



## 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: 102009-003 Project Number: 2009-04-072

Parent Company: Missouri Department of Transportation

Parent Company Address: P.O. Box 270, Jefferson City, MO 65102

Installation Name: MoDOT - Missouri Blvd Complex

Installation Address: 1511 Missouri Blvd, Jefferson City, MO 65102

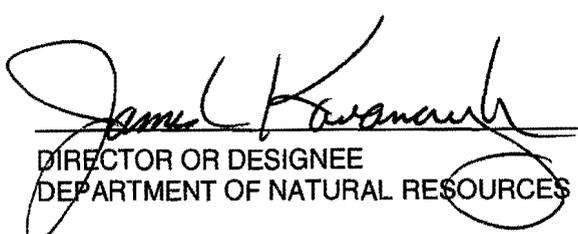
Location Information: Cole County (S12, T44N, R12W)

Application for Authority to Construct was made for:  
The addition of two 10.4 MMBTU per hour natural gas boilers (EP-01 and EP-02) to the laboratory building and addition of three silk screen machines (EP-03, EP-04, and EP-05) with cleanup activities associated with each screen.. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

OCT - 9 2009

\_\_\_\_\_  
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 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 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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Permit No.	
Project No.	2009-04-072

#### 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."*

MoDOT - Missouri Blvd Complex  
Cole County (S12, T44N, R12W)

1. Emission Limitation
  - A. MoDOT - Missouri Blvd Complex shall emit less than five (5.0) tons of Glycol Ethers from the installation in any consecutive 12-month period.
  - B. Attachment A or an equivalent form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A. MoDOT - Missouri Blvd Complex 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. These records shall include Material Safety Data Sheets (MSDS) for all materials used in this equipment.
  - C. MoDOT - Missouri Blvd Complex shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 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. MoDOT - Missouri Blvd Complex shall keep the ink solvents and cleaning solutions in sealed containers whenever the materials are not in use. MoDOT - Missouri Blvd Complex shall provide and maintain suitable, easily read, permanent markings on all inks, solvent and cleaning solution containers used with this equipment.

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

Project Number: 2009-04-072  
Installation ID Number: 051-0078  
Permit Number:

MoDOT - Missouri Blvd Complex  
1511 Missouri Blvd  
Jefferson City, MO 65102

Complete: May 20, 2009

Parent Company:  
Missouri Department of Transportation  
P.O. Box 270  
Jefferson City, MO 65102

Cole County, (S12, T44N, R12W)

REVIEW SUMMARY

- MoDOT - Missouri Blvd Complex has applied for authority to construct the addition of two 10.4 MMBTU per hour natural gas boilers to the laboratory building and addition of three silk screen machines with cleanup activities associated with each screen.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are Glycol Ethers and Nickel Compounds.
- New Source Performance Standards (NSPS) Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* apply to the two 10.4 MMBTU per hour natural gas boilers.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- 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 Glycol Ethers have been conditioned to less than the Screen Modeling Action Levels (SMAL).
- This installation is located in Cole County, an attainment area for all criteria air pollutants.

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation's VOC emissions.
- Emission testing is not required for the equipment.
- A Basic Operating Permit is required because a NSPS applies to this installation. The basic operating permit application must be received within 30 days after the equipment start-up.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

The Missouri Boulevard Complex is owned by the Missouri Department of Transportation (MoDOT) and is located at 1511 Missouri Boulevard in Jefferson City. This complex includes laboratories, storage buildings, and a sign shop. The laboratories provides lab testing for MoDOT as well road sign painting.

No permits have been issued to MoDOT - Missouri Blvd Complex from the Air Pollution Control Program.

### PROJECT DESCRIPTION

MoDOT wants to permit two 10.4 MMBTU/hr natural gas boilers that provides heat for buildings and hot water for the laboratory. They also have a sign shop that paints road signs that uses ink, cleaning solvent and paint thinner that contain VOCs and HAPs. The ink is applied to the signs using three silk screen presses. There are three presses used to paint the signs, one is automatic press needing no manual labor to complete the sign having a Maximum Hourly Design Rate (MHDR) of 2.87 gal of ink per hour and the capacity to finish 60 signs per hour. The biggest sign the automatic press can paint is approximately 43 square feet. The remaining two are manual presses and are smaller than the automatic press. The largest sign that can be painted from these presses is 24 square feet from one and 40 square feet from the other. The MHDR of the smaller presses are 0.6 gal of ink per hour and 1.12 gal of ink per hour respectively, both having the capacity to finish 36 signs per hour. The minimum drying time for the signs is four hours and drying room has the capacity of 17200 square feet. Paint thinner and cleaning solvent is also used during this process. The MHDR for these processes are 2.00 pounds per hour and 3.42 pounds per hour respectively. No air pollution control equipment is being used in association with the new equipment.

## EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 *Natural Gas Combustion*, July 1998 and from the Material Safety Data Sheet of the ink, paint thinner and cleaning solvent. 100% of VOCs in the ink, paint thinner and solvent are assumed to be evaporated and a 100% transfer rate of the particulate matter is assumed as well. 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 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis/SMAL Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	*New Installation Conditioned Potential
PM <sub>10</sub>	15.0	N/A	N/A	0.66	N/A
SO <sub>x</sub>	40.0	N/A	N/A	0.05	N/A
NO <sub>x</sub>	40.0	N/A	N/A	8.67	N/A
VOC	40.0	N/A	N/A	153.66	7.91
CO	100.0	N/A	N/A	7.28	N/A
Glycol Ether	5.00	N/A	N/A	102.98	<5.00
Nickel Comp.	1.00	N/A	N/A	4.23	0.20
HAPs	5.00/25.0	N/A	N/A	103.14	N/A

N/A = Not Applicable

\* New Installation Conditioned Potential is based on a 5.00 ton Glycol Ether limit. The Glycol Ether limit will keep the VOC emission below 40.00 tons per year and keep the Nickel emissions below the SMAL Level of 1.00 tons per year.

### 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 HAPs have been conditioned to less than their respective SMAL. All other pollutants are below de minimis levels.

### APPLICABLE REQUIREMENTS

MoDOT - Missouri Blvd Complex 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.
- *Restriction of Emission of Odors*, 10 CSR 10-3.090
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premise of Origin*, 10 CSR 10-6.170

## 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.

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Gerad Fox  
Environmental Engineer

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated date, received date, designating Missouri Department of Transportation as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated June 4, 2009.
- Material Safety Data Sheets



will track the Screen Ink and Thinner.

Mr. Stan Thessen  
Senior Environmental Specialist  
MoDOT - Missouri Blvd Complex  
1511 Missouri Blvd  
Jefferson City, MO 65102

RE: New Source Review Permit - Project Number: 2009-04-072

Dear Mr. Thessen:

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 new 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 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 Hale  
New Source Review Unit Chief

KH:gfl

Enclosures

c: Northeast Regional Office  
PAMS File: 2009-04-072

Permit Number: