

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: 082014-013

Project Number: 2014-04-052
Installation Number: 211-0024

Parent Company: Roeslein and Associates, Inc.

Parent Company Address: 9200 Watson Road, Suite 200, St. Louis, MO 63126

Installation Name: Roeslein Alternative Energy Missouri, LLC - South Meadows

Installation Address: State Highway UU and Highway U, Browning, MO 64630

Location Information: Sullivan County, S33, T61N, R19W

Application for Authority to Construct was made for:

Installation of impermeable covers on 7 existing lagoons and the corresponding gas collection, cleaning, compression and flare systems. 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 are applicable to this permit.

JUL 22 2014

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."

Roeslein Alternative Energy Missouri, LLC - South Meadows
Sullivan County, S3, T61N, R19W

1. Operational Limits
 - A. Roeslein Alternative Energy Missouri, LLC – South Meadows shall divert the biogas to either the flares (EP1 – EP7) or the gas cleaning system (EP-8 and EP-9) at all times. The installation shall not emit the biogas directly into the atmosphere.
 - B. Before the biogas cleaning system becomes operational, Roeslein Alternative Energy Missouri, LLC – South Meadows shall vent all of the biogas to the flares. The time period for venting all biogas to the flares shall begin from the date of permit issuance and not be more than twelve (12) consecutive months.
 - C. Once the biogas cleaning system becomes operational, Roeslein Alternative Energy Missouri, LLC – South Meadows shall divert the biogas to the flare only in case of cleaning system shut downs, which shall not exceed 350 hours per twelve (12) consecutive months for each flare.
 - D. Roeslein Alternative Energy Missouri, LLC – South Meadows shall keep a record of the operating hours of the flares to ensure that the limits in Special Condition 1.B. and 1.C. are not exceeded. Roeslein Alternative Energy Missouri, LLC – South Meadows shall also notify the Enforcement Unit of the Air Pollution Control Program of the start of operations for the biogas cleaning system within 30 days of startup of the system.
2. Control Device Requirement - Flares
 - A. The flares (EP1-EP7) shall be operated and maintained in accordance with the manufacturer's specifications. Roeslein Alternative Energy Missouri, LLC - South Meadows shall maintain a copy of the flare manufacturer's specifications on site.

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SPECIAL CONDITIONS:

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

- B. Roeslein Alternative Energy Missouri, LLC - South Meadows shall maintain an operating and maintenance log for the flares 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. Sampling Requirements for Hydrogen Sulfide (H₂S) and Ammonia (NH₃)
 - A. Roeslein Alternative Energy Missouri, LLC - South Meadows shall sample the biogas to determine the H₂S and NH₃ concentrations.

 - B. The H₂S concentration shall not exceed 0.35 percent by volume and the NH₃ concentration shall not exceed 0.34 percent by volume.

 - C. Roeslein Alternative Energy Missouri, LLC - South Meadows shall collect samples once every other week. During each collection event, three samples shall be taken and the results averaged to compare with the limits in Special Condition 3.B. The averaging period used for each sample shall be one hour.

 - D. The first sample collection shall be performed within 30 days after startup of operations. Sampling shall be performed using an approved EPA method or a method approved by the Missouri Air Pollution Control Program. Roeslein Alternative Energy Missouri, LLC – South Meadows shall submit a testing protocol to the Missouri Air Pollution Control Program at least fourteen (14) days before the first test for approval.

 - E. Each collection event shall be performed at a different lagoon. After a collection event has been performed at a lagoon, the same lagoon cannot be sampled until a collection event has been performed on all the other lagoons.

 - F. If any of the sampling result shows an exceedance of the values in Special Condition 3.B., Roeslein Alternative Energy Missouri, LLC - South Meadows shall do the following:

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SPECIAL CONDITIONS:

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

- 1) If the exceedance occurs for H₂S before the gas cleaning system becomes operational, Roeslein Alternative Energy Missouri, LLC shall submit an emissions ambient impact analysis for SO_x to show that the SO_x potential emissions do not exceed the major source level of 250.0 tons per year and that the SO_x ambient impact does not exceed the NAAQS.
 - 2) If the exceedance occurs for NH₃ before the gas cleaning system becomes operational, Roeslein Alternative Energy Missouri, LLC shall submit an emissions and ambient impact analysis for NO_x to show that the NO_x potential emissions do not exceed the major source level of 250.0 tons per year and that the NO_x ambient impact does not exceed the NAAQS.
 - 3) If the exceedance occurs for H₂S after the gas cleaning system becomes operational, Roeslein Alternative Energy Missouri, LLC shall submit an emissions analysis for SO_x to show that the SO_x potential emissions do not exceed the *de minimis* level of 40.0 tons per year.
 - 4) If the exceedance occurs for NH₃ after the gas cleaning system becomes operational, Roeslein Alternative Energy Missouri, LLC shall submit an emissions analysis for NO_x to show that the NO_x potential emissions do not exceed the *de minimis* level of 40.0 tons per year.
 - 5) If the installation cannot show compliance with Special Conditions 3.F.1), 3.F.2), 3.F.3) or 3.F.4), it shall contact the Air Pollution Control Program for further instructions.
4. Control Device Requirement – Bio-Scrubber
- A. Roeslein Alternative Energy Missouri, LLC – South Meadows shall control H₂S emissions from the biogas cleaning system using a bio-scrubber as specified in the permit application.
 - B. The scrubber shall be operated and maintained in accordance with the manufacturer's specifications. The scrubber shall be equipped with a gauge or meter, which indicates the pressure drop across the scrubber. The gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.

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SPECIAL CONDITIONS:

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

- C. Roeslein Alternative Energy Missouri, LLC – South Meadows shall monitor and record the operating pressure drop of the scrubber at least once every 24 hours while the biogas cleaning system is in operation. The pressure drop shall be maintained within the design conditions specified by the manufacturer’s performance warranty.
 - D. Roeslein Alternative Energy Missouri, LLC – South Meadows shall maintain a copy of the bio-scrubber’s manufacturer’s performance warranty on site.
 - E. Roeslein Alternative Energy Missouri, LLC – South Meadows shall maintain an operating and maintenance log for the scrubber that 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.
5. Record Keeping and Reporting Requirements
- A. Roeslein Alternative Energy Missouri, LLC - South Meadows shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources’ personnel upon request. These records shall include MSDS for all materials used
 - B. Roeslein Alternative Energy Missouri, LLC - South Meadows 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 (6) REVIEW

Project Number: 2014-04-052
Installation ID Number: 211-0024
Permit Number:

Roeslein Alternative Energy Missouri, LLC - South Meadows Complete: June 5, 2014
State Highway UU and U
Browning, MO 64630

Parent Company:
Roeslein & Associates, Inc.
9200 Watson Road, Suite 200
St. Louis, MO 63126-1528

Sullivan County, S33, T61N, R19W

REVIEW SUMMARY

- Roeslein Alternative Energy Missouri, LLC has applied for authority to install impermeable covers on seven (7) existing lagoons and the corresponding gas collection, cleaning, compression and flare systems.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are products of combustion.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Seven (7) flares will be used to control the emissions from the lagoons. A bio-scrubber will be used to control H₂S emissions from the biogas cleaning system once the biogas cleaning system is operational.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are above *de minimis* levels, but below major source levels, before the biogas cleaning system is operational (maximum 12 months of operations). Potential emissions of all pollutants will be less than their respective *de minimis* levels after the biogas cleaning system becomes operational.
- This installation is located in Sullivan County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was performed to determine the ambient impact of NO_x, SO_x, and CO.
- Emissions testing is not required for the equipment. However, sampling is required to determine the H₂S and NH₃ concentrations in the biogas.
- No operating permit is required for this installation. After the biogas cleaning system becomes operational, emissions of all pollutants would be under their respective de minimis levels and no federal regulation (i.e. MACT, NSPS, etc.) applies to the installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION/PROJECT DESCRIPTION

Roeslein Alternative Energy Missouri, LLC (RAEM) proposes to install impermeable covers on seven (7) existing lagoons at the Murphy Brown of Missouri South Meadows Farm in Sullivan County. The biogas generated at the lagoons will either be purified into methane or be diverted to a flare. RAEM will construct the project in two (2) phases. The first phase involves the installation of the lagoon covers and flare skids while the second phase includes the installation of the gas cleaning and compression equipment. During the first phase, RAEM will divert all of the biogas to the flare to collect gas flow rate and composition data. The results will be used to determine the sizing of the gas cleaning and compression systems. Once the gas cleaning and compression systems are operational, the flares will only be operated during gas cleaning system shutdowns. RAEM expects to operate the flare for a maximum of 350 hours after the gas cleaning system is operational. The installation is considered a minor source for construction permits and is not required to apply for an operating permit.

The facility has asked to keep the design of the cleaning system and some of the emission factors confidential per Missouri State Rules 10 CSR 10-6.210, *Confidential Information*. Therefore, no information is given in this permit regarding the types of equipment involved in the cleaning process and no emission factors are specifically listed. This permit is a public version and there is no confidential version of the permit.

EMISSIONS/CONTROLS EVALUATION

Emissions from phase one and phase two of the project were both calculated. Emissions from the flares were calculated from emission factors from EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, or from mass balances. PM_{2.5}, PM₁₀, PM and CO emissions from the flare were calculated from emission factors in AP-42, Chapter 2.4, *Municipal Solid Waste Landfill*, 11/98. SO_x emissions were calculated from mass balances assuming that the H₂S contained in the biogas are all oxidized to SO_x. The concentration used in the calculation for H₂S is 0.35 percent by volume. NO_x can be formed from the oxidation of ammonia (NH₃) contained in the biogas, the fixation of atmospheric nitrogen with oxygen (thermal NO_x),

and the reaction with partially oxidized compounds within the flare (prompt NO_x). NO_x emissions from the oxidation of NH₃ were calculated using mass balances assuming a concentration of 0.34 percent by volume. Thermal and Prompt NO_x emissions were calculated using the emission factor in AP-42, Chapter 2.4. The concentration of H₂S and NH₃ were provided by the company and the company is required to sample the biogas periodically to ensure that the values are not exceeded. VOC emissions from the biogas passing through the flare were calculated assuming that a 0.01 fraction of the methane production potential are emitted as VOC and that 99.2% will be destroyed by the flare. The 0.01 fraction was taken from the EPA document, *Emissions From Animal Feeding Operations, Draft, 8/2001* and the 99.2% device control efficiency is from AP-42, Chapter 2.4, Table 2.4-3. VOC emissions from combustion were determined using the emission factor in AP-42, Chapter 1.4, *Natural Gas Combustion, 7/98*.

CO₂ emissions from combustion of the flares were calculated using emission factor from AP-42, Chapter 2.4. CO₂ emissions from the biogas were calculated from mass balances assuming that 34% of the biogas are CO₂, which is a typical number for biogas. CH₄ emissions from combustion were calculated from mass balances assuming that 65% of the biogas is CH₄ and applying a 98% default control efficiency for the use of the flare.

Emissions of all pollutants were calculated using a biogas flow rate of 200 scfm, which is the rate of the fan and not the actual biogas generation rate. This should yield a very conservative estimate of emissions. The CH₄ and CO₂ emissions can also be calculated using the emission factors from 40 CFR 98, Subpart C, Table C-1 and C-2. However, the emission factors from 40 CFR 98 were not used for this project because it yields a lower estimate of emissions than the other methods. Once the cleaning system becomes operational, there will be CH₄ and CO₂ emissions from the exit streams. CO₂ emissions were calculated from mass balance assuming that all of the CO₂ generated by the biogas is emitted. CH₄ emissions were calculated using performance data provided by the manufacturer. N₂O emissions were calculated using the emission factor in 40 CFR 98. No N₂O emission factors were available from AP-42.

The impermeable membrane is not expected to capture 100% of the biogas. To calculate fugitive emissions of CO₂ and CH₄, it was assumed that only 97.5% of the biogas would be captured. This is the capture efficiency given in 40 CFR 98, Subpart JJ, *Manure Management, Table JJ-6, Collection Efficiencies of Anaerobic Digesters*.

Particulate emissions from the haul roads were estimated using the equations in AP-42, Chapter 13.2.2, *Unpaved Roads, 11/2006*. The haul road is used to haul compressed methane and are only included in the emissions from Phase II of the project. HAPs emissions from combustion were calculated using emission factors in AP-42, Chapter 2.4.

There will be H₂S emissions from the flares and the gas cleaning system due to the H₂S content in the biogas. However, the emissions are not considered part of this project because they existed in the gas before the addition of the equipment. The H₂S emissions are not generated by the equipment. Instead, with the addition of the flares

and the bio-scrubber at the outlet stream of the gas cleaning system, the H₂S emissions from the lagoons will be less than the emissions before this project. The bio-scrubber is required by a special condition in this permit to ensure its proper operation in control of odor.

For CO₂ emissions from the gas cleaning system, it was assumed that 20% of the exit stream will be CO₂. For CH₄ emissions, it was assumed that 0.4% of the exit stream consists of CH₄. Both of these values are from the manufacturer's specifications.

The GHG-Mass emissions were calculated by summing the CO₂, CH₄ and N₂O emissions. The GHG-CO₂e emissions were calculated by multiplying the CO₂, CH₄ and N₂O emissions by their respective global warming potential (1 for CO₂, 25 for CH₄, and 298 for N₂O) and adding the results.

The following table provides an emissions summary for this project. Phase I emissions were calculated assuming that the flare is being used to combust the biogas during the entire year (8,760 hours). Phase II emissions were calculated assuming that the flare is only being used for 350 hours and that for the remaining time, the biogas is being diverted to the gas cleaning system. Assuming that the flare operates 350 hours and that the cleaning system operates at 8,410 hours leads to higher emissions than assuming that the cleaning system operates at 8,760 hours.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Phase I Potential Emissions (tpy)	Phase I Conditioned Potential Emissions (tpy)	Phase II Potential Emissions (tpy)	Phase II Conditioned Potential Emissions (tpy)
PM	25.0	4.07	N/A	0.64	N/A
PM ₁₀	15.0	4.07	N/A	0.31	N/A
PM _{2.5}	10.0	4.07	N/A	0.18	N/A
SO _x	40.0	218.15	N/A	8.72	N/A
NO _x	40.0	152.32	N/A	6.09	N/A
VOC	40.0	5.06	N/A	0.38	N/A
CO	100.0	179.36	N/A	7.17	N/A
GHG (CO ₂ e)	¹ N/A	56,938.8	N/A	14,981.6	N/A
GHG (mass)	¹ N/A	44,961.6	N/A	5666.66	N/A
H ₂ S	10.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	0.45	N/A	0.02	N/A

N/A = Not Applicable

Note 1: On June 23, 2014, the U.S. Supreme Court determined, in *Utility Air Regulatory Group v. Environmental Protection Agency* (No. 12-1146), that GHG can no longer be treated as an air pollutant for the purpose of determining whether a source is a major source required to obtain a PSD permit.

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 all pollutants are above de minimis levels but below major source levels before the biogas cleaning system is operational. Potential emissions of all pollutants will be below the de minimis levels once the biogas cleaning system is operational.

APPLICABLE REQUIREMENTS

Roeslein Alternative Energy Missouri, LLC - South Meadows 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.

GENERAL REQUIREMENTS

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

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of NO_x, SO_x, and CO. For CO, the ambient impacts are calculated to be less than the significance levels. Therefore, a full ambient air quality modeling analysis was not performed. For NO_x and SO_x, results show that their ambient impacts are expected to be less than their respective NAAQS. More information regarding the AAQIA can be found in the memorandum “Ambient Air Quality Impact Analysis (AAQIA) for Roeslein Alternative Energy Missouri, LLC – 2014-04-052 & 2014-04-056” dated July 16, 2014.

Table 2: Ambient Impact Analysis for NO_x, SO_x, and CO (in µg/m³)

Pollutant	Modeled Impact	NAAQS/SL	Time Period
NO _x	119.6	188.0	1-Hour
NO _x	5.4	100.0	Annual
SO _x	24.3	195	1-Hour
SO _x	28.4	1,300	3-Hour
SO _x	8.7	365	24-Hour
SO _x	1.4	80	Annual
CO	21.94	¹ 2,000	1-Hour
CO	10.79	¹ 500	8-Hour

Note 1: Significance level for CO

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.

Chia-Wei Young
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 24, 2014, received April 25, 2014, designating Roeslein Alternative Energy Missouri, LLC - South Meadows as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

APPENDIX A

Abbreviations and Acronyms

%percent	m/s meters per second
°Fdegrees Fahrenheit	Mgal 1,000 gallons
acfmactual cubic feet per minute	MW megawatt
BACT Best Available Control Technology	MHDR maximum hourly design rate
BMPs Best Management Practices	MMBtu Million British thermal units
Btu British thermal unit	MMCF million cubic feet
CAM Compliance Assurance Monitoring	MSDS Material Safety Data Sheet
CAS Chemical Abstracts Service	NAAQS ... National Ambient Air Quality Standards
CEMS Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR Code of Federal Regulations	NO_x nitrogen oxides
CO carbon monoxide	NSPS New Source Performance Standards
CO₂ carbon dioxide	NSR New Source Review
CO_{2e} carbon dioxide equivalent	PM particulate matter
COMS Continuous Opacity Monitoring System	PM_{2.5} particulate matter less than 2.5 microns in aerodynamic diameter
CSR Code of State Regulations	PM₁₀ particulate matter less than 10 microns in aerodynamic diameter
dscf dry standard cubic feet	ppm parts per million
EQ Emission Inventory Questionnaire	PSD Prevention of Significant Deterioration
EP Emission Point	PTE potential to emit
EPA Environmental Protection Agency	RACT Reasonable Available Control Technology
EU Emission Unit	RAL Risk Assessment Level
fps feet per second	SCC Source Classification Code
ft feet	scfm standard cubic feet per minute
GACT Generally Available Control Technology	SIC Standard Industrial Classification
GHG Greenhouse Gas	SIP State Implementation Plan
gpm gallons per minute	SMAL Screening Model Action Levels
gr grains	SO_x sulfur oxides
GWP Global Warming Potential	SO₂ sulfur dioxide
HAP Hazardous Air Pollutant	tph tons per hour
hr hour	tpy tons per year
hp horsepower	VMT vehicle miles traveled
lb pound	VOC Volatile Organic Compound
lbs/hr pounds per hour	
MACT Maximum Achievable Control Technology	
µg/m³micrograms per cubic meter	

Mr. Chris Roach
Director of Project Development
Roeslein Alternative Energy – South Meadows
9200 Watson Road, Suite 200
St. Louis, MO 63126-1528

RE: New Source Review Permit - Project Number: 2014-04-052

Dear Mr. Roach:

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 and your new source review permit application 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 Chia-Wei Young, 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:cyl

Enclosures

c: Northeast Regional Office
PAMS File: 2014-04-052

Permit Number:

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