

PERMIT BOOK

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: **122007-006**

Project Number: 2007-09-055

Parent Company: City of Columbia

Parent Company Address: P.O. Box 6015, Columbia, MO 65205

Installation Name: City of Columbia-Remote Generators at MBS and State Farm

Installation Address: MBS, 2711 W. Ash St.
State Farm, 4700 S. Providence Rd

Location Information: MBS, Boone County, S10 T48N, R13W
State Farm, Boone County, S36, T48N, R13W

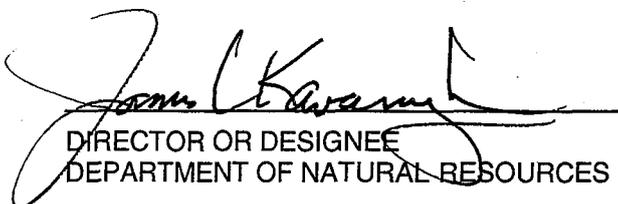
Application for Authority to Construct was made for:
The installation of four new diesel generators and diesel storage tanks. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

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

DEC 21 2007

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located with 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.

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

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Permit No.	
Project No.	2007-09-055

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. Emission Limitation

- A. City of Columbia - Remote Generators at MBS and State Farm (City of Columbia) shall emit less than 40 tons of nitrogen oxides (NO_x) in any consecutive 12 month period from the four diesel generators (EP-21, EP-23, EP-25, EP-27).
- B. City of Columbia shall maintain an accurate record of NO_x emitted into the atmosphere from the four diesel generators. Attachment A or an equivalent form shall be used for this purpose.
- C. City of Columbia shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B indicate that the source exceeds the limitation of Special Condition Number 1.A.

2. Fuel Oil Restriction

- A. City of Columbia shall fire only #2 fuel oil with sulfur content not greater than 0.05 percent by weight in the four diesel generators.
- B. City of Columbia shall demonstrate compliance with Special Condition Number 2.A by obtaining the fuel oil sulfur content from the fuel vendor or testing each shipment of fuel in accordance with American Society of Testing and Materials Method D(2622-98), *Sulfur in Petroleum Products by X-Ray Fluorescence Spectrometry*.
- C. City of Columbia shall report to the Air Pollution Control Program's Enforcement Section, no later than ten (10) days after obtaining records or test results from Special Condition 2.B that indicate exceedance of the limitation of Special Condition 2.A.

3. Record Keeping Requirement

- A. City of Columbia shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

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

Project Number: 2007-09-055
Installation ID Number: 019-0002
Complete: September 20, 2007
Permit Number:

City of Columbia-Remote Generators at MBS and State Farm

MBS

2711 W. Ash St.
Columbia, MO 65203
Boone County, S10 T48N, R13W

State Farm

4700 S. Providence Rd.
Columbia, MO 65203
Boone County, S36, T48N, R13W

Parent Company:

City of Columbia
P.O. Box 6015
Columbia, MO 65205

REVIEW SUMMARY

- City of Columbia has applied for authority to install four new diesel generators and diesel storage tanks.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment, but in insignificant amounts.
- Subpart IIII of the New Source Performance Standards (NSPS) applies to the diesel generators.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart ZZZZ - *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* applies to the diesel generators.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of nitrogen oxides (NO_x) are conditioned below de minimis levels.

- This installation is located in Boone County, an attainment area for all criteria air pollutants.
- This installation is on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment.
- A revision to your Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The City of Columbia operates a coal-fired power plant and several diesel generators, which are used for emergency backup and peak shaving. They are considered a major source for New Source Review purposes and hold a Part 70 operating permit.

The following New Source Review permits have been issued to City of Columbia from the Air Pollution Control Program.

Table 1: New Source Review Permits

Permit Number	Description
0298-016	Section (5) New Landfill Cell
092000-018	Section (5) diesel generators and storage tanks
082003-003	Section (5) diesel generator
092003-019	Section (5) diesel generator
042004-013	Section (5) diesel generator

PROJECT DESCRIPTION

The City of Columbia has applied for authority to construct four one megawatt diesel generators and four 1,500 gallon fuel tanks. Two generators and two fuel tanks will be installed at MBS and State Farm. The generators will serve as emergency backup generators and peaking units. The City of Columbia stated in their application that the generators would combust #2 fuel oil with sulfur content of 0.05 percent by weight. The City of Columbia requested that all emissions be limited below de minimis levels.

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, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines (October, 1996). Breathing and working losses from the storage tanks were calculated using emission factors from the emission factor database FIRE version 6.25. Potential emissions of the application represent the potential of the new equipment, 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 <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	Application Conditioned Potential
PM ₁₀	15.0	N/D	2.60	9.93	0.72
SO _x	40.0	Major	1204.00	8.75	0.63
NO _x	40.0	Major	315.99	554.55	< 40
VOC	40.0	N/D	1.25	24.72	11.55
CO	100.0	N/D	124.48	147.30	10.63
HAPs	10.0/25.0	Major	33.61	0.27	0.02

N/D = Not Determined

Application Conditioned Potentials based on voluntary NO_x limit. The other pollutants are proportionately reduced to the NO_x limit.

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 NO_x are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

City of Columbia 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 April 1 for the previous year's emissions.

- *Operating Permits*, 10 CSR 10-6.065
- *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 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 9/12/2007, received 9/20/2007, designating City of Columbia as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Mr. Tad Johnsen
Power Production Superintendent
City of Columbia
P.O. Box 6015
Columbia, MO 65205

RE: New Source Review Permit - Project Number: 2007-09-055

Dear Mr. Johnsen:

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 me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Thank you,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:mml

Enclosures

c: Northeast Regional Office
PAMS File 2007-09-055