



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: 122008-003 Project Number: 2008-09-012

Parent Company: Waynesville Memorial Chapel, Inc.

Parent Company Address: 202 Historic 66 West, Waynesville, MO 65583

Installation Name: Roubidoux Springs Crematory

Installation Address: 202 Historic 66 West, Waynesville, MO 65583

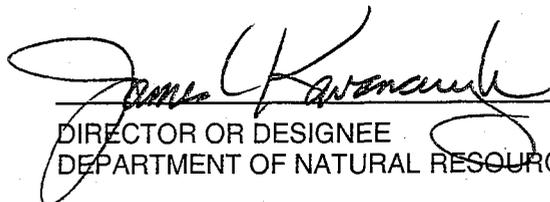
Location Information: Pulaski County, S25, T36N, R12W

Application for Authority to Construct was made for:
The installation of a B&L Cremation Systems, Inc. Phoenix II human crematory.
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.

DEC - 2 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. 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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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."

Roubidoux Springs Crematory
Pulaski County, S25, T36N, R12W

1. Emission Limit
 - A. Roubidoux Springs Crematory shall emit less than 0.01 tons of mercury per 12-month period from the crematory.
 - 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). Roubidoux Springs Crematory 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. Roubidoux Springs Crematory 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 Conditions Number 1(A).
2. Process Requirements for the Human Crematory (EP-01)
 - A. Roubidoux Springs Crematory. will burn exclusively non-infectious human bodies or body parts not in containers and non-infectious human bodies or body parts in containers not containing chlorine.
 - B. The batch-type incinerator shall have an operable door lockout mechanism that prohibits the charging of waste between burn cycles.
 - C. The incinerator shall be equipped with a continuous chart recorder that is able to monitor, display and record the temperature in the final combustion chamber to an accuracy of plus or minus two percent (2%).
 - D. The operators shall maintain the incinerator at a temperature of no less than 876 degrees Fahrenheit.

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SPECIAL CONDITIONS:

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

3. **Opacity**
The incinerator (EP-01) shall have opacity of less than ten percent (10%) at all times.

4. **Operator Requirements for the Human Crematory (EP-01)**
 - A. All incinerator operators shall attend a training program equivalent to that developed by the American Society of Mechanical Engineers (ASME), by the incinerator manufacturer or by an individual with more than one (1) year experience in the operation of the incinerator. The training shall include basic combustion theory, operating procedures, monitoring of combustion control parameters and all emergency procedures to be followed if the incinerator should malfunction or exceed operating parameters.

 - B. The incinerator operator shall have the essential steps necessary for satisfactory operation of the incinerator readily available to him or her in an easy to read and follow manual.

5. **Restriction of Odors**
If a continued situation of demonstrated nuisance odors exists in violation of 10 CSR 10-2.070, the Director may require through written notice that Roubidoux Springs Crematory submits a corrective action plan within ten days adequate to timely and significantly mitigate the odors and Roubidoux Springs Crematory shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be in violation of this permit.

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

Project Number: 2008-09-012
Installation ID Number: 169-0040
Permit Number:

Roubidoux Springs Crematory
202 Historic 66 West
Waynesville, MO 65583

Complete: September 29, 2008

Parent Company:
Waynesville Memorial Chapel, Inc.
202 Historic 66 West
Waynesville, MO 65583

Pulaski County, S25, T36N, R12W

REVIEW SUMMARY

- Roubidoux Springs Crematory has applied for authority to install a B&L Cremation Systems, Inc. Phoenix II human crematory.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. All HAP emissions are below their respective screening model action levels (SMAL). Mercury emissions are conditioned below their SMAL.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- 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.
- A secondary firing chamber is being used to control the 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 are below de minimis levels. Incinerators are required to obtain construction permits under 10 CSR 10-6.060 paragraph (1)(B).
- This installation is located in Pulaski 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 since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Roubidoux Springs Crematory is a new source of air contaminants. They are installing a B&L Cremation Systems, Inc. Phoenix II human crematory. The crematory is capable of cremating a 150 pound (lb) body in one hour. An emissions test from a similar unit was provided to demonstrate that the crematory meets combustion efficiency and particulate loading requirements.

No permits have been issued to Roubidoux Springs Crematory from the Air Pollution Control Program.

EMISSIONS/CONTROLS EVALUATION

The emission rates for particulate matter less than ten (10) microns in aerodynamic diameter (PM₁₀) and carbon monoxide (CO) used in this review were obtained from a stack test performed on a similar incinerator. Emissions of sulfur dioxide (SO₂) were calculated using the emission factor from *AP-42 Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition table 1.4-2. Volatile organic compounds (VOCs) were calculated using an emission factor from the Factor Information Retrieval (FIRE) Data System Version 6.24 for SCC 5-02-001-01. Nitrogen oxide (NO_x) emissions were calculated using an emission factor from FIRE SCC 5-02-001-02. The emission factors used in the analysis of HAP emissions, including mercury, were obtained from FIRE for SCC 3-15-021-01. The composite emission factor of HAPs listed in FIRE was 0.076 pounds of HAP per body cremated and it was assumed that one body could be cremated per hour. All HAP emissions are less than their respective SMALs. Individual HAP emission rates are listed in the Emissions Calculation Worksheet.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/A	1.16	N/A
SO _x	40.0	N/A	N/A	0.04	N/A
NO _x	40.0	N/A	N/A	0.66	N/A
VOC	40.0	N/A	N/A	0.99	N/A
CO	100.0	N/A	N/A	0.17	N/A
Hg	0.01	N/A	N/A	0.014	< 0.01
Total HAPs	25.0	N/A	N/A	0.33	N/A

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

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 are below de minimis levels. Incinerators are required to obtain construction permits under 10 CSR 10-6.060 paragraph (1)(B).

APPLICABLE REQUIREMENTS

Roubidoux Springs Crematory 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

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 9/3/2008, received 9/8/2008, designating Waynesville Memorial Chapel, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated 10/8/2008.
- "Air Compliance Test Report," by Air Testing and Consulting, Tampa, Florida, July 2001.
- Emission Calculation Worksheet

Mr. Randy Walters
Owner
Roubidoux Springs Crematory
202 Historic 66 West
Waynesville, MO 65583

RE: New Source Review Permit - Project Number: 2008-09-012

Dear Mr. Walters:

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 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 by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:mmk

Enclosures

c: Southeast Regional Office
PAMS File: 2008-09-012

Permit Number: