

STATE OF MISSOURI

PERMIT BOOK



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 2 009 - 013

Project Number: 2009-05-026

Parent Company:

SEMO Ready Mix

Parent Company Address: P.O. Box 2045, Cape Girardeau, MO 63702

Installation Name:

SEMO Ready Mix

Installation ID:

223-0039

Installation Address:

Highway HH, Piedmont, MO 63957

Location Information:

Wayne County, S9 T28N R3E

Application for Authority to Construct was made for: Installation of two concrete batch plants. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUL 23 2009

EFFECTIVE DATE

James L. Karanewski
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 departments' 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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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 Best Management Practices as defined in Attachment AA.
2. Ambient Air Impact Limitation
 - A. SEMO Ready Mix 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. SEMO Ready Mix shall demonstrate compliance with special condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. SEMO Ready Mix shall account for the impacts from other sources of PM₁₀ as instructed in Attachment A.
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. 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
 - 2.) Supplement Silo
 - 3.) Truck Mix Loadout (shroud vented to baghouse)
 - 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 the Department of Natural Resources employees may easily observe them.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

- 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 an operating and maintenance log for the baghouses and drum filters 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.
- 5. **Minimum Distance to Property Boundary Requirement**
The primary emission point shall be located at least 350 feet from the nearest property boundary.
- 6. **Record Keeping Requirement**
SEMO Ready Mix shall maintain all records required by this permit for five years and make them available to any Missouri Department of Natural Resources personnel upon request.
- 7. **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 ten days after any exceedances of the limitations imposed by this permit.

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

Project Number: 2009-05-026
Installation ID Number: 223-0039
Permit Number:

SEMO Ready Mix
Highway HH
Piedmont, MO 63957

Complete: May 26, 2009

Parent Company:
SEMO Ready Mix
P.O. Box 2045
Cape Girardeau, MO 63702

Wayne County, S9 T28N R3E

PROJECT DESCRIPTION

SEMO Ready Mix has applied for authority to construct two concrete batch plants. The plants will be used for the Clearwater lake dam project. One plant will be used as a backup, so neither plant will operate at the same time. The application was originally submitted as a portable plant, but the applicant requested a stationary plant permit because the project will last more than two years. One concrete plant was originally permitted as a portable plant (PORT-0368), and the other plant is new to Missouri. Both concrete plants have maximum production capacities of 300 tons of concrete per hour. The plants' cement and supplement silos are controlled by baghouses.

No other plants will be located at the site. However, the plants are permitted for concurrent operation.

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 Wayne County, an attainment area for all criteria air 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.

No permits have been issued to SEMO Ready Mix from the Air Pollution Control Program.

TABLES

The table below summarizes the emissions of this project. The existing actual emissions were taken from the previous years EIQ. 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 are based on a voluntary limit of 15.0 tons per year to avoid Section (6) review.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/ SMAL	¹ Existing Potential Emissions	Existing Actual Emissions (YYYY EIQ)	² Potential Emissions of the Application	Conditioned Potential Emissions
PM ₁₀	15.0	N/A	N/A	112.38	< 15.0
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A

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

¹Existing Potential Emissions are not applicable

²Includes site specific haul road and storage pile emissions

³Screening Model Action Level (SMAL)

Table 2: Ambient Air Quality Impact Analysis

Pollutant	¹ NAAQS/ RAL (µg/m ³)	Averaging Time	² Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	³ Daily Limit (tons/day)
⁴ PM ₁₀ (same)	150.0	24-hour	965.48	130	20.0	3,073
⁵ PM ₁₀ (separate)	150.0	24-hour	N/A	65.0	85.0	1,537

¹National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

²Modeled impact at maximum capacity with controls

³Indirect limit based on compliance with NAAQS.

⁴Solitary operation or operation with other plants that are owned by SEMO Ready Mix

⁵Operation with other plants that are not owned by SEMO Ready Mix

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 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). 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 is 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% 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 for PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. The AAQIA was performed using the Air Pollution Control Programs generic nomographs. The maximum concentration of PM₁₀ that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) for the pollutant. The distance from the plant to the nearest site boundary is 350 feet. When the plant operates continuously, the modeled concentration of PM₁₀ is greater than the NAAQS, so the plant's production was limited to insure compliance with the NAAQS.

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 Programs 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 SEMO Ready Mix, Inc. shall demonstrate compliance with the NAAQS.

- When plants that are owned by SEMO Ready Mix are located at the site, SEMO Ready Mix must calculate the daily impact of each plant and limit the total impact of all plants below the NAAQS.
- When plants are not owned by SEMO Ready Mix are located at the site, SEMO Ready Mix must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by SEMO Ready Mix that are operating at the site. This total is limited below the NAAQS. SEMO Ready Mix will limit the total impact of all plants they own and operate at the site to 65 µg/m³ when any plants they do not own are located at the site. SEMO Ready Mix, Inc. is not permitted to operate with any plant that is not owned by SEMO Ready Mix that has a separate owner background greater than 65 µg/m³.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of 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. 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.
- 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 10-3.090

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- None of the New Source Performance Standard (NSPS) apply 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
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Michael Mittermeyer
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 8, 2009, received May 11, 2009, designating 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.
- Southeast Regional Office Site Survey, dated June 1, 2009.

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 portable 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 (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 and volume of water application 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

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.)

Attachment BB: Emission Calculations
SEMOM Ready Mix
2009-05-026

Description	¹ MHDR	MHDR Units	² PM ₁₀ EF	EF Units	Control Eff. %	Emissions (lb/hr)	³ Modeling Rate (lb/hr)
Aggregate Transfer MC 0.7	141.00	tph	0.01199	lb/ton		1.69	1.691
Sand Transfer MC 4.9	105.00	tph	0.00079	lb/ton		0.08	0.083
Cement Unloading to Silo	36.00	tph	0.00034	lb/ton		0.01	0.012
Supplement Unloading (pneumatic)	6.00		0.00490			0.03	0.029
Weight Hopper Loading	246.00	tph	0.00565	lb/ton	0.00	1.39	1.391
Truck Mix Unloading	42.00	tph	0.01600	lb/ton		0.67	0.672
Haul Road Road	14.00	VMT/hr	2.07814	lb/VMT	90.00	2.91	2.909
Storage Pile - Load In MC 0.7	246.00	tph	0.01200	lb/ton		2.95	2.952
Storage Pile - Load Out MC 0.7	246.00	tph	0.01200	lb/ton		2.95	2.952
Storage Pile - Wind Erosion	0.50	acres	0.08917	lb/acre-hr		0.04	0.045
Storage Pile - Vehicular Activity	0.39	VMT/hr	2.40368	lb/VMT	90.00	0.00	0.00

¹Maximum Hourly Design Rate (MHDR)

²Emission Factor (EF)

³The Modeling Rate is the emission rate scaled to the daily hours of operation at MHDR allow by the permit.

Mr. Ron Duckworth
Compliance Manager
SEMO Ready Mix
P.O. Box 2045
Cape Girardeau, MO 63702

RE: New Source Review Permit - Project Number: 2009-05-026

Dear Mr. Duckworth:

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 amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please contact Michael Mittermeyer, 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

Kendall B. Hale
New Source Review Unit Chief

KBH:mml

Enclosures

c: Southeast Regional Office
PAMS File: 2009-05-026

Permit Number: