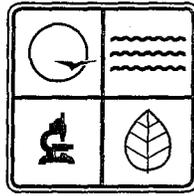


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

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: **01 2008 - 008** Project Number: 2006-03-077
Owner: State of Missouri-Facilities Management, Design & Construction
Owner's Address: P.O. Box 809, Jefferson City, MO 65102
Installation Name: Public Health Laboratory
Installation Address: 101 North Chestnut Street, Jefferson City, MO 65102
Location Information: Cole County, S8, T44N, R11W

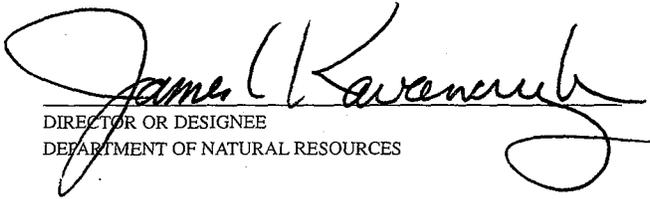
Application for Authority to Construct was made for:

Installation of three (3) 18.9 million Btu/hour boilers, two (2) 16.7 million Btu/hour emergency generators, an incinerator, and an above ground diesel fuel storage tank. These air contaminant sources were constructed prior to receipt of a permit from the Missouri Department of Natural Resources, obtaining a Permit is part of remedial action required by the Air Pollution Control Program. 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 (listed as attachments starting on page 2) are applicable to this permit.

JAN 28 2008

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. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the 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 as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, 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 Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

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 Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

Page No.	2
Permit No.	
Project No.	2006-03-077

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."

Public Health Laboratory
Cole County, S8, T44N, R11W

1. Emission Limitation

- A. Public Health Laboratory shall emit less than 40 tons of Nitrogen Oxides (NOx) from the installation in any consecutive 12-month period.
- B. Attachment A or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1(A). Public Health Laboratory 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.
- C. Public Health Laboratory 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(C) indicate that the source exceeds the limitation of Special Conditions Number 1(A).

2. Operational Limitations

Public Health Laboratory shall burn only natural gas or #2 fuel oil in the three (3) 18.9 million Btu/hr UBW Boilers (EP-01, EP-02), only #2 fuel oil the two (2) Kohler 16.7 million Btu/hr generators (EP-03, EP-04) and only natural gas in the Shenandoah C6 animal crematory (crematorium/incinerator).

3. #2 Fuel Oil Sulfur Content

The sulfur content of the fuel to be used in the three (3) 18.9 million Btu/hr UBW Boilers (EP-01, EP-02) and the two (2) Kohler 16.7 million Btu/hr generators (EP-03, EP-04). shall not exceed 0.05% by weight. Public Health Laboratory shall obtain the sulfur content of the fuel oil for each fuel oil delivery from the fuel vendors or conduct their own fuel analysis to evaluate the typical sulfur content weight percent of the fuel oil. The fuel consumption records and statement shall be kept on-site for five (5) years and shall be made immediately available to the Missouri Department of Natural Resources' personnel upon request.

Page No.	3
Permit No.	
Project No.	2006-03-077

SPECIAL CONDITIONS:

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

4. Public Health Laboratory shall not incinerate/cremate any material other than animal remains and/or any corresponding container unless approved by the Missouri Department of Natural Resources.
5. Public Health Laboratory shall not operate the two (2) Kohler 16.7 million Btu/hr generators (EP-03, EP-04) for more than 500 hours combined per 12 month rolling average. Exceptions to this operation limit of 500 hours are rare and unusual circumstances, such as catastrophes, emergencies or other abnormal conditions wherein the normal supplier of electrical power would not have the ability to generate power requirements. The generators are used only to provide back-up power when electrical power from the utility is interrupted. The generators are used only for short periods of time to perform maintenance and operational readiness testing.
 - A. Each generator must be equipped with a non-resettable hour meter.
 - B. Public Health Laboratory shall keep monthly, and the sum of the most recent 12-months records that are adequate to determine compliance with Special Condition number 5. Attachment B or an equivalent form is suitable for this purpose. The most recent 60 months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources's personnel upon request.
 - C. Public Health Laboratory 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 records for Special Condition 5. B. indicate that the source exceeds the limitation of Special Condition 5.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project No: 2006-03-077
Installation ID No: 051-0073
Permit No:

Public Health Laboratory
101 North Chestnut Street
Jefferson City, MO 65102

Complete: April 28, 2006
Reviewed: May 1, 2006

Parent Company:
State of Missouri - Facilities Management, Design & Construction
P.O. Box 809
Jefferson City, MO 65102

Cole County, S8, T44N, R11W

REVIEW SUMMARY

- Public Health Laboratory has applied for authority to install three (3) 18.9 million British thermal units per hour (MMBtu/hr) boilers, two (2) 16.7 MMBtu/hr generators, and a 0.7 MMBtu/hr Incinerator (Crematory), two (2) 800 gallon belly storage tanks associated with the emergency generators and a 6,000 gallon storage tank.
- Hazardous air pollutant (HAP) emissions are expected from the proposed equipment. The majority of the HAPs are from the combustion of natural gas. However, due to the nature of pathological waste incineration, hydrogen chloride (HCl) and metal emissions, such as lead, antimony, mercury and cadmium, may be present. However, these emissions should be small enough to be considered insignificant.
- Subpart Dc of the New Source Performance Standards (NSPS) applies to the boilers. Subpart Ec applies to the incinerator because of the mission of the laboratory is testing for infectious diseases.
- 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. However, the MACT standard for industrial commercial and institutional boilers, Subpart DDDDD does not apply because the facility is not a major source of HAPs.
- Low NO_x burners and flue gas recirculation systems are being used to control the NO_x 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 (NO_x) emissions are conditioned to below de minimis levels.

- 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]. Fossil fuel boilers totaling more than 250 mmBtu/hr are on the list but the boilers in this application total 56 mmBtu/hr.
- Ambient air quality modeling was not performed since potential emissions of the application are conditioned to below de minimis levels.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Emissions testing is not required for the installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Public Health Laboratory is a new five-story building of 117,400 square feet housing laboratories and offices. The Missouri State Public Health Laboratory is dedicated to the promotion, protection, and assurance of the health of Missouri's citizens by providing a wide range of diagnostic and analytical services. These services include quality-assurance laboratory testing for infectious diseases, genetic disorders and environmental health concerns, both in support of public health programs, and as a reference laboratory performing unusual or specialized procedures. The laboratory provides scientific expertise and managerial leadership in meeting the rapidly changing challenges in the clinical and environmental laboratory disciplines and in the development of public health policy.

No permits have been issued to Public Health Laboratory from the Air Pollution Control Program as this is a new installation.

PROJECT DESCRIPTION

Public Health Laboratory has applied for authority to add the equipment listed in the following table to the new Public Health Laboratory building

Table 1: Equipment List

Description of Equipment
(3) Boilers (EP-01 and EP-02)
(2) Emergency Generator (EP-03 and EP-04)
(2) 800 gallon Storage Tanks (EP-06 and EP-07)
(1) 6,000 gallon Storage Tank (EP-05)
(1) Incinerator (crematory) (EP-08)

The Public Health Laboratory will be served by a central heating system consisting of three water tube boilers fired on natural gas with low sulfur #2 fuel oil as back up. The Boilers will operate normally on natural Gas, but can operate on low sulfur #2 fuel oil as back up. Two boilers will operate normally with the third boiler as backup. The steam will heat water for building heating, humidification and domestic and industrial hot water. The boilers will be served by common breeching and stack extending through the roof. The boilers are equiped with flue gas recirculation systems and low NOx burners to reduce emissions.

Fuel oil will be stored in an above ground 6,000 gallon storage tank (EP-05) installed on grade. The two (2) low sulfur #2 fuel oilfired emergency generators will be installed to provide power in the event of a utility power interruption. The two (2) fuel storage tanks (EP-06 and EP-07) for the boilers are belly tanks associated with the generators.

A small incinerator (EP-08) an animal crematory (crematorium) and associated equipment will be installed in the building to dispose of animal parts. The incinerator animal crematory will have an exhaust stack extending through the roof. It will be used only for the non-commercial incineration of dead animals. The crematorium is fueled by natural gas and is capable of incinerating a maximum of 200 pounds per hour of animal remains and any associated containers.

EMISSIONS/CONTROLS EVALUATION

SOx and NOx are the pollutants of concern for the purpose of this review. The SOx and the NOx emissions are conditioned to deminimis levels. All other pollutants are below de minimis levels. Emission factors were obtained from the Environmental Protection Agency (EPA) documents AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 1.4, *Natural Gas Combustion*, 3.3 *Gasoline and Diesel Industrial Engines* and Factor Information Retrieval (FIRE) version 6.23 and *Solid Waste Disposal, Section 2.3 Medical Waste Incineration* reformatted in 1/95 but dated 7/93.

Potential emissions of the application represent the potential of the new equipment assuming continuous operation (8760 hours per year), except for the emergency generator (500 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	Existing Actual Emissions (latest EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/A	35.35	N/A
SOx	40.0	N/A	N/A	122.18	N/A
NOx	40.0	N/A	N/A	184.07	<40
VOC	40.0	N/A	N/A	5.66	N/A
CO	100.0	N/A	N/A	81.02	N/A
HAPs	10.0/25.0	N/A	N/A	0.05	N/A

N/A = Not Applicable

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The potential emissions of NOx are conditioned to below de minimis levels.

APPLICABLE REQUIREMENTS

Department of Health Laboratory 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 Odors*, 10 CSR 10-2.070

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc
- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced after June 20, 1996*, 40 CFR Part 60, Subpart Ec.

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.

Timothy Hines
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 21, 2006, received March 22, 2006, designating State of Missouri-Facilities Management, Design & Construction 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.

Attachment A
Monthly NOx Compliance Work Sheet

Department of Health Laboratory
 Cole County, S8, T44N, R11W
 Project Number: 2006-03-077
 County and Plant ID: Number: 051-0073

This sheet covers the period from _____ to _____.
 (month , year) (month, year)

Copy this sheet as needed.

Column 1	Column 2	Column 3	Column 4	Column 5
Emission Point	Hours of Operation with Diesel Fuel	Emission Factor	Conversion	Tons of NOx emitted (Note1)
Boilers		(lbs/hr)	Convert to tons	
EP-01 (1of 3)		11.090	0.0005	
EP-01 (2of 3)		11.090	0.0005	
EP-01 (3of 3)		11.090	0.0005	
Emergency Generators				
EP-04 (1 of 2)		73.471	0.0005	
EP-04 (2 of 2)		73.471	0.0005	
Total NOx emitted in ton for the month				

Note 1: (column 2) times (column 3) times (column 4) = Column 5

Note 2: Rolling Total of most recent 12-month emissions from Column 5.

Note 3: Total NOx emissions for most recent 12-month period of no more than 40 tons indicates compliance.

Mr. Joe Candrl
Facilities Operation Manager
Facilities Management, Design and Construction
P.O. Box 809
Jefferson City, MO 65102

RE: New Source Review Permit - Project No. 2006-03-077

Dear Mr. Candrl:

Enclosed with this letter is your permit to construct. Please 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 in accordance with your amended operating permit is necessary for continued compliance. Please check your operating permit as it contains all applicable requirements for your installation, including any special conditions from your new source review permit.

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

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kyra L. Moore.
Permits Section Chief

KLM:thl

Enclosures

C: Northeast Regional Office
PAMS File: 2006-03-077
Permit Number.