



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: **11 2 0 0 9 - 0 0 8** Project Number: 2009-09-040

Parent Company: Pitman Funeral Homes, Inc.

Parent Company Address: 1545A Wentzville Parkway, Wentzville, MO 63385

Installation Name: Pitman Cremation Services

Installation Number: 183-0241

Installation Address: 1545A Wentzville Parkway, Wentzville, MO 63385

Location Information: St. Charles County (S13, T47N, R1E)

Application for Authority to Construct was made for:

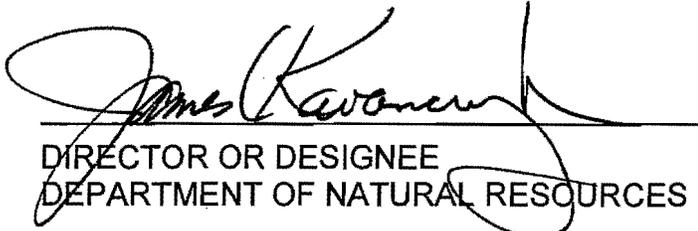
The installation of a human crematory and an animal crematory. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required.*

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

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

NOV 23 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/18 months 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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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."

Pitman Cremation Services
St. Charles County (S13, T47N, R1E)

1. Mercury Emission Limitation
 - A. Pitman Cremation Services shall emit less than 0.01 tons of mercury from the human crematory in any 12-month period.
 - B. Attachment A, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.
2. Process Requirements for the Human and Animal Crematories (EU-01, EU-02)
 - A. Pitman Cremation Services shall burn exclusively non-infectious bodies or body parts (as defined in the Installation Description) and containers not containing chlorine.
 - B. Charging of waste between burn cycles is prohibited.
 - C. The crematories shall each be equipped with a continuous chart recorder that monitors, displays and records the temperature in the final combustion chamber with an accuracy of two percent ($\pm 2\%$).
 - D. Pitman Cremation Services shall maintain the temperature in the final combustion chamber at or above stack test temperature. The human incinerator was tested at 957 degrees Fahrenheit while the animal incinerator was tested at 1322 degrees Fahrenheit.
 - E. Pitman Cremation Services shall maintain an accurate record of the number of cremation and the total mass of remains cremated at this installation per month.
3. Opacity
The crematory (EP-01) shall have opacity of less than ten percent (10%) at all times.
4. Requirements for Operators of the Crematories (EU-01 and EU-02)

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SPECIAL CONDITIONS:

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

- A. All crematory operators shall attend a training program equivalent to that developed by the American Society of Mechanical Engineers (ASME), by the crematory manufacturer or by an individual with more than one (1) year experience in the operation of the crematory. The training shall include basic combustion theory, operating procedures, monitoring of combustion control parameters and all emergency procedures to be followed if the crematory should malfunction or exceed operating parameters.
 - B. The crematory operator shall have the essential steps necessary for satisfactory operation of the crematory readily available to him or her in an easy to read and follow manual.
5. **Restriction of Emission of Odors**
If a continued situation of verified nuisance odors exists in violation of 10 CSR 10-3.090, the Director may require through written notice that Pitman Funeral Homes submit within ten (10) days a corrective action plan adequate to timely and significantly mitigate the odors. Pitman Funeral Homes 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: 2009-09-040
Installation ID Number: 183-0241
Permit Number:

Pitman Cremation Services
1545 Wentzville Parkway
Wentzville, MO 63385

Complete: September 23, 2009

Pitman Funeral Homes
1545 Wentzville Parkway
Wentzville, MO 63385

St. Charles County, (S13, T47N, R1E)

REVIEW SUMMARY

- Pitman Funeral Homes has applied for authority to construct a human crematory and an animal crematory.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAP of concern from this installation is mercury.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.
- None of the 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 all pollutants are below their respective de minimis levels.
- This installation is located in St. Charles County, a nonattainment area for the 8-hour ozone standard and the PM-2.5 standard and an attainment area for all other criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2.

- Ambient air quality modeling was not performed since potential emissions of criteria pollutants are below their respective de minimis levels and the emissions of mercury are conditioned to below its Screening Model Action Level (SMAL).
- Emissions testing is not required for the equipment. Stack testing was conducted on a similar unit and approved by the Air Pollution Control Program.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup (Missouri State Rule 10 CSR 10-6.065 (1)(B)).
- Approval of this permit is recommended with special conditions.

PROJECT DESCRIPTION

Pitman Funeral Homes, Inc. proposes to install a human crematory and an animal crematory in St. Charles County (S13, T47N, R1E). The human crematory is a B & L Systems model N-20AA and the animal crematory is a B & L Systems model BLP-500. Both incinerators have maximum hourly design rates of 150 pounds per hour (lbs/hr). The crematories will be using natural gas as fuel. This installation is a minor source for construction permits and a basic installation for operating permits.

No permits have been issued to Pitman Funeral Homes, Inc. from the Air Pollution Control Program.

Pitman Funeral Homes, Inc. submitted stack test results to demonstrate compliance with the program's requirements for crematories. These requirements include that the crematories achieve a combustion efficiency of 99.9%, that the maximum particulate concentration in the crematory's stack gas be less than 0.09 grains per dry standard cubic feet and that the crematory's opacity does not exceed 10%. These requirements were developed to demonstrate proper combustion, which ensures destruction of HAPs.

The crematories are permitted to cremate non-infectious human and animal bodies and body parts. The Air Pollution Control Program's definition of this term is human and animal bodies and body parts that do not fit the definition of medical/infectious waste as defined in the Code of Federal Regulations, 40 CFR 60.51, *Standards of Performance for New Stationary Sources*, Subpart Ec—"Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996." The rule defines medical/infectious waste as:

"Any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals that are listed in paragraphs (1) through (7) of this definition. The definition of medical/infectious waste does not include hazardous waste identified or listed under the regulations in part 261 of this chapter; household waste, as defined in §261.4(b)(1) of this chapter; ash from incineration of medical/infectious waste, once the incineration process has been completed; human corpses, remains, and anatomical parts that are intended for interment; and

domestic sewage materials identified in §261.4(a)(1) of this chapter.

- (1) Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.*
- (2) Human pathological waste, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.*
- (3) Human blood and blood products including:
 - (i) Liquid waste human blood;*
 - (ii) Products of blood;*
 - (iii) Items saturated and/or dripping with human blood; or*
 - (iv) Items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags are also include in this category.**
- (4) Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.*
- (5) Animal waste including contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals or testing of pharmaceuticals.*
- (6) Isolation wastes including biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.*
- (7) Unused sharps including the following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.”*

EMISSIONS/CONTROLS EVALUATION

The emission rates for particulate matter less than ten (10) microns in aerodynamic

diameter (PM₁₀), nitrogen oxides (NO_x), sulfur oxides (SO_x) carbon monoxide (CO) and volatile organic compounds (VOCs) from the human crematory were obtained from a stack test performed on a similar incinerator. Emissions of individual HAPs from the human crematory were obtained from FIRE for scc 3-15-021-01.

For the animal crematory, the emission rates for PM₁₀ and CO were obtained from a stack test performed on a similar unit. Emissions of sulfur dioxide (SO₂) were calculated using the emission factor from Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Chapter 1.4, *Natural Gas Combustion*, Table 1.4-2. Nitrogen oxide (NO_x) and volatile organic compound (VOC) emissions were calculated using an emission factor from FIRE SCC 5-02-001-01. The emission factors used in the analysis of HAP emissions were obtained from FIRE for SCC 3-15-021-01.

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. Emissions of Mercury is expected to be greater than the Screening Model Action Level of 0.01 tons per year. Therefore, the facility has requested to limit its mercury emissions to less than 0.01 tons per year, so modeling would not be required for the issuance of this permit. Only the human crematory is expected to emit mercury. The animal crematory is not expected to have mercury emissions.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/A	0.77	N/A
SO _x	40.0	N/A	N/A	0.48	N/A
NO _x	40.0	N/A	N/A	0.99	N/A
VOC	40.0	N/A	N/A	0.99	N/A
CO	100.0	N/A	N/A	0.089	N/A
HAPs	10.0/25.0	N/A	N/A	0.653	N/A
Mercury	0.01*	N/A	N/A	0.0144	<0.01

N/A = Not Applicable

*0.01 tons per year (tpy) is the Screening Model Action Level (SMAL)

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 pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Pitman Funeral Homes, Inc. 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.
- *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.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 22, 2009, received September 23, 2009, designating Pitman Funeral Homes, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- St. Louis Regional Office Site Survey, dated September 30, 2009.

Mr. Eric Pitman
President
Pitman Cremation Services
1545A Wentzville Parkway
St. Charles, MO 63385

RE: New Source Review Permit - Project Number: 2009-09-040

Dear Mr. Pitman:

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 Chia-Wei Young 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:cwyl

Enclosures

c: St. Louis Regional Office
PAMS File: 2009-09-040

Permit Number: