

STATE OF MISSOURI



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: **032013-011**

Project Number: 2012-11-063  
Installation Number: 007-0002

Parent Company: Mid-America Biofuels, LLC

Parent Company Address: P.O. Box 104778, Emerald Lane, Jefferson City, MO 65110

Installation Name: Mid-America Biofuels, LLC

Installation Address: 410 South Jefferson Street, Mexico, MO 65265

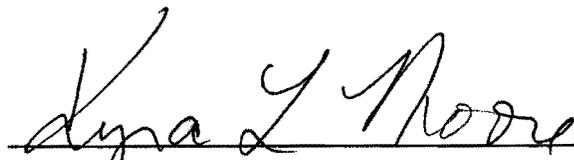
Location Information: Audrain County, S28, T51N, R9W

Application for Authority to Construct was made for:  
Increase the biodiesel production capacity of the installation to 50 million gallons per year.  
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.

EFFECTIVE DATE



DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## 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.

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### 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."*

Mid-America Biofuels, LLC  
Audrain County, S28, T51N, R9W

1. **Superseding Condition**  
The conditions of this permit supersede all special conditions found in the following previously issued construction permits and their amendments from the Air Pollution Control Program (Permit Numbers 032006-010 and 102006-015).
2. **Emission Limitation**
  - A. Mid-America Biofuels, LLC shall emit less than 40 tons of VOCs from the entire biodiesel production plant in any consecutive 12-month period. The entire biodiesel production plant consists of the equipment listed in Table 2.
  - B. Attachment A, or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 2.A. Mid-America Biofuels, LLC shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used at the biodiesel production plant.
  - C. Mid-America Biofuels, LLC shall report to the Air Pollution Control Program'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 from Special Condition Number 2.B. indicate that the source exceeds the limitation of Special Conditions Number 2.A.
3. **Performance Testing**
  - A. Mid-America Biofuels, LLC shall conduct performance tests to verify that the emission rates from the Boiler (EP01) while combusting vegetable oil and biodiesel do not exceed those stated in the application as listed below:

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**SPECIAL CONDITIONS:**

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

Pollutant	Emission Rate (pound per MMBTU)
PM <sub>10</sub> (condensable and filterable)	0.05
NO <sub>x</sub>	0.1776
CO	0.0064

- B. 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 of operation and shall be conducted in accordance with the Proposed Test Plan outlined in Special Condition Number 4. These tests shall be performed at the MHDR of the Boiler, or within 10 percent of the MHDR. If the tests are conducted below 90 percent of the MHDR, then the tested rate is the new MHDR.
4. Proposed Test Plan
- A. A completed Proposed Test Plan Form (enclosed) must be submitted to the Air Pollution Control Program thirty (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 thirty (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 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 3 of this permit indicate that any of the emission rates specified in the application are being exceeded, Mid-America Biofuels, 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 total emissions from the Mid-America Biofuels, LLC biodiesel plant will remain below de minimis levels as outlined in Table 3. Alternatively, Mid-America Biofuels, LLC may undergo a Section (8) review of this project. Mid-America

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**SPECIAL CONDITIONS:**

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

Biofuels, LLC shall implement any such plan immediately upon its approval by the Director.

5. 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 drift loss from the towers shall not exceed 0.002 percent of the water circulation rate. Verification of drift loss shall be by manufacturer's guaranteed drift loss and shall be kept on site and made readily available to Department of Natural Resources' employees upon request.
  - C. The total dissolved solids (TDS) concentration in the circulated cooling water shall not exceed a TDS concentration of 3,500 ppm. A TDS sample shall be collected and the results recorded monthly to verify the TDS concentration.
  - D. 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.
  
6. Fuel Oil Sulfur Content Restriction

The sulfur content of the fuel to be used in the Boiler (EP01) shall not exceed 0.5% by weight. Mid-America Biofuels, LLC shall obtain the sulfur content of the fuel oil for each fuel oil delivery from the fuel vendors or conduct their own fuel analysis to evaluate the typical sulfur content weight percent of the fuel oil. The fuel consumption records and statement shall be kept on-site for five (5) years and shall be made immediately available to the Missouri Department of Natural Resources' personnel upon request.

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

Project Number: 2012-11-063  
Installation ID Number: 007-0002  
Permit Number:

Mid-America Biofuels, LLC  
410 South Jefferson Street  
Mexico, MO 65265

Complete: November 29, 2012

Parent Company:  
Mid-America Biofuels, LLC  
P.O. Box 104778, Emerald Lane  
Jefferson City, MO 65110

Audrain County, S28, T51N, R9W

REVIEW SUMMARY

- Mid-America Biofuels, LLC has applied for authority to increase the biodiesel production capacity of the installation to 50 million gallons per year.
- HAP emissions are expected from the proposed equipment. The HAP of concern from this process is methanol.
- 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. 40 CFR 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to the proposed boiler. 40 CFR 60 Subpart NNN, *Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations*, applies to the biodiesel plant. 40 CFR 60 Subpart RRR, *Standards of Performance for VOC Emissions from SOCMI Reactor Processes*, applies to the biodiesel plant. In addition, 40 CFR 60 Subpart VV, *Standards of Performance for Equipment Leaks of VOC in the SOCMI*, applies to the biodiesel plant.
- The MACT standard, 40 CFR Part 63, Subpart FFFF, *National Emission Standards: Miscellaneous Organic Chemical Manufacturing* applies to the biodiesel plant. In addition, 40 CFR Part 63, Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*, applies to the proposed equipment since the installation is major for HAPs.
- No additional control devices are proposed with this project.

- 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.
- This installation is located in Audrain County, an attainment area for all criteria pollutants.
- This installation is on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2], 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 since potential emissions of the application are below de minimis levels.
- An emission testing is 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

Mid-America Biofuels, LLC (MAB) owns and operates a previously permitted 41.6 million gallon per year biodiesel manufacturing plant in Mexico, Missouri.

Due to the proximity of the facility to the existing Archer Daniels Midland Company (ADM) soybean processing and oil extraction facility, it was determined that both MAB and ADM would be considered a single installation for permitting purposes. Therefore, the existing potential emissions of the ADM facility along with the MAB facility were used in the applicability determination for this permit. However, for clarity in this permit, the biodiesel facility will be referred to as MAB and the soybean oil producing facility will be referred to as ADM. For a more detailed outline of this decision, please refer to Permit #032006-010.

The existing installation is considered a major source for both construction and operating permits. The following New Source Review permits have been issued to ADM and MAB from the Air Pollution Control Program.

Table 1: Construction Permit History

Permit Number	Description
0284-007	Construction of a boiler
0795-002	Construction of a new soybean dehulling system
*032006-010	Section (5) permit for the construction of a 36 million gallon per year biodiesel production plant
*102006-015	Section (5) permit to modify and install a previously permitted biodiesel production facility
102010-003	Section (8) permit for an increase in crushing capacity
*032006-010A	Amendment to Permit 032006-010
072009-005	Section (5) permit for the construction of a new sodium methylate production process
*102006-015A	Amendment to Permit 102006-015. Supercedes conditions contained in Permit Amendment 032006-010A

\*Permits issued to MAB.

### PROJECT DESCRIPTION

MAB has applied for authority to increase the biodiesel production capacity of the biodiesel plant from 41.7 million gallons to 50 million gallons per year. The increase in production will be achieved through process improvements or upgrades to equipment. Several pumps will be replaced with larger pumps and new tanks will be added to accommodate the additional production. In addition, the existing water absorber recovery device will be replaced by a larger water absorber.

Biodiesel is produced from the base-catalyzed transesterification of vegetable oil with methanol. The by-product is glycerine. The primary vegetable oil feedstock will be soybean oil from the ADM facility. However, the plant will be designed to accept vegetable oil from alternative sources when ADM is unable to provide the oil.

Crude soybean oil from the ADM facility will be refined and processed through a filter media, which will then be stored in a tank at the ADM facility. Two reactors will be used to produce the biodiesel. As the methyl esters are separated from the glycerine by-products, the excess methanol will be recovered and recycled back into the process. Emissions from all of the processing equipment will be vented to a single emission point and controlled by a water absorber as required by 40 CFR Part 63, Subpart FFFF. A biodiesel filtration process prior to final product loadout will produce emissions of methanol when the filter is purged.

A correction to the originally permitted boiler heating capacity was made from 15.33 MMBTU per hour to 16.33 MMBTU per hour. The boiler will burn primarily natural gas with No. 2 fuel oil, crude soybean oil, and biodiesel as backup fuels. The worst case emissions from each fuel were determined for the potential emissions of the boiler. Testing will be required when crude soybean oil and/or biodiesel is combusted as fuel in the boiler.

Biodiesel and crude glycerine will be loaded onto tank trucks and rail cars that last contained a volatile organic liquid (i.e. gasoline) for transport off-site. MAB will have paved haul roads.

### EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-

42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition. Storage tank emissions were estimated using the EPA TANKS program Version 4.0.9d. Table 2 outlines the new emission points, the MHDR and the source of emission factors.

Table 2: Biodiesel Plant Emission Points

Emission Point ID (as listed in Permit 102006-015)	Emission Unit ID (as listed in the application)	Description	Maximum Design Rate (hourly unless otherwise noted)	Emissions Source
EP01	EU-240	Biodiesel Boiler	16.33 MMBTU	AP-42 Section 1.4 and 1.3
EP02	EU-250	Biodiesel Process Vent	5710 gallons	Manufacturer's data and engineering testing
FS05	EU-270-1	Biodiesel Loadout (biodiesel)	24,000 gallons	AP-42 Section 5.2
New	EU-270-2	Biodiesel Loadout (gasoline)	24,000 gallons	AP-42 Section 5.2
New	EU-320	Biodiesel Filter Purge	350 tons filter per year	Engineering calculations
EP03	Removed	Filter Aid	0.085 tons of filter aid	AP-42 Section 9.9.1
EP04	Removed	Filter Surge Process Tank	100,000 gallon (capacity)	Engineering calculations
TK01	TK01	Biodiesel Tank #7000	100,000 gallon (capacity)	TANKS 4.0.9d
TK02	TK02	Biodiesel Tank #7001	100,000 gallon (capacity)	TANKS 4.0.9d
TK03	TK03	Biodiesel Tank #7002	100,000 gallon (capacity)	TANKS 4.0.9d
New	TK04	Biodiesel Tank #7003	450,000 gallon (capacity)	TANKS 4.0.9d
New	TK05	Biodiesel Tank #7004	450,000 gallon (capacity)	TANKS 4.0.9d
New	TK11	Biodiesel Tank #7005	450,000 gallon (capacity)	TANKS 4.0.9d
TK04	TK06	Crude Glycerine Tank #1	85,000 gallon (capacity)	TANKS 4.0.9d
TK05	TK07	Crude Glycerine Tank #2	85,000 gallon (capacity)	TANKS 4.0.9d
TK06	TK08	Fatty Acid Tank	23,000 gallon (capacity)	TANKS 4.0.9d
TK07-09	EU-290-1-3	Methanol Tank #1-3	38,000 gallon (capacity)	TANKS 4.0.9d
TK10	EU-300	Sodium Methylate Tank	20,000 gallon (capacity)	TANKS 4.0.9d
TK11	TK09	RB Soy Oil Tank 5201	100,000 gallon (capacity)	TANKS 4.0.9d
TK12	EU-310	HCl Tank	25,000 gallon (capacity)	TANKS 4.0.9d
TK13	TK10	NaOH Tank	10,000 gallon (capacity)	TANKS 4.0.9d
FS01	FS01	Haul Roads (unpaved)	Varies based on road length (700ft, unpaved)	AP-42 Section 13.2.2
FS02	FS02	Haul Roads (paved)	Varies based on road length (500ft, paved)	AP-42 Section 13.2.1
FS03	EU-280	Cooling Tower	270,000 gallons	AP-42 Section 13.4
FS04	EU-260	Fugitive Leaks	N/A	EPA Protocol for Equipment Leak Emission Estimates

The filter aid processing equipment, although originally permitted with the biodiesel plant, has been removed from the biodiesel portion of the plant, since, according to the applicant, it is not part of or affected by the biodiesel process. Therefore the removal of the special condition requiring the application of a baghouse as a control device is appropriate and the control device condition for the filter aid is not re-instated in this construction permit. In addition, the emissions from the filter surge process tank have been removed from this review. According to the applicant, emissions are no longer expected from the filter surge tank since the tank is now currently a blanketed process vessel.

Emissions from the process vent were originally determined using data provided by the vendor who estimates emissions at  $1.83 \times 10^{-5}$  pounds of methanol per gallon of biodiesel produced. Additional information was obtained by ADM and MAB which indicates that emissions are closer to  $2.8 \times 10^{-5}$  pounds of methanol per gallon of biodiesel produced. Therefore, the higher emission rate data was used in determining the potential emissions of the process. Future determinations should be based on the higher emission rate data until additional test data is obtained. These emissions are controlled with a water absorber.

Cooling tower emissions were calculated assuming that the total dissolved solid content in the cooling tower is 3500 ppm and the drift loss is 0.002 percent. The special condition for the cooling tower is being re-instated in this construction permit as an on-going requirement for MAB. MAB was previously required to monitor and record flow rate circulation of the cooling tower. MAB is currently requesting to eliminate this monitoring requirement and has provided documentation demonstrating that the circulation flow rate will not exceed 270,000 gallons per hour. Based on this information, the flow rate monitoring requirement has been removed from the special condition. In addition, MAB has previously met the requirements and received approval to reduce or eliminate TDS sampling, as allowed by the special condition. To ensure that the previous approval is still valid MAB will need to re-submit the request to reduce or eliminate TDS sampling under this construction permit. MAB may use the 24-month period used in the original submission but should also include justification on why that 24-month period is still appropriate.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit 102006-015A and represent the original configuration of the biodiesel plant with the filter aid processing equipment. The existing potential emissions of VOC takes into account an installation-wide limit set in Permit 102006-015. Existing actual emissions were taken from the installation's 2011 EIQ. Potential emissions of the application represent the potential emissions of the biodiesel plant including the modified equipment and assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions <sup>1</sup> (2011 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential <sup>2</sup>
PM	25.0	N/D	N/A	2.94	N/A
PM <sub>10</sub>	15.0	10.80	45.04	2.96	N/A
PM <sub>2.5</sub>	10.0	N/D	18.79	1.89	N/A
SO <sub>x</sub>	40.0	3.22	0.11	34.4	N/A
NO <sub>x</sub>	40.0	11.95	18.01	16.6	N/A
VOC	40.0	<40	79.47	536	<40
CO	100.0	5.48	15.13	8.3	N/A
GHG (CO <sub>2</sub> e)	75,000	N/D	N/A	8,369	N/A
GHG (mass)	0.0	N/D	N/A	8,361	N/A
HAPs	10.0/25.0	9.36	0	1.6	N/A

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

<sup>1</sup> Actual emissions were reported jointly for ADM and MAB.

<sup>2</sup> Installation potential only refers to the biodiesel plant potential emissions.

The original permit included special conditions that have been re-evaluated during the review of this application. The applicant has requested a de minimis limit on the VOC emissions from the biodiesel plant to avoid major review.

#### 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

Mid-America Biofuels, 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
- *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

- *Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400*
- *New Source Performance Regulations, 10 CSR 10-6.070*
  - *Standards of Performance for Volatile Organic Liquid Storage Vessels, 40 CFR Part 60, Subpart Kb*
  - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60, Subpart Dc*
  - *Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR Part 60, Subpart NNN*
  - *Standards of Performance for VOC Emissions from SOCMI Reactor Processes, 40 CFR Part 60, Subpart RRR*
  - *Standards of Performance for Equipment Leaks of VOC in the SOCMI, 40 CFR Part 60, Subpart VV*
- *MACT Regulations, 10 CSR 10-6.075*
  - *National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, 40 CFR Part 63, Subpart FFFF*
  - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD*
- *Restriction of Emission of Sulfur Compounds, 10 CSR 10-6.260*
- *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*, I recommend this permit be granted with special conditions.

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Emily Wilbur  
New Source Review Unit

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 29, 2012, received November 29, 2012, designating Mid-America Biofuels, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

## Attachment A - VOC Compliance Worksheet

Mid-America Biofuels, LLC  
 Audrain County, S28, T51N, R9W  
 Project Number: 2012-11-063  
 Installation ID Number: 007-0002  
 Permit Number: \_\_\_\_\_

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

Copy this sheet as needed

Column A	Column B	Column C	Column D	Column E
Emission Point(s)	Description	Amount Processed	VOC Emission Factor	(a) VOC Emissions (tons)

(b) Total VOC Emissions Calculated for this Month in Tons:	
(c) 12-Month VOC Emissions Total From Previous Month's Attachment A, in Tons:	
(d) Monthly VOC Emissions Total (b) from Previously year's Attachment A, In Tons:	
(e) Current 12-month Total of VOC Emissions in Tons : [(b) + (c) - (d)]	

- (a) [Column E] = [Column C] x [Column D] x 0.0005. Refer to Table 2 for emission factor information.
- (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 40.0 tons indicates compliance.**

## 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>SIC</b> .....	Standard Industrial Classification
<b>GHG</b> .....	Greenhouse Gas	<b>SIP</b> .....	State Implementation Plan
<b>gpm</b> .....	gallons per minute	<b>SMAL</b> .....	Screening Model Action Levels
<b>gr</b> .....	grains	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>HAP</b> .....	Hazardous Air Pollutant	<b>tph</b> .....	tons per hour
<b>hr</b> .....	hour	<b>tpy</b> .....	tons per year
<b>hp</b> .....	horsepower	<b>VMT</b> .....	vehicle miles traveled
<b>lb</b> .....	pound	<b>VOC</b> .....	Volatile Organic Compound
<b>lbs/hr</b> .....	pounds per hour		
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

Mr. Adrian Kosiara  
Biodiesel Superintendent  
Mid-America Biofuels, LLC  
410 South Jefferson Street  
Mexico, MO 65265

RE: New Source Review Permit - Project Number: 2012-11-063

Dear Mr. Kosiara:

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 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 have any questions regarding this permit, please do not hesitate to contact Emily Wilbur, 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:ewl

Enclosures

c: Northeast Regional Office  
PAMS File: 2012-11-063

Permit Number: