

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: 042014-005

Project Number: 2014-01-051
Installation ID: 201-0126

Parent Company: Seminole Ag Lime Company Inc.

Parent Company Address: P.O. Box 4236, Scott City, MO 63780

Installation Name: Seminole Ag Lime Company Inc.

Installation Address: 501 Rock Levee Road, Scott City, MO 63780

Location Information: Scott County, S31 T30N R14E

Application for Authority to Construct was made for:

The installation of a new stationary rock crushing facility. 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.

APR 22 2014

EFFECTIVE DATE

A handwritten signature in cursive script, reading "Kyma L. Moore".
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 startup of this (these) air contaminant source(s). 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 startup of this (these) air contaminant source(s).

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

You may appeal this permit or any of the listed special conditions 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 source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The 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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SITE SPECIFIC 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."

1. **Best Management Practices Requirement**
Seminole Ag Lime Company Inc. shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
2. **Ambient Air Impact Limitation**
 - A. Seminole Ag Lime Company Inc. shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.
 - B. Seminole Ag Lime Company Inc. shall demonstrate compliance with Special Condition 2.A using Attachment A and Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Seminole Ag Lime Company Inc. shall account for the impacts from other sources of PM₁₀ as instructed in the attachments.
3. **Annual Emission Limit**
 - A. Seminole Ag Lime Company Inc. shall emit less than 15 tons of PM₁₀ in any 12-month period from the entire installation.
 - B. Seminole Ag Lime Company Inc. shall demonstrate compliance with special condition 3.A. using Attachment C or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
4. **Wet Suppression Control System Requirement**
 - A. Seminole Ag Lime Company Inc. shall install and operate wet spray devices on all crushers and screens.
 - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Seminole Ag Lime Company Inc. shall adjust the production rate to control emissions from these units. Seminole Ag Lime Company Inc. shall record a brief description of such events.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

5. **Minimum Distance to Property Boundary Requirement**
The primary emission point, Grizzly Feeder (EP5) shall be located at least 400 feet from the nearest property boundary.
6. **Primary Equipment Requirement**
Seminole Ag Lime Company Inc. shall process all rock through the primary crusher/screen (EU- 06). Bypassing the primary crusher/screen is prohibited.
7. **Record Keeping Requirement**
Seminole Ag Lime Company Inc. shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
8. **Reporting Requirement**
Seminole Ag Lime Company Inc. shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2014-01-051
Installation ID Number: 201-0126
Permit Number:

Seminole Ag Lime Company Inc.
501 Rock Levee Road
Scott City, MO 63780

Complete: January 29, 2014

Parent Company:
Seminole Ag Lime Company Inc.
P.O. Box 4236
Scott City, MO 63780

Scott County, S31 T30N R14E

PROJECT DESCRIPTION

Seminole Ag Lime Company Inc. will be installing and operating a rock crushing plant in Scott City, Missouri. The plant will have a Maximum Hourly Design Rate (MHDR) of 450 tons per hour. The units used in this installation will include a grizzly feeder (Cedar Rapids 15X48), a primary crusher (Cedar Rapids 50X48) with a 400 brake horsepower (bhp) engine, a scalping screen (6X16 Cedar Rapids), a secondary crusher (Canica Model 80), a finish screen (Powerscreen Warrior 1800), four conveyors, and five radial stackers. All electrical needs will be provided by one 220 bhp diesel generator. Seminole Ag Lime Company Inc. will be using spray devices to control the emissions of the grizzly feeder, primary crusher, secondary crusher, scalping and sizing screens, with carryover to the conveyors and storage pile load-in.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in Scott 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.

No permits have been issued to Seminole Ag Lime Company Inc. from the Air Pollution Control Program for this plant.

Table 1: Emission Points of the Installation

Unit ID	Description of Unit	Max Hourly Design Rate (MHDR)	MHDR Units
EP1	Truck Loading	450.00	Tons
EP2	Pit Road	0.4107	VMT
EP3	Haul Road	20.5367	VMT
EP4	Truck Unloading	450.00	Tons
EP5	Grizzly Feeder	450.00	Tons
EP6	Primary Crusher - Cedar Rapids 50x48 Crusher	450.00	Tons
EP7	Scalping Screen - Cedar Rapids 6x16	450.00	Tons
EP8	Secondary Crusher - Canica Model 80	450.00	Tons
EP9	Sizing Screen Plant - Powerscreen Warrior 1800	450.00	Tons
EP10	Diesel Generator #1 – 1989 Model 3406 Caterpillar 220 hp	220.00	bhp
EP11	Primary Crusher Engine – 1993 Cummins L Series	400.00	bhp
EP12	Conveyor (4)	450.00	Tons
EP13	Load In - Storage Piles	450.00	Tons
EP14	Wind Erosion - Storage Piles	6.00	Acres
EP15	Vehicular Activity - Storage Piles	11.3636	VMT
EP16	Load Out - Storage Piles	450.00	Tons

TABLES

The table below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. Since this is a new plant there are no existing actual emissions. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Potential Emissions of Process Equipment	Existing Actual Emissions	^a Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	22.93	N/A	663.70	45.89
PM ₁₀	15.0	14.25	N/A	216.26	<15.00
PM _{2.5}	10.0	6.70	N/A	40.62	2.81
SO _x	40.0	80.59	N/A	80.59	5.54
NO _x	40.0	118.13	N/A	118.13	8.12
VOC	40.0	9.41	N/A	9.41	0.65
CO	100.0	25.45	N/A	25.45	1.75
Total HAPs	25.0	0.10	N/A	0.10	0.01

N/A = Not Applicable

^aIncludes site specific haul road and storage pile emissions

Table 3: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS/RAL ($\mu\text{g}/\text{m}^3$)	Averaging Time	^b Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$)	Limited Impact ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	^c Daily Limit (tons/day)
^d PM ₁₀ (same)	150.0	24-hour	302.52	130.0	20.0	5866.6
^e PM ₁₀ (separate)	150.0	24-hour	302.52	100.0	50.0	5866.6

^aNational Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

^bModeled impact at maximum capacity with controls

^cIndirect limit based on compliance with NAAQS.

^dSolitary operation or operation with other plants that are owned by Seminole Ag Lime Company Inc.

^eOperation with other plants that are not owned by Seminole Ag Lime Company Inc.

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (EPA) document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment were calculated using emission factors from AP-42 Section 11.19.2 “Crushed Stone Processing and Pulverized Mineral Processing,” August 2004. The controlled emission factors were used for the grizzly, crushers, screens, and conveyors because the equipment is controlled by water spray devices.

Emissions from the diesel generators and primary crusher engine were calculated using emission factors from AP-42 Section 3.3 “Gasoline and Diesel Industrial Engines,” October 1996.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 “Unpaved Roads,” November 2006. A 90% control efficiency for PM and PM₁₀ and a 40% control efficiency for PM_{2.5} are applied to the emission calculations for the use of BMPs. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4. The moisture content of the aggregate is 0.7% by weight. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program’s Emissions Inventory Questionnaire Form 2.8 “Storage Pile Worksheet.”

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of PM₁₀. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit

is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS). The distance from the plant to the nearest site boundary is 420 feet. If during continuous operation the modeled concentration of PM₁₀ is greater than the applicable NAAQS, the plant's production is limited to ensure compliance with the standard.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Seminole Ag Lime Company Inc. shall demonstrate compliance with the NAAQS.

- When no other plants are located at this facility Seminole Ag Lime Company Inc. must calculate its daily impact and limit the total impact below the NAAQS.
- When plants that are owned by Seminole Ag Lime Company Inc., which are referred to as same owner plants, are located at the site, Seminole Ag Lime Company Inc. must calculate the daily impact of each plant and limit the total impact of all plants below the NAAQS.
- When plants that are not owned by Seminole Ag Lime Company Inc., which are referred to as separate owner plants, are located at the site, Seminole Ag Lime Company Inc. must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Seminole Ag Lime Company Inc. that are operating at the site. This total is limited below the NAAQS. Seminole Ag Lime Company Inc. will limit the total impact of all plants they own and operate at the site to 100 µg/m³ when any plants they do not own are located at the site. Seminole Ag Lime Company Inc. is not permitted to operate with any plant that is not owned by Seminole Ag Lime Company Inc. that has a separate owner background greater than 30 µg/m³.

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 indirectly conditioned below de minimis in order to comply with the NAAQS limit.

APPLICABLE REQUIREMENTS

Seminole Ag Lime Company Inc. 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. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

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.

Bryce Mihalevich
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 January 29, 2014, received January 29, 2014, designating Seminole Ag Lime Company Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment AA: Best Management Practices

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the plant is operating.

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five years and make these records available to Department of Natural Resources' personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.

¹For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual 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	
CFR	Code of Federal Regulations	National Emissions Standards for Hazardous Air Pollutants
CO	carbon monoxide	NO_x	nitrogen oxides
CO₂	carbon dioxide	NSPS	New Source Performance Standards
CO_{2e}	carbon dioxide equivalent	NSR	New Source Review
COMS	Continuous Opacity Monitoring System	PM	particulate matter
CSR	Code of State Regulations	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
dscf	dry standard cubic feet	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
EQ	Emission Inventory Questionnaire	ppm	parts per million
EP	Emission Point	PSD	Prevention of Significant Deterioration
EPA	Environmental Protection Agency	PTE	potential to emit
EU	Emission Unit	RACT	Reasonable Available Control Technology
fps	feet per second	RAL	Risk Assessment Level
ft	feet	SCC	Source Classification Code
GACT	Generally Available Control Technology	scfm	standard cubic feet per minute
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Michael Crostic
Quality Control Manager
Seminole Ag Lime Company Inc.
P.O. Box 4236
Scott City, MO 63780

RE: New Source Review Permit - Project Number: 2014-01-051

Dear Mr. Crostic:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Bryce Mihalevich at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:bmh

Enclosures

c: Southeast Regional Office
PAMS File: 2014-01-051

Permit Number: