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: 042017-013  Project Number: 2016-11-037  Installation ID: 510-1860

Parent Company: Breckenridge Material Company
Parent Company Address: P.O. Box 440459, St. Louis, MO 63144
Installation Name: Breckenridge - Plant 7
Installation Address: 1204 Wharf Street, St. Louis, MO 63102
Location Information: St. Louis City County, S25 T45N R7E

Application for Authority to Construct was made for:
Increasing throughput for concrete 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.

Prepared by
Kathy Kolb
New Source Review Unit

Director or Designee
Department of Natural Resources

APR 26 2017
Effective Date
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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department’s Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant sources(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department’s 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department’s 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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/
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. Superseding Condition
   The conditions of this permit supersede all special conditions found in the previously issued construction permit from St. Louis City, Permit 98-08-051A, and operating permit from St. Louis City, Permit 09002.

2. Best Management Practices Requirement
   Breckenridge - Plant 7 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.

3. Moisture Content Testing Requirement
   A. Breckenridge - Plant 7 shall verify that the moisture content of the processed rock is greater than or equal to 1.5 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 the test. The report shall be filed on-site or at the Breckenridge - Plant 7 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 3.A, another test may be performed within 15 days of the noncompliant test. If the results of that test is less than the moisture content in Special Condition 3.A, Breckenridge - Plant 7 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
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

shall be installed and operational within 40 days of the second noncompliant test.

G. In lieu of testing, Breckenridge - Plant 7 may obtain test results that demonstrate compliance with the moisture content in Special Condition 3.A from the supplier of the aggregate.

4. Control Device Requirement-Baghouse
   A. Breckenridge - Plant 7 shall control emissions from the equipment listed below using baghouses as specified in the permit application.
      1) Cement Silo
      2) Supplement Silo
      3) Weigh Hopper
      4) 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 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. Breckenridge - Plant 7 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. Breckenridge - Plant 7 shall maintain a copy of the baghouse manufacturer's performance warranty on site.
   
   F. Breckenridge - Plant 7 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.
5. Record Keeping Requirement
Breckenridge - Plant 7 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.

6. Reporting Requirement
Breckenridge - Plant 7 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: 2016-11-037
Installation ID Number: 510-1860
Permit Number: 042017-013

Breckenridge - Plant 7:
1204 Wharf Street
St. Louis, MO 63102

Parent Company:
Breckenridge Material Company
P.O. Box 440459
St. Louis, MO 63144

St. Louis City County, S25 T45N R7E

PROJECT DESCRIPTION

Breckenridge Material Company – Plant 7 is located in the city of St. Louis. They originally had a construction permit (98-08-051) and an amendment (98-08-051A) that limited their throughput to 150,000 tons of finished product in any consecutive 12 month period and limited facility wide emissions of PM10 to 4.0 tons per year. In a letter dated February 12, 2009, The City of St. Louis Department of Health terminated their operating permit OP 09002 that also established the 150,000 ton limited. Breckenridge – Plant 7 is requesting to remove the 150,000 ton per year limit and add 1.5% moisture content by weight as a special condition.

Breckenridge – Plant 7 is a dry batch (truck mix) plant with a MHDR of 220 tons per hour. Aggregate is delivered to the site via truck and stored in 0.2 acre storage piles approximately 85 feet from the plant. Sand is taken by loader from a neighboring sand plant’s storage pile approximately 85 feet from the plant. The sand and aggregate are loaded into a hopper and conveyed to a six-compartment elevated storage bin (3 sand and 3 stone). The emissions from the cement and supplement silos as well as the weigh hopper and truck loading are controlled by baghouses.

There is a natural gas water heater, Webster, Model JB2G-50-E100-M.20 that is rated at 4.7 mmBtu/hr. The rest of the plant is powered from the grid.

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 St. Louis City County, a nonattainment area for the 8-hour ozone standard and the PM-2.5 standard 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.

**TABLES**

The following permits have been issued to Breckenridge - Plant 7 from the City of St. Louis Department of Health/Department of Public Safety.

Table 1: Permit History

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<tr>
<td>98-08-051A</td>
<td>Administrative Amendment correcting calculations</td>
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<td>OP09002</td>
<td>Operating Permit and renewals</td>
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The table below summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion. The existing actual emissions were taken from the 2015 year’s EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The potential emissions include emissions from sources that will be below de minimis except for PM. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

Table 2: Emissions Summary (tons per year)

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

*Excludes haul road and storage pile emissions*
EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and 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:
- 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:
- Calculated using AP-42 Section 13.2.4, Equation (1).
- These emissions are controlled by a baghouse so a 99% control factor was applied to the calculation.
- Emissions from mixer loading/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:
- Calculated using the predictive equation from AP-42 Section 13.2.2 “Unpaved Roads,” November 2006.
- A 90% control efficiency for PM and PM_{10} and a 74% control efficiency for PM_{2.5} were applied to the emission calculations for the use of BMPs.

Emissions from storage piles:
- 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 1.5% 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.”

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. The potential emissions include emissions from sources that will be below de minimis except for PM. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.
APPLICABLE REQUIREMENTS

Breckenridge - Plant 7 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

• None of the New Source Performance Standards (NSPS) apply to the installation.

• 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 Particulate Matter From Industrial Processes, 10 CSR 10-6.400 does not apply because silos, weigh hopper and truck loading are controlled by a baghouse. All other sources are fugitive.

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, it is recommended that this permit be granted with special conditions.
PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 9, 2017, received November 17, 2016, designating Breckenridge Material Company as the owner and operator of the installation.
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 rational 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
°F ............ degrees Fahrenheit
acfm .......... actual cubic feet per minute
BACT .......... Best Available Control Technology
BMPs .......... Best Management Practices
Btu .......... British thermal unit
CAM .......... Compliance Assurance Monitoring
CAS .......... Chemical Abstracts Service
CEMS ......... Continuous Emission Monitor System
CFR .......... Code of Federal Regulations
CO .......... carbon monoxide
CO₂ .......... carbon dioxide
CO₂e .......... carbon dioxide equivalent
COMS .......... Continuous Opacity Monitoring System
CSR .......... Code of State Regulations
dscf .......... dry standard cubic feet
EIQ .......... Emission Inventory Questionnaire
EP .......... Emission Point
EPA .......... Environmental Protection Agency
EU .......... Emission Unit
fps .......... feet per second
ft .......... feet
GACT .......... Generally Available Control Technology
GHG .......... Greenhouse Gas
gpm .......... gallons per minute
gr .......... grains
GWP .......... Global Warming Potential
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
MMBtu .......... Million British thermal units
MMCF .......... million cubic feet
MSDS .......... Material Safety Data Sheet
NAAQS .......... National Ambient Air Quality Standards
NESHAPs .......... National Emissions Standards for Hazardous Air Pollutants
NOₓ .......... nitrogen oxides
NSPS .......... New Source Performance Standards
NSR .......... New Source Review
PM .......... particulate matter
PM₂.₅ .......... particulate matter less than 2.5 microns in aerodynamic diameter
PM₁₀ .......... particulate matter less than 10 microns in aerodynamic diameter
ppm .......... parts per million
PSD .......... Prevention of Significant Deterioration
PTE .......... potential to emit
RACT .......... Reasonable Available Control Technology
RAL .......... Risk Assessment Level
SCC .......... Source Classification Code
scfm .......... standard cubic feet per minute
SDS .......... Safety Data Sheet
SIC .......... Standard Industrial Classification
SIP .......... State Implementation Plan
SMAL .......... Screening Model Action Levels
SOₓ .......... sulfur oxides
SO₂ .......... sulfur dioxide
tph .......... tons per hour
tpy .......... tons per year
VMT .......... vehicle miles traveled
VOC .......... Volatile Organic Compound
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NOTICE: This spreadsheet is for your use only and should be used with caution. MoDNR does not guarantee the accuracy of the information it contains. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current, accurate and complete information available. MoDNR is not responsible for errors or omissions in this spreadsheet. Submittal of the information contained in this spreadsheet (workbook) does not relieve the responsible official of the certification statement signed on the first page of the application.

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<th>Potential Emissions including fugitives (tons/yr)</th>
<th>Allowable Emissions for 8760 hours per year (tons/yr)</th>
<th>Reimbursement</th>
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Maximum hourly design rate (tons/hr): 220

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<th>Tons of product per day</th>
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<td>Tons of product per year</td>
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APR 26 2017

Mr. Ryan Ruckle
ESH Manager
Breckenridge - Plant 7
P.O. Box 440459
St. Louis, MO 63144

RE: New Source Review Permit - Project Number: 2016-11-037

Dear Mr. Ruckle:

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 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 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: http://dnr.mo.gov/regions/. The online CAV request can be found at http://dnr.mo.gov/cav/compliance.htm.

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

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received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

If you have any questions, please do not hesitate to contact Kathy Kolb, 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:kkj

Enclosures

c: SLRO Regional Office
   PAMS File: 2016-11-037

Permit Number:

042017-013