26530 Highway 24 East, Carrollton, MO 64633

Installation Name: Show-Me Ethanol, LLC

Installation Address: 26530 Highway 24 East, Carrollton, MO 64633

Location Information: Carroll County, S35, T53N, R23W

Application for Authority to Construct was made for:

Installation of a new fermentation vessel and hammermill. This review was conducted in accordance with Section (5), 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 are applicable to this permit.

Handwritten signature of J. Luebbert.

Prepared by  
J Luebbert  
New Source Review Unit

Handwritten signature of Kyrna L. Moore.

Director or Designee  
Department of Natural Resources

Dec 10, 2015

Effective Date

## 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. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. 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 these air contaminant sources.

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 to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If 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 choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(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 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 Missouri Department of Natural Resources, 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."*

Show-Me Ethanol, LLC  
Carroll County, S35, T53N, R23W

1. **Superseding Condition**  
The conditions of this permit supersede the following special conditions found in the previously issued construction permit 042008-004B issued by the Air Pollution Control Program:
  - Special Condition 3
  - Special Condition 5
  - Special Condition 8
  - Special Condition 13
  
2. **Control Device Requirement-Baghouse**
  - A. Show-Me Ethanol, LLC shall control emissions from the new hammermill (S20), the cooling cyclone (S70), and DDGS loading (S90), using existing baghouses (C20, C70, and C90) as specified in the permit application.
  
  - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
  
  - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  
  - D. Show-Me Ethanol, LLC shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
  
  - E. Show-Me Ethanol, LLC shall maintain a copy of the baghouse manufacturer's performance warranty on site.
  
  - F. Show-Me Ethanol, LLC shall maintain an operating and maintenance log

**SPECIAL CONDITIONS:**

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

for the baghouses 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. Control Equipment – Wet Scrubbers

A. The wet scrubbers must be in use at all times when the following equipment is in operation:

Table 1: Equipment to be Controlled by Wet Scrubbers

Equipment Controlled by Wet Scrubbers	Wet Scrubber Description
Five Fermentation Tanks and One Beer Well	Packed Bed CO2 Scrubber (C40)

B. The scrubbers and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications and the conditions determined from performance testing completed in August and September of 2009. The operating parameters of the 2009 test can be found below in Table 2. 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 in such a way they may be easily observed by Department of Natural Resources' personnel.

Table 2: Scrubber Operating Parameters

Parameter	Range Value	Units
Minimum Flow Rate	43	Gallons per minute
Pressure Drop	0.297-0.732	Inches Water Column

C. Show Me Ethanol, LLC shall monitor and record the operating pressure drop across the scrubber at least once every twenty-four (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.

D. Show Me Ethanol, LLC shall monitor and record the water flow rate through the scrubber at least once every twenty-four (24) hours while the equipment is operating. The water flow rate shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. Show Me Ethanol, LLC shall maintain an operating and maintenance log

**SPECIAL CONDITIONS:**

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

for the scrubber, which shall include the following.

- 1.) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions.
- 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
- 3.) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspection. Either paper copy or electronic formats are acceptable.

4. Control Equipment –Thermal Oxidizer.

- A. The thermal oxidizer (TO) must be in use at all times when the DDGS dryers, heat recovery steam generator, dryers and distillation process are in operation or any time that regulated PM<sub>10</sub>, volatile organic compounds (VOC) or hazardous air pollutant (HAP) emissions are possible. The thermal oxidizer shall be operated and maintained in accordance with the manufacturer's specifications.
- B. The operating temperature of the thermal oxidizer shall be continuously monitored and recorded during operation. The operating temperature of the thermal oxidizer shall be maintained on a rolling 3-hour average no lower than 50 degrees Fahrenheit of the average temperature of the oxidizer recorded during the latest approved compliance test. The acceptable temperature range may be reestablished by performing a new set of emission tests.
- C. Show Me Ethanol, LLC shall maintain an operating and maintenance log for the thermal oxidizer 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 – Flares

- A. The fuel loadout flare (P50) must be in use at all times during denatured ethanol truck loadout into dedicated truck tanks, and natural gasoline delivery truck loadout.
- B. Emissions from the Methanator shall be directed to the thermal oxidizer/dryers (P10), or the biomethanator flare (P60).

**SPECIAL CONDITIONS:**

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

- C. The flares shall be operated and maintained in accordance with the manufacturer's specifications.
  - D. Show Me Ethanol, LLC shall maintain an operating and maintenance log for each 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 each flare is operated including the date and time of the operation.
6. Control Measure – 100% Capture Efficiency
- A. The grain storage, handling and process equipment, and grain milling equipment associated with the ethanol plant shall be enclosed by ductwork or located in a building. The enclosures/buildings shall be maintained under negative pressure and exhausted to baghouses.
  - B. Show Me Ethanol, LLC shall demonstrate negative pressure by using visual indicators, such as negative pressure gauges, at each openings of the enclosure.
  - C. Show Me Ethanol, LLC shall perform a visual indicator check for each emission point at least once in every 24-hour period while the grain handling, grain storage, and grain milling equipment are in operation.
  - D. Show Me Ethanol, LLC shall maintain an operating and maintenance log for the grain storage, handling equipment and process equipment which shall include the following:
    - 1.) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions.
    - 2.) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
    - 3.) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspections. Either paper copy or electronic formats are acceptable.
7. Ethanol Production Limitation
- A. Show Me Ethanol, LLC shall limit its annual denatured ethanol production rate to 73,000,000 gallons per twelve (12) consecutive month period.

**SPECIAL CONDITIONS:**

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

- B. To demonstrate compliance with Special Condition 7.A., Show Me Ethanol, LLC shall keep a record of the amount of denatured ethanol produced per twelve (12) consecutive month period. Attachment A, or equivalent forms, shall be used for this purpose.
8. Acetaldehyde Emission Limitation
- A. Show Me Ethanol, LLC shall limit the amount of acetaldehyde emitted from the entire installation to less than 10.0 tons in any consecutive 12-month period.
  - B. Attachment A, or an equivalent from approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Condition 8.A. of this permit.
9. Grain Receiving Limitation
- A. Show Me Ethanol, LLC shall limit the total amount of grain received at the receiving pit (S20) to less than 1,400 tons per day.
  - B. Attachment B, or an equivalent from approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Condition 9.A. of this permit.
10. Record Keeping and Reporting Requirements
- A. Show-Me Ethanol, LLC shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.
  - B. Show-Me Ethanol, LLC 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 required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2015-06-075  
Installation ID Number: 033-0023  
Permit Number:

Installation Address:  
Show-Me Ethanol, LLC  
26530 Highway 24 East  
Carrollton, MO 64633

Parent Company:  
Show-Me Ethanol, LLC  
26530 Highway 24 East  
Carrollton, MO 64633

Carroll County, S35, T53N, R23W

REVIEW SUMMARY

- Show-Me Ethanol, LLC has applied for authority to install a new fermentation vessel and a new hammermill that will allow the installation to produce up to 73,000,000 gallons of denatured ethanol per year.
- The application was deemed complete on September 9, 2015.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are acetaldehyde, acrolein, formaldehyde, and methyl alcohol.
- The following New Source Performance Standards (NSPS) apply to the installation:
  - 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*, applies to the storage tanks.
  - 40 CFR Part 60, Subpart VVa, *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Manufacturing Industry (SOCMI)*, applies to the installation
- A baghouse is being used to control the particulate emissions from the hammermills, the cooling cyclone, and DDGS loading.
- A thermal oxidizer is being used to control VOC and HAP emissions from the DDGS dryers, heat recovery steam generator, dryers, and distillation process.
- A packed bed scrubber will be used to control VOC and HAP emissions from the five fermentation tanks and one beer well.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Carroll County, an attainment area for all criteria

pollutants.

- This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation is classified as item number 20. Chemical process plants. The installation's major source level is 100 tons per year and fugitive emissions are counted toward major source applicability.
- Ambient air quality modeling was not performed for this review. The potential emissions of all pollutants from this project are below the respective de minimis levels.
- Emissions testing is not required for the equipment.
- A Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Show Me Ethanol, LLC (Show Me Ethanol) is currently operates a fuel grade ethanol manufacturing facility adjacent to Ray-Carroll County Grain Growers, Inc. (Ray-Carroll), an existing grain elevator and fertilizer plant in Carrollton, Missouri. Show Me Ethanol, LLC was limited to 60,500,000 gallons of ethanol produced per twelve month period. Each company submitted an application to obtain a construction permit for their individual company: Show Me Ethanol for an increase in throughput at the existing ethanol plant (Project #2015-06-075) and Ray-Carroll for an increase in production of grain (Project #2015-06-035). Both companies should be considered a single installation for permitting purposes. However, for operational clarity at each of the respective plants, Ray-Carroll and Show Me Ethanol will each receive a separate permit. For a detailed description of the construction activities at the existing grain elevator, please refer to Project #2015-06-035.

This installation is considered a minor source for construction permitting purposes and a Part 70 source for operating permitting purposes.

In addition to ethanol, the ethanol plant will produce distiller's dried grains and solubles (DDGS) for animal feed as a by-product of the alcohol manufacturing process.

The following New Source Review permits have been issued to Show-Me Ethanol, LLC from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
042008-004	Ethanol Plant
042008-004A	Fuel Station and Elevator Modeling
042008-004B	Emission Factor True Up

## PROJECT DESCRIPTION

Show-Me Ethanol, LLC has proposed the installation of a new fermentation vessel to the existing four fermentation vessels. A new hammermill is also being added to serve as a back up to the existing hammermills. The installation of the new fermentation vessel will allow the installation to produce up to 73,000,000 gallons of denatured ethanol per year. The affected emission points are shown below in table 3.

Table 3: Emission Points Affected by Project

Emission Unit	Unit Description	Control Device
S10	DDGS Dryer	Thermal Oxidizer
S40	Fermentation	Scrubber
S50	Flare for Delivery Truck	Flare
S70	Cooling cyclone of DDGS	Baghouse
S90	DDGS Loadout	Baghouse
F90	Valves, Connectors, and Pumps	LDAR Program
T61/T62	Denatured Ethanol Storage Tanks	None
T63	200 Proof Ethanol Tank	None
T64	Denaturant Tank	None
T65	190 Proof Ethanol Tank	None
F200A	Handling DDGS	Enclosure
HR	Haul Road	Paved Roads

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the following sections of the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition:

- Section 5.2 *Transportation and Marketing of Petroleum Liquids*, July 2008.
- Section 13.2.1 *Paved Roads*, January 2011

Emission factors for the remaining emission units were derived from previous stack tests conducted on the associated equipment at this installation. The following table provides an emissions summary for this project. Existing potential emissions of Show Me Ethanol and Ray- Carroll were taken from Permit number 042008-004B. Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the modified equipment minus the baseline actual emissions of the modified equipment, assuming continuous operation (8760 hours per year). The baseline actual emissions were based on the 24 month period between January 2013 and December 2014. The potential emission spreadsheet shows the detailed potential to emit minus baseline actual emission calculations. Show Me Ethanol has requested a voluntary grain receiving limit equal to the 1,400 tons per day from the receiving pit (S20). Show Me Ethanol can receive up to 420.0 tons of grain per hour from the Ray-Carroll grain elevator. The hammermills are bottlenecked by the

overall receiving capabilities. Therefore, potential emissions of the new hammermill were not included in this review because the total amount of grain received will remain a bottleneck for the milling process. Therefore, an increase in potential to emit from milling is not expected.

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels/SMAL	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions Minus Baseline Actual Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	*6.35	N/D
PM <sub>10</sub>	15.0	61.82	15.11	4.54	66.36
PM <sub>2.5</sub>	10.0	N/D	N/D	3.73	N/D
SO <sub>x</sub>	40.0	46.73	0.85	N/D	N/D
NO <sub>x</sub>	40.0	57.95	42.8	N/D	N/D
VOC	40.0	68.36	16.47	2.54	70.9
CO	100.0	107.05	25.7	N/D	N/D
GHG (CO <sub>2</sub> e)	75,000 / 100,000	N/D	N/D	N/D	N/D
GHG (mass)	0.0 / 250.0	N/D	N/D	N/D	N/D
HAPs	10.0/25.0	22.62	N/A	2.01	24.63
Acetaldehyde	9.0	N/D	N/D	1.89	<10.0
Acrolein	0.04	N/D	N/D	0.036	0.19
Formaldehyde	2.0	N/D	N/D	0.002	0.01
Methanol	10.0	N/D	N/D	0.09	0.45

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

\*Potential emissions of PM from all emission units other than haul roads are assumed to be equal to PM<sub>10</sub> because the emissions are based on stack test data.

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are conditioned below de minimis levels.

### APPLICABLE REQUIREMENTS

Show-Me Ethanol, 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*
  - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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 10-6.165*

#### SPECIFIC REQUIREMENTS

- *New Source Performance Regulations, 10 CSR 10-6.070*
  - 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*, applies to the storage tanks.
  - 40 CFR Part 60, Subpart VVa, *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Manufacturing Industry (SOCMI)*, applies to the installation
- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-6.405*

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 19, 2015, received June 26, 2015, designating Show-Me Ethanol, LLC as the owner and operator of the installation.

Attachment A – Acetaldehyde Emission and Ethanol Production Compliance Worksheet

Show-Me Ethanol, LLC  
 Carroll County, S35, T53N, R23W  
 Project Number: 2015-06-075  
 Installation ID Number: 033-0023  
 Permit Number: \_\_\_\_\_

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

A	B	C	D	E	F	G	H
Date	Throughput	Throughput Unit	Emission Factor	Tons Emitted	Emissions from this month last year (tons)	Current 12-month Rolling Total (tons)	Current 12-month Running Ethanol Production (gal)
		Tons dried DDGS	0.00000729				
		Gallons Ethanol	0.00028151				
		Tons dried DDGS	0.00000729				
		Gallons Ethanol	0.00028151				
		Tons dried DDGS	0.00000729				
		Gallons Ethanol	0.00028151				
		Tons dried DDGS	0.00000729				
		Gallons Ethanol	0.00028151				
		Tons dried DDGS	0.00000729				
		Gallons Ethanol	0.00028151				

- A. Input date
- B. Input monthly throughput for each process
- C. Throughput unit of measure
- D. Emission factor in pounds
- E. Calculate using the following equation:  $E = (C_{\text{tons of DDGS dried}} \times D_{\text{dried DDGS}} \div 2000 + C_{\text{gallons of ethanol}} \times D_{\text{gallons produced}} \div 2000$
- F. Record the emissions from this month last year (tons)
- G. Calculate using the following equation:  $G_{\text{this month}} = G_{\text{last month}} + E - F$
- H. Add the gallons of ethanol produced this month to the amount of ethanol produced in the previous 11 months

A 12-month rolling total of ethanol produced less than 73,000,000 gallons indicates compliance with Special Condition 7.A.  
 A 12-month rolling total less than 10 tons of acetaldehyde indicates compliance with Special Condition 8.A



## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ....	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ...	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SDS</b> .....	Safety Data Sheet
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

Mr. Richard Hanson  
General Manager  
Show-Me Ethanol, LLC  
26530 Highway 24 East  
Carrollton, MO 64633

RE: New Source Review Permit - Project Number: 2015-06-075

Dear Mr. Hanson:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. 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 amended 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oa.mo.gov/ahc](http://www.oa.mo.gov/ahc).

If you have any questions regarding this permit, please do not hesitate to contact J Luebbert, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:jl