



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: 042010-014

Project Number: 2009-12-024

Parent Company: Western Materials & Design, LLC

Parent Company Address: P.O. Box 1157, Harrisonville, MO 64702-8957

Installation Name: Western Materials & Design, LLC

Installation Number: 037-0069

Installation Address: 101 East Walnut, Archie, MO 64725

Location Information: Cass County, S33, T43N, R31W

Application for Authority to Construct was made for:

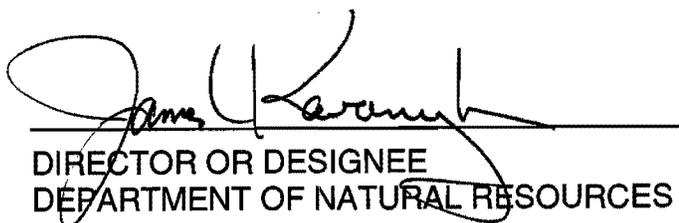
The need for a construction permit of an existing dry concrete batch plant that did not receive a construction permit prior to construction. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

APR 21 2010

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 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.

Page No.	3
Permit No.	
Project No.	2009-12-024

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."

Western Materials & Design, LLC
Cass County, S33, T43N, R31W

1. Control Device Requirement-Baghouse
 - A. Western Materials & Design, LLC shall control emissions from the equipment listed below using baghouses as specified in the permit application.
 - 1) EP-1 Bin #1 Sand Load In (Pneumatic)
 - 2) EP-2 Bin #2 Flyash Load In (Pneumatic)
 - 3) EP-3 Bin #3 Cement Load In (Pneumatic)
 - 4) EP-4 Bin #4 Sand Load In (Pneumatic)
 - 5) EP-5 Bin #5 Aggregate Load In
 - 6) EP-6 Bin #6 Cement Load In (Pneumatic)
 - 7) EP-7 Bin #7 Sand Load In (Pneumatic)
 - 8) EP-9 Bin #9 Cement Load In (Pneumatic)
 - 9) EP-10 Bin #10 Sand Load In (Pneumatic)
 - 10) EP-11 Bin #11 Cement Load In (Pneumatic)
 - 11) EP-12a Aggregate Hopper
 - 12) EP-13 Davis Mixer Load In
 - 13) EP-14 Marion Mixer Load In
 - 14) EP-16 West Elevator to Baggers
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses 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.
 - 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).

Page No.	4
Permit No.	
Project No.	2009-12-024

SPECIAL CONDITIONS:

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

- D. Western Materials & Design, LLC 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. Western Materials & Design, LLC 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.
2. Record Keeping Requirement
Western Materials & Design, LLC 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.

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

Project Number: 2009-12-024
Installation ID Number: 037-0069
Permit Number:

Western Materials & Design, LLC
101 East Walnut
Archie, MO 64725

Complete: December 11, 2009

Parent Company:
Western Materials & Design, LLC
P.O. Box 1157
Harrisonville, MO 64702-8957

Cass County, S33, T43N, R31W

REVIEW SUMMARY

- Western Materials & Design, LLC has applied for authority to obtain a construction permit for an existing dry concrete batch plant that did not receive a construction permit prior to construction.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Baghouses are being used to control the PM₁₀ emissions from the equipment in this permit.
- 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 below de minimis levels.
- This installation is located in Cass County, a maintenance area for ozone and an attainment area for all other 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 potential emissions of the application are below de minimis levels.
- Emissions testing are not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Western Materials & Design, LLC (Western Materials) is a dry concrete batch plant that mixes and bags their product on site. Their facility was converted from a grain elevator to its current state. Upon issuance of this permit they will be considered a de minimis source with controls. Western Materials is located in Archie, Missouri in Cass County. The raw materials used by Western Materials include aggregate, different types of cement, flyash, and sand. No water is ever introduced to their final product. The final product is bagged on site and shipped to buyers.

No permits have been issued to Western Materials & Design, LLC from the Air Pollution Control Program.

PROJECT DESCRIPTION

Western Materials currently does not operate under any permits issued by the Air Pollution Control Program. They were informed they should have applied for a construction permit prior to converting the grain elevator to their current facility. So this permit is for the entire facility owned and operated by Western Materials. The equipment operated at the Western Materials dry concrete batch plant includes 10 bins, multiple augers, two mixers, two bucket elevators, and a bagging station for the finished product. There are also two haul roads and one single stockpile on site. The stockpile is located in the rock building. The bins, mixers, and bagging station are all controlled with baghouses. The augers and elevators are completely enclosed with baghouses drawing air at each prior and succeeding emission point.

The maximum hourly design rate (MHDR) of the facility was based on the load out of the mixers. Only one mixer can unload its batch at a time because there is only one unloading cross auger. It takes approximately five minutes to unload each mixer so each mixer can unload a total of six times per hour. Each batch is no more than 6000 pounds due to the bagging station capacity. This puts the MHDR at 72,000 pounds of finished product per hour or 36 tons per hour.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 11.12 "Concrete Batching," (June 2006) and the Factor Information Retrieval (FIRE) Data System Version 6.25.

Each cement and flyash bin is pneumatically loaded and has a baghouse controlling the emissions so the controlled emissions factor from AP-42 11.12 "Concrete Batching," (June 2006) was used to calculate emissions.

The sand bins are also pneumatically loaded with a baghouse controlling emissions but no specific emission factor is provided for this type of loading. The sand transfer emissions factor in AP-42 11.12 "Concrete Batching," (June 2006) seemed most representative to calculate the emissions from these bins. Because the sand transfer emission factor is considered uncontrolled a 90% control efficiency was given for the baghouse.

The aggregate is loaded into its respective bin by a receiving hopper to an auger which takes the aggregate to a bucket elevator and from the bucket elevator to a gravity tube which empties into the bin. This results in four drop points. The receiving hopper, which is loaded by skid steer loader, is controlled by a hood, vented to a baghouse. The load in from the gravity tube to the aggregate bin is also controlled by a baghouse. The auger to bucket elevator transfer point and the bucket elevator to gravity tube transfer point are completely enclosed with draw from the baghouse on the receiving hopper and draw from the baghouse on the aggregate bin. These four emission points use the aggregate transfer emission factors from AP-42 11.12 "Concrete Batching," (June 2006) with a 90% control efficiency given because of the baghouses.

Emissions from each mixer's load in were calculated using an emission factor from FIRE 3-05-011-09. The controlled emission factor was used because both mixers are controlled by a baghouse.

Because this is a dry concrete mix and no water is added, emissions from the mixer load out to the bucket elevator and from bucket elevator to the bagging station were calculated using the same emission factor used to calculate the mixer load in emissions. The controlled emission factor was used because the bagging station is controlled by a baghouse and transfer from the mixer to the bucket elevator is completely enclosed with draw from the baghouse of both the mixer and bagging station.

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. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4 "*Aggregate Handling and Storage Piles*," November 2006. 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." Wind Erosion Emissions also were given a 50% control because the

stockpile is located inside a building.

Potential emissions of the application represent the potential of the entire installation, assuming continuous operation (8760 hours per year.) The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Potential Uncontrolled Emissions of the Application	Potential Controlled Emissions of the Application
PM ₁₀	15.0	N/A	75.84	3.30
SO _x	40.0	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	N/A

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

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 below de minimis levels.

APPLICABLE REQUIREMENTS

Western Materials & Design, 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
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.
- *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 10-2.070*

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400*

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.

Gerad Fox
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 11, 2009, received December 11, 2009, designating Western Materials & Design, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated January 4, 2010.

Mr. Jeff Sutton
Owner
Western Materials & Design, LLC
P.O. Box 1157
Harrisonville, MO 64702-8957

RE: New Source Review Permit - Project Number: 2009-12-024

Dear Mr. Sutton:

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 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 Gerad Fox, at the Departments' 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:gfl

Enclosures

c: Kansas City Regional Office
PAMS File: 2009-12-024

Permit Number: