

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: 102009-005

Project Number: 2009-09-047

Parent Company: McConnell Excavating Ltd.

Parent Company Address: 15804 SR 58, Oberlin, OH 44074

Installation Name: McConnell Excavating Ltd.

Installation ID: PORT-0645

Installation Address: 21795 US Hwy 50, Sedalia, MO 65301

Location Information: Pettis County

Application for Authority to Construct was made for:
Construction of a new portable concrete batch plant with a maximum capacity of 100 tons per hour. 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.

OCT 13 2009

EFFECTIVE DATE

Steven Fula for JLR

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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GENERAL 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. **Portable Equipment Identification Requirement**
McConnell Excavating Ltd. shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
 - A. McConnell Excavating Ltd. shall not be operated at any location longer than 24 consecutive months.
 - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable plant.
 - 1.) If the portable plant is moving to a site previously permitted, and if the circumstances at the site have not changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
 - 2.) If the portable plant is moving to a new site, or if circumstances at the site have changed, then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**
McConnell Excavating Ltd. shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.

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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."

PORT ID Number: PORT-0645

Site ID Number: 159-0065

Site Name: Menards Plaza

Site Address: 21795 US Hwy 50 Sedalia, MO 65301

Site County: Pettis

1. Best Management Practices Requirement
McConnell Excavating Ltd. 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. McConnell Excavating Ltd. 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. McConnell Excavating Ltd. 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.
3. Moisture Content Testing Requirement
 - A. McConnell Excavating Ltd. shall verify that the moisture content of the processes rock is greater than or equal to 1.5% 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 at least 45 day 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 (e.g. quarry) of aggregate.
 - 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.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

- F. The report shall be filed on-site or at the McConnell Excavating Ltd. main office within 30 days of completion of the required test.

 - G. 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 with 15 days of the noncompliant test. If the results of that test also exceed the limit, McConnell Excavating Ltd. 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 Air Pollution Control Program Compliance Assistance section 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.

 - H. In lieu of testing, McConnell Excavating Ltd. may obtain test results of the supplier of the aggregate that demonstrate compliance with the moisture content in special condition 3.A.
4. Control Device Requirement-Baghouse
- A. McConnell Excavating Ltd. 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 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).

 - D. McConnell Excavating Ltd. 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.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

- E. McConnell Excavating Ltd. 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. Minimum Distance to Property Boundary Requirement
The primary emission point shall be located at least 100 feet from the nearest property boundary.

- 6. Concurrent Operation Restriction
McConnell Excavating Ltd. is prohibited from operating whenever other plants are located at the site.

- 7. Record Keeping Requirement
McConnell Excavating Ltd. 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.

- 8. Reporting Requirement
McConnell Excavating Ltd. 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: 2009-09-047

Installation ID Number: PORT-0645

Permit Number:

McConnell Excavating Ltd.
21795 US Hwy 50
Sedalia, MO 65301

Complete: September 22, 2009

Parent Company:
McConnell Excavating Ltd.
15804 SR 58
Oberlin, OH 44074

Pettis County

PROJECT DESCRIPTION

McConnell Excavating Ltd. has applied for authority to construct a new portable concrete batch plant. The plant is a truck mix plant and is capable of producing 100 tons of concrete per hour. The plant's silos and weigh hopper are controlled by baghouses. The mix truck loadout spout is shrouded and vented to a baghouse. The plant is powered by a 250 horsepower diesel generator.

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 Pettis 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.

No permits have been issued to McConnell Excavating Ltd. from the Air Pollution Control Program.

TABLES

The table below summarizes the emissions of this project. The potential emissions of process equipment excluding emissions from haul roads and wind erosion, which are site specific should not vary from site to site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year).

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/ SMAL	¹ Uncontrolled Emissions	² Potential Emissions of the Process Equipment	Potential Emissions of the Application	³ Conditioned Potential Emissions
PM ₁₀	15.0	61.62	4.46	10.75	3.66
SO _x	40.0	0.11	0.11	0.11	0.04
NO _x	40.0	34.33	34.33	34.33	11.68
VOC	40.0	2.8	2.8	2.8	0.95
CO	100.0	7.39	7.39	7.39	2.52
Total HAPS	25.0	0.03	0.03	0.03	0.01

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

¹Excludes haul road and wind erosion emissions

²Includes site specific haul road and storage pile emissions

³Conditioned Potential Emissions are based on the daily production limit to insure compliance with the PM10 NAAQS. Other pollutants proportionately reduced.

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	753.47	130.0	20.0	816.6

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 McConnell Excavating Ltd.

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). These emissions are controlled by a baghouse so a 99% 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 the diesel generators were calculated using emission factors from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines,” October 1996.

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 1.5% 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 of 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 Program’s generic nomographs. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. The distance from the plant to the nearest site boundary is 100 feet. When the plant operates continuously, the modeled concentration of PM₁₀ is greater than the NAAQS, so the plant’s production was limited to ensure 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 Program’s BMPs interim policy.

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 without controls are above de minimis levels.

APPLICABLE REQUIREMENTS

McConnell Excavating Ltd. 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.

- 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
- 40 CFR 60 Subpart III, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies 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

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 September 21, 2009, received September 22, 2009, designating McConnell Excavating Ltd. 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 September 29, 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
 McConnell Excavating Ltd.
 2009-09-047

Description	¹ MHDR	MHDR Units	² PM ₁₀ EF	EF Units	Control Eff. %	Emissions (lb/hr)	³ Modeling Rate (lb/hr)
Aggregate Transfer MC 1.5	47.00	tph	0.00413	lb/ton		0.19	0.066
Sand Transfer MC 4.17	35.00	tph	0.00099	lb/ton		0.03	0.012
Cement Unloading to Silo	12.00	tph	0.00034	lb/ton		0.00	0.001
Supplement Unloading (pneumatic)	2.00	tph	0.00490			0.01	0.003
Weight Hopper Loading	82.00	tph	0.00196	lb/ton	99.00	0.00	0.001
Truck Mix Unloading	14.00	tph	0.01600	lb/ton		0.22	0.076
Generator - Industrial Diesel	0.0130	1000 gal/hr	42.47000	lb/1000gal	0.00	0.55	0.187
Storage Pile - Load In MC 1.5	82.00	tph	0.00410	lb/ton		0.34	0.114
Storage Pile - Load Out MC 1.5	82.00	tph	0.00410	lb/ton		0.34	0.114
Storage Pile - Wind Errosion	1.00	acres	0.08917	lb/acre-hr		0.09	0.030
Storage Pile - Vehicular Activity	0.17	VMT/hr	2.64496	lb/VMT	90.00	0.04	0.015
Haul Road Materials	3.03	VMT/hr	2.07814	lb/VMT	90.00	0.63	0.214

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. Eric McConnell
Owner
McConnell Excavating Ltd.
15804 SR 58
Oberlin, OH 44074

RE: New Source Review Permit - Project Number: 2009-09-047

Dear Mr. McConnell:

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 do not hesitate to contact Michael Mittermeyer, 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:mml

Enclosures

c: Kansas City Regional Office
PAMS File: 2009-09-047

Permit Number: