

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

PERMIT BOOK

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: **032015-008**

Project Number: 2014-11-032  
Installation Number: 031-0112

Parent Company: SEMO Milling, LLC

Parent Company Address: 261 River Road, Scotty City, MO 63780

Installation Name: SEMO Milling, LLC

Installation Address: 261 River Road and 20 Harbor Road, Scott City, MO 63780

Location Information: Cape Girardeau County, S21, T30N, R14E

Application for Authority to Construct was made for:

Installation of a new corn/soy blending system. 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.

MAR 06 2015

EFFECTIVE DATE

Handwritten signature of Kyras L. Moore in black ink.  
\_\_\_\_\_  
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.”*

SEMO Milling, LLC  
Cape Girardeau County, S21, T30N, R14E

1. Control Device Requirements – Baghouses and Bin Vent Filters
  - A. SEMO Milling, LLC shall control particulate emissions from the following equipment using baghouses or bin vent filters as specified in the permit application.

**Table 1: Equipment to be Controlled by Baghouses or Bin Vent Filters**

Emission Unit ID	Description	Baghouse/Bin Vent Filters	Control Device ID
<sup>1</sup> 512, 248	Pneumatic Transfer to Hominy Tank Storage	Bin Vent Filter	C-130
<sup>1</sup> 512, 250	Pneumatic Transfer to Soy Tank Storage	Bin Vent Filter	C-131
<sup>1</sup> 512, 254	Pneumatic Transfer to Corn Tank Storage	Bin Vent Filter	C-132
<sup>1</sup> 512, 255	Pneumatic Transfer Corn Tank Storage	Bin Vent Filter	C-133
264	50/100 Pound Bagger	Baghouse	C-129
500	Pneumatic Transfer to Bin	Baghouse	C-149
501	Weigh Up Bin Blend System	Baghouse	C-149
502	Scott Ribbon Mixer/Hopper/Feeder	Baghouse	C-149
503	Pneumatic Transfer System from Ribbon Mixer to Tank EU508	Baghouse	C-149
504	Tote Fed Ingredient Feeder	Baghouse	C-150
505	Box Fed Ingredient Feeder #2	Baghouse	C-151
506	Pneumatic Transfer System Ingredient Feeders to Mixer	Baghouse	C-149
507	Bag Dump/Reclaimer System	Baghouse	C-149
508	Tank Storage	Bin Vent	C-148
509	Pneumatic Transfer to Packaging	Baghouse	C-129
509A	Pneumatic Transfer System to EU248	Bin Vent	C-130
510	Norvell Mix/Blend System Sifter	Baghouse	C-149
511	Pneumatic Transfer from Baghouse to EU248	Bin Vent	C-130

Note 1: EU 512 is the truck blower while EU248, 250, 254, 255 are the storage tanks.

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### SPECIAL CONDITIONS:

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

- B. The baghouses and bin vent filters shall be operated and maintained in accordance with the manufacturer's specifications. The control devices shall be equipped with a gauge or meter, which indicates the pressure drop across the control devices. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
  - C. Replacement filters for the baghouses and bin vent filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  - D. SEMO Milling, LLC shall monitor and record the operating pressure drop across the baghouse and bin vent filters at least once every 24 hours while the equipment are in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
  - E. SEMO Milling, LLC shall maintain a copy of the baghouse and bin vent filter's manufacturer's performance warranty on site.
  - F. SEMO Milling, LLC shall maintain an operating and maintenance log for the baghouses and bin vent filters, which shall include, at a minimum, the following:
    - 1) Incidents of malfunction, with impact on emissions, duration or event, probable cause, and corrective actions; and
    - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
2. Capture Device Requirements – Enclosures  
SEMO Milling, LLC shall enclose all equipment listed in Table 1 of Special Condition 1.A. with duct work such that the only openings are for material entry and exit and emissions exiting to the control device.
3. Haul Road Control – Paving  
SEMO Milling, LLC shall maintain and repair the paved road surface as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions.

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**SPECIAL CONDITIONS:**

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

4. Record Keeping and Reporting Requirements
  - A. SEMO Milling, 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. SEMO Milling, 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 (6) REVIEW

Project Number: 2014-11-032  
Installation ID Number: 031-0112  
Permit Number:

SEMO Milling, LLC  
20 Harbor Road  
Scott City, MO 63780

Complete Date  
of Application: November 12, 2014

Parent Company:  
SEMO Milling, LLC  
261 River Road  
Scott City, MO 63780

Cape Girardeau County, S21, T30N, R14E

REVIEW SUMMARY

- SEMO Milling, LLC has applied for authority to install a new corn/soy blend system.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
  - 40 CFR Subpart DD, *Standards of Performance for Grain Elevators*, of the NSPS does not apply to this installation because the installation has maximum storage capacity less than one million bushels.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Baghouses and bin vent filters are being used to control the PM<sub>2.5</sub>, PM<sub>10</sub>, and PM emissions from the equipment in this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are greater than the de minimis level, but below major source levels. Potential emissions of all other pollutants are below de minimis levels.
- This installation is located in Cape Girardeau 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 not performed since PM does not have modeling thresholds and potential emissions of all other pollutants are below de minimis levels.
- Emissions testing is not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

SEMO Milling, LLC owns and operates a dry corn milling plant with a permanent storage capacity of 350,892 bushels. The maximum throughput is 306,109 tons per year of grain. Equipment is located at two separate locations: 261 River Road and 20 Harbor Road. For permitting purposes, both locations will be considered part of the same installation. The installation is considered a minor source for construction permits and a basic source for operating permits.

The following New source Review permits have been issued to SEMO Milling, LLC from the Air Pollution Control Program.

**Table 2: Permit History**

Permit Number	Description
072012-014	Installation of various equipment such as degerminators, sifters, aspirators, etc.
122014-006	Addition of handling equipment to an existing product stream. (A separate confidential permit was issued under the same permit number)

### PROJECT DESCRIPTION

SEMO Milling, LLC proposes to construct a new food grade cornmeal and soy flour blending system. Cornmeal and soy flour are trucked to the site and pneumatically transferred into silos. The material will then be weighed, blended with nutrients, and bagged. The bagged product will be conveyed and hand stacked onto rail cars. The product will not be transported by trucks. Off-grade or reclaimed product, though, will be transported via haul trucks offsite for use as animal feed. The tank storage silos (EU248, 250, 254 and 255) and the 50/100 pound bagger (EU264) are existing equipment at the site and are currently not being used. All other equipment will be new construction.

The blending system has a maximum hourly design rate of 20 tons per hour. Baghouses and vent filters are being used to control particulate emissions from the equipment. Cyclones are also being used at the positive pneumatic transfer systems (EU500, 509), the 50/100 pound bagger (EU264), the norvell mix/blend system sifter (EU510), and the weigh up bin mix blend system (EU501). These cyclones act as product recovery systems and are considered to be part of the emissions unit.

Therefore, there are no special conditions in this permit requiring their use.

The facility's installation-wide PM emissions after this project will be greater than 100 tpy. However, PM emissions do not trigger operating permit requirements. Therefore, this facility remains a basic installation for operating permits, as the potential emissions of all other pollutants are still below their respective de minimis levels.

A permit (No. 122014-006) was issued for the installation of various handling equipment in December 2014. According to the company, the two projects are not related. One is for the handling of whole grain process at the main mill on River Road while this project is for a separate blending process occurring at the Harbor Road location. The corn meal used by the blending system in this project is not processed by the handling system installed for Permit 122014-006.

### EMISSIONS/CONTROLS EVALUATION

Pollutants expected from this project are PM<sub>2.5</sub>, PM<sub>10</sub>, and PM. Currently, there are no known emission factors for handling of flour. Therefore, particulate emissions were calculated using emission factors from EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, from substance similar to flour. PM emissions from the pneumatic transfer of flour were calculated using the pneumatic transfer emission factor for cement from AP-42, Chapter 11.12, *Concrete Batching*, 6/2006 and PM emissions from the feeders, sifters, baggers were calculated using emissions for cement mixing from the same chapter. PM<sub>2.5</sub> and PM<sub>10</sub> emissions were calculated assuming that 5% and 15% of the PM emissions are PM<sub>2.5</sub> and PM<sub>10</sub>, respectively. These percentages were estimated based on engineering judgment. In numerous studies performed to determine the PM<sub>2.5</sub> and PM<sub>10</sub> content of flour (i.e. "Comparison of Flour Particle Size Distributions Measured by Electrical Resistivity and Microscopy" by J.T. Wilson and D.H. Donelson," the percentage of PM<sub>2.5</sub> were determined to be less than 1% and the percentage of PM<sub>10</sub> were determined to be less than 5%. A higher number of 5% and 15% were used to add a safety factor to calculate a very conservative estimate of emissions. The baghouses were given a control efficiency of 99%, which is the conservative default value used by the Air Pollution Control Program.

All of the equipment is completely enclosed through duct work and should have capture efficiency of 100%. However, in a site visit performed on the facility in 2014, an amount of dust that does not commensurate with 100% capture efficiency was observed on the floor of the plant. Although the site visit occurred for the existing equipment and not the new equipment to be installed for this project, it was assumed, conservatively, that the new equipment will not obtain 100% capture either. A capture efficiency of 90% was used to estimate emissions. The haul roads at the plant are paved and the equation from AP-42, Chapter 13.2.1, *Paved Roads*, (1/11) was used to calculate the emission factor from hauling activities.

The following table provides an emissions summary for this project. Existing potential emissions, with the exception of PM, were taken from previous permits issued to the installation (072012-014 and 122014-006). PM emissions were never calculated for Permit 072012-014, and therefore, were calculated during the review for this project

using equipment information from Permit 072012-014. Existing actual emissions were taken from the installation's 2013 EIQ as the 2014 EIQ has not yet been submitted by the facility (The facility is not required to submit the 2014 EIQ until April 1, 2015, if submitting paper copy, and May 1, 2015, if submitting online). Potential emissions of the application represent the potential of the new equipment, 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 (2013 EIQ)	Potential Emissions of the Application	New Application Conditioned Potential
PM	25.0	29.6	N/D	89.6	N/A
PM <sub>10</sub>	15.0	14.1	1.56	9.34	N/A
PM <sub>2.5</sub>	10.0	5.23	0.79	4.48	N/A
SO <sub>x</sub>	40.0	0.1	0.0	N/A	N/A
NO <sub>x</sub>	40.0	5.3	0.49	N/A	N/A
VOC	40.0	0.7	0.06	N/A	N/A
CO	100.0	4.5	0.42	N/A	N/A
GHG (CO <sub>2</sub> e)	100,000	N/D	N/D	N/A	N/A
GHG (mass)	250.0	N/D	N/D	N/A	N/A
HAPs	10.0/25.0	N/D	N/D	N/A	N/A

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

### 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 PM are greater than the de minimis level.

### APPLICABLE REQUIREMENTS

SEMO Milling, 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
  - Equipment of this project is exempt from this rule because they are controlled by baghouses and vent filters, which have PM control efficiencies no less than 90%.

#### 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.

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Chia-Wei Young  
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 7, 2014, received November 12, 2014, designating SEMO Milling, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Wilson, J.T. and Donelson, D.H., *Comparison of Flour Particle Size Distribution*, Soft wheat Quality Laboratory, Ohio Agricultural Research and Development Center, Wooster, OH, 1969.

## 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. Charles Schiwitz  
Project/Environmental/Health Safety Manager  
SEMO Milling, LLC  
261 River Road  
Scott City, MO 63701

RE: New Source Review Permit - Project Number: 2014-11-032

Dear Mr. Schiwitz:

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 [www.ao.mo.gov/ahc](http://www.ao.mo.gov/ahc).

If you have any questions regarding this permit contact Chia-Wei Young, Department of Natural Resources' Air Pollution Control, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:cyl

Enclosures

c: Southeast Regional Office  
PAMS File: 2014-11-032  
Permit Number: