

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: **07 2014 - 008**

Project Number: 2014-06-002
Installation ID: 023-0072

Parent Company: Obermann Concrete dba SEMO Ready Mix

Parent Company Address: PO Box 2045, Cape Girardeau, MO 63702

Installation Name: SEMO Ready Mix

Installation Address: 3123 Cravens Road, Poplar Bluff, MO 63901

Location Information: Butler County, SE 1/4 of SE 1/4 of S17, T24N, R6E

Application for Authority to Construct was made for:
installation of a used McNeilus concrete batch plant. 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 16 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 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 start up 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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Project No.	2014-06-002

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**
SEMO Ready Mix shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
2. **Ambient Air Impact Limitation**
 - A. SEMO Ready Mix shall not cause an exceedance of the NAAQS for PM₁₀ of 150.0 µg/m³ 24-hour average in ambient air.
 - B. SEMO Ready Mix shall demonstrate compliance with Special Condition 2.A using Attachment A or other equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. **Annual Emission Limit**
 - A. SEMO Ready Mix shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation.
 - B. SEMO Ready Mix shall demonstrate compliance with Special Condition 3.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
4. **Moisture Content Testing Requirement**
 - A. SEMO Ready Mix shall verify that the moisture content of the processed rock is greater than or equal to 2.0 percent by weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
 - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
 - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing

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SITE SPECIFIC SPECIAL CONDITIONS:

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

the test. The report shall be filed on-site or at the SEMO Ready Mix main office within 30 days of completion of the required test.

F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 4.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceed the limit, SEMO Ready Mix shall either:

- 1) Apply for a new permit to account for the revised information, or
- 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.

G. In lieu of testing, SEMO Ready Mix may obtain test results that demonstrate compliance with the moisture content in Special Condition 4.A from the supplier of the aggregate.

5. Control Device Requirement-Baghouse

A. SEMO Ready Mix shall control emissions from the equipment listed below using baghouses as specified in the permit application.

- 1) Cement Silo (EP-08)
- 2) Supplement Silo (EP-09)
- 3) Truck Mix Loadout (shroud vented to baghouse, EP-12)

B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources employees may easily observe them.

C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

D. SEMO Ready Mix shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. SEMO Ready Mix shall maintain a copy of the baghouse manufacturer's performance warranty on site.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

- F. SEMO Ready Mix shall maintain an operating and maintenance log for the baghouses which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

- 6. Minimum Distance to Property Boundary Requirement
The primary emission point shall be located at least 225 feet from the nearest property boundary.

- 7. Concurrent Operation Restriction
SEMO Ready Mix is prohibited from operating whenever other plants are located at the site.

- 8. Record Keeping Requirement
SEMO Ready Mix 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.

- 9. Reporting Requirement
SEMO Ready Mix shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than 10 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: 2014-06-002
Installation ID Number: 023-0072
Permit Number:

SEMO Ready Mix
3123 Cravens Road
Poplar Bluff, MO 63901

Complete: June 10, 2014

Parent Company:
Obermann Concrete dba SEMO Ready Mix
PO Box 2045
Cape Girardeau, MO 63702

Butler County, SE 1/4 of SE 1/4 of S17, T24N, R6E

PROJECT DESCRIPTION

SEMO Ready Mix is installing a newly purchased, used McNeilus batch concrete plant at Poplar Bluff, Missouri. It is a truck mix plant and has an MHDR of 300 tph. The plant will consist of the following equipment:

- an aggregate load hopper (EP-04),
- a conveyor belt (EP-05),
- an aggregate bin (EP-06),
- an aggregate batcher (EP-07),
- a cement silo (EP-08),
- a supplement silo (EP-09), and
- a mixer truck load point (EP-12).

The cement silo and supplement silo will be controlled by filter vents (EP-10 and EP-11, respectively), and the mixer truck load point will be controlled by a shroud vented to a baghouse (EP-13). The plant is powered from the grid. No other plants will be located on the property.

The plant will be located a minimum of 225 feet from the nearest property line. The haul road (EP-01) will be 0.5 mile (2,640 feet) long and unpaved. The aggregate and sand storage piles (EP-02 and EP-03, respectively) will each cover a maximum area of 1/4 acre.

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.

None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies only to plants with crushers or grinders, and this plant has none.

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. 40 CFR 63 Subpart LLL, "Standards of Performance for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry" applies only to plants which manufacture cement, not to those which mix it to make concrete.

This installation is located in Butler 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.

This is a new installation, so no permits, NOV's or NOE's have been issued to SEMO Ready Mix from the Air Pollution Control Program.

No operating permit is required for this installation.

TABLES

The following table summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and wind erosion. Since this is a new installation, there are no existing 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 NAAQS limit and with a voluntary annual emission limit on PM₁₀ to avoid dispersion modeling requirements found in 10 CSR 10-6.060 Section (6).

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level	^a Potential Emissions of the Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	27.56	N/A	161.22	47.65
PM ₁₀	15.0	9.47	N/A	50.75	15.00
PM _{2.5}	10.0	5.15	N/A	27.74	8.20
SO _x	40.0	0.00	N/A	N/A	N/A
NO _x	40.0	0.00	N/A	N/A	N/A
VOC	40.0	0.00	N/A	0.00	0.00
CO	100.0	0.00	N/A	N/A	N/A
GHG (CO ₂ e)	100,000	0.00	N/A	N/A	N/A
GHG (mass)	250.0	0.00	N/A	N/A	N/A
Total HAPs	25.0	0.00	N/A	N/A	N/A

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

^a Excludes site-specific haul road and storage pile emissions

^b Includes site specific haul road and storage pile emissions

The following table shows the results of the ambient air quality impact analysis. The maximum impact is based on 8,760 hours of operation. The limited impact is based on compliance with the NAAQS and on a voluntary annual emission limit on PM₁₀ to avoid dispersion modeling requirements found in 10 CSR 10-6.060 Section (6).

Table 2: Ambient Air Quality Impact Analysis

Pollutant	NAAQS/RAL (µg/m ³)	Averaging Time	^a Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	^b Daily Limit (tons/day)
^c PM ₁₀ (solitary)	150.0	24-hour	596.1	130.0	20.0	2,147

^a Modeled impact at maximum capacity with controls

^b Indirect limit based on compliance with NAAQS.

^c Solitary operation

EMISSIONS CALCULATIONS

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

Emissions from the concrete batch plant were calculated using emission factors from AP-42 Section 11.12 "Concrete Batching," June 2006. This section cites Equation (1) in Section 13.2.4 "Aggregate Handling and Storage Piles," November 2006 for calculating the emissions from aggregate and sand transfer. The cement and supplement silos are controlled with baghouses, so the controlled emission factors were used. Emissions from the aggregate weigh hopper were calculated using AP-42 Section 13.2.4, Equation (1). These emissions are not controlled by a baghouse so no control factor was applied to the calculation. Emissions from mix truck loading are controlled by a shroud vented to a baghouse, so the controlled emission factor was used.

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} were 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 2.0% 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 the pollutants listed in Table 2. 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 and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the NAAQS or RAL for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, 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.

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 PM₁₀ are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

SEMO Ready Mix 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.
- No Operating Permit is required for this installation.
- *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 applies to the installation, but calculations demonstrate that it is always in compliance.

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.

Cheryl Steffan
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 May 27, 2014, received June 2, 2014, designating Obermann Concrete dba SEMO Ready Mix 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 emissions 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 (5) 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 (5) years, and the operator shall make these records available to Department of Natural Resources personnel upon request.

APPENDIX A

Abbreviations and Acronyms

%percent	MMBtu Million British thermal units
°Fdegrees Fahrenheit	MMCF million cubic feet
acfmactual cubic feet per minute	MSDS Material Safety Data Sheet
BACTBest Available Control Technology	NAAQS ... National Ambient Air Quality Standards
BMPs Best Management Practices	NESHAPs ..National Emissions Standards for Hazardous Air Pollutants
Btu British thermal unit	NO_x nitrogen oxides
CAM Compliance Assurance Monitoring	NSPS New Source Performance Standards
CAS Chemical Abstracts Service	NSR New Source Review
CEMS Continuous Emission Monitor System	PM particulate matter
CFR Code of Federal Regulations	PM_{2.5} particulate matter less than 2.5 microns in aerodynamic diameter
CO carbon monoxide	PM₁₀ particulate matter less than 10 microns in aerodynamic diameter
CO₂ carbon dioxide	ppm parts per million
CO_{2e} carbon dioxide equivalent	PSD Prevention of Significant Deterioration
COMS Continuous Opacity Monitoring System	PTE potential to emit
CSR Code of State Regulations	RACT Reasonable Available Control Technology
dscf dry standard cubic feet	RAL Risk Assessment Level
EQ Emission Inventory Questionnaire	SCC Source Classification Code
EP Emission Point	scfm standard cubic feet per minute
EPA Environmental Protection Agency	SIC Standard Industrial Classification
EU Emission Unit	SIP State Implementation Plan
fps feet per second	SMAL Screening Model Action Levels
ft feet	SO_x sulfur oxides
GACT Generally Available Control Technology	SO₂ sulfur dioxide
GHG Greenhouse Gas	tph tons per hour
gpm gallons per minute	tpy tons per year
gr grains	VMT vehicle miles traveled
GWP Global Warming Potential	VOC Volatile Organic Compound
HAP Hazardous Air Pollutant	
hr hour	
hp horsepower	
lb pound	
lbs/hr pounds per hour	
MACT Maximum Achievable Control Technology	
µg/m³ micrograms per cubic meter	
m/s meters per second	
Mgal 1,000 gallons	
MW megawatt	
MHDR maximum hourly design rate	

Mr. Mike Johnston
Compliance Manager
SEMO Ready Mix
PO Box 2045
Cape Girardeau, MO 63702

RE: New Source Review Permit - Project Number: 2014-06-002

Dear Mr. Johnston:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 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 Cheryl Steffan, at the department's 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:csl

Enclosures

c: Southeast Regional Office
PAMS File: 2014-06-002

Permit Number: