

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: **012010-007** Project Number: 2009-06-011

Parent Company: Animal Cremation Service, Inc.

Parent Company Address: 1555 Hensley Lane, Festus, MO 63028

Installation Name: Animal Cremation Service, Inc.

Installation Address: 1555 Hensley Lane, Festus, MO 63028

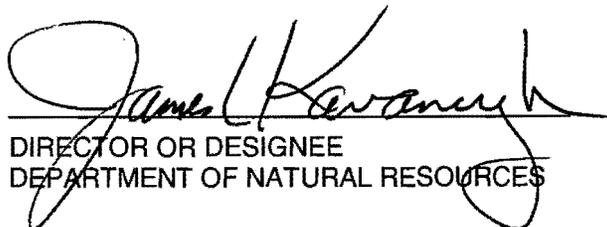
Location Information: Jefferson County, S26, T41, R5

Application for Authority to Construct was made for:
Installation of a four animal crematories EP-10 a Shenandoah C6T, EP-07 a Shenandoah P16, EP-08 a Shenandoah P25 and EP-09 a ETherm-Tec G-12 and the removal of EP-01 and EP-02 which are both Shenandoah P4 crematories. 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.

JAN 19 2010

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 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.

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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."

Animal Cremation Service, Inc.
Jefferson County, S26, T41, R5

1. Process Requirements for the Animal Crematories EP-10 a Shenandoah C6T, EP-07 a Shenandoah P16, EP-08 a Shenandoah P25 and EP-09 a ETherm-Tec G-12.
 - A. Animal Cremation Service, Inc. will burn exclusively non-infectious animal bodies or body parts not in containers and non-infectious animal bodies or body parts in containers not containing chlorine.
 - B. Charging of waste between burn cycles is prohibited in the batch-type incinerator.
 - C. The incinerators 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 incinerators shall have a minimum combustion efficiency of 99.9% determined from the carbon dioxide (CO₂) concentration divided by the sum of the carbon monoxide (CO) and CO₂ concentrations.
 - E. The incinerators shall maintain a minimum temperature in the secondary chamber of the incinerator of 1300 degrees Fahrenheit.
2. Record Keeping Requirements
Animal Cremation Service, Inc. shall maintain an accurate record of the monthly amount and type of waste combusted at this installation. The installation shall use Attachment A or other equivalent form(s) approved by the Air Pollution Control Program for this purpose. Animal Cremation Service, Inc. shall maintain records on-site for the most recent 60 months of all records required by this permit and shall immediately make such records available to any Missouri Department of Natural Resources' personnel upon verbal request.
3. Opacity
The incinerators each shall have opacity of less than ten percent (10%) at all times.

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SPECIAL CONDITIONS:

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

4. Operator Requirements for Animal Crematories EP-10 a Shenandoah C6T, EP-07 a Shenandoah P16, EP-08 a Shenandoah P25 and EP-09 a ETherm-Tec G-12.
 - 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 in an easy to read and follow manual.

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

Project Number: 2009-06-011
Installation ID Number: 099-0150
Permit Number:

Animal Cremation Service, Inc.
1555 Hensley Lane, P.O. Box 447
Festus, MO 63028

Complete: October 14, 2009

Parent Company:
Animal Cremation Service, Inc.
1555 Hensley Lane, P.O. Box 447
Festus, MO 63028

Jefferson County, S26, T41, R5

REVIEW SUMMARY

- Animal Cremation Service, Inc. has applied for authority to install animal crematories EP-10 a Shenandoah C6T, EP-07 a Shenandoah P16, EP-08 a Shenandoah P25 and EP-09 a ETherm-Tec G-12 and the removal of EP-01 and EP-02 which are both Shenandoah P4.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment, but in amounts associated with the combustion of natural gas..
- 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.
- 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*. All incinerators are required to obtain a permit from the Air Pollution Control Program as mandated in 10 CSR 10-6.060. Potential emissions are less than de minimis levels.
- This installation is located in Jefferson County, a nonattainment area for ozone (O₃) and an attainment area for all other 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 are not required for the equipment. Stack testing was conducted on similar units and approved by the Air Pollution Control Program.
- A revised 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

Animal Cremation Service, Incorporated has applied for the authority to construct four liquefied propane gas fired incinerators. The incinerators, EP-10 a Shenandoah C6T, EP-07 a Shenandoah P16, EP-08 a Shenandoah P25 and EP-09 a ETherm-Tec G-12 will be used to incinerate animals from veterinary clinics, humane societies, and city or county animal shelters.

A Basic Operating Permit was issued by the Air Pollution Control Program on September 10, 2003 (Project Number 2003-07-072). In addition, a Basic Operating Permit amendment was received on February 8, 2006 and a Basic Operating Permit application was received on November 17, 2007 and was completed January 29, 2008.

The following permits have been issued to Animal CremationService, Inc. from the Air Pollution Control Program.

Table 1: Previously Issued New Source Review Permits

Permit Number	Description
032002-014	A Section (5) permit for the authority to install a Therm-Tec Model G-30-P animal incinerator.
012003-013	A Section (5) permit for the authority to install one Shenandoah Model C6 and one Therm-Tec Model G-12-P-1 animal incinerator.
092003-001	A Section (5) permit for the authority to install a Therm-Tec Model G-30-P animal incinerator.
042006-011	A Section (5) permit for the authority to install a Therm-Tec Model G-30-P animal incinerator.
012007-008	A Section (5) permit for the authority to install a Shenandoah Model C12-400 animal incinerator.

PROJECT DESCRIPTION

These units all have performance test information on the units. These performance tests were previously approved by the Air Pollution Control Program. The units all use liquefied propane gas. The maximum hourly design rate of the units is identified in Table two.

Emission Point	Maximum Hourly Design Rate (tons per hour)	Description	Operating temperature range of secondary chamber
EP-07	0.040	Shenandoah P16	1300 to 1500
EP-08	0.060	Shenandoah P25	1300 to 1500
EP-09	0.075	ETherm-Tec G-12	1300 to 1700
EP-10	0.025	Shenandoah C6T	1300 to 1700

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this review for particulate matter less than 10 microns (PM₁₀) were obtained from the aforementioned stack test. The emission factors for sulfur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOCs) emissions was obtained from the Factor Information Retrieval (FIRE) Data System Version 6.24 for SCC 5-02-001-01 and compared to the values submitted in the application. The emission factors that resulted in the highest emissions for SO_x, NO_x, CO and VOCs emissions were then used. The emission factor used in the analysis of HAP emissions was obtained from the Factor Information Retrieval (FIRE) Data System Version 6.24 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. No pollution control equipment is in use with this process. Metal emissions of mercury are included in the HAP total, this composite emission factor is based on cremation of human corpses and the mercury amounts are believed to be trended towards tooth repair. The cremation of animals is not believed to contain mercury values in this range due to the absence of tooth repair in animals. However, no other emission factors are available which can predict HAP emissions for this source. Based on engineering judgment and due to the nature of pathological waste incineration, metal emissions may be present, such as antimony, lead, mercury and cadmium. However, these emissions should be small enough to be considered insignificant.

Table 2 gives an emissions summary for the potential emissions from the incinerator. Potential emissions were calculated based on the maximum hourly design rate of the incinerator operating at 8,760 hours annually. Existing potential emissions were taken from permit number 012007-009. Existing actual emissions were taken from the installation's 2005 Emission Inventory Questionnaire (EIQ).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	5.82	0.92	4.12	N/A
SO _x	40.0	44.55	1.33	2.19	N/A
NO _x	40.0	14.55	1.60	2.63	N/A
VOC	40.0	11.76	1.60	2.63	N/A
CO	100.0	7.27	0.32	8.76	N/A
HAPs	10.0/25.0	0.67	N/D	3.33	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*. All incinerators are required to obtain a permit from the Air Pollution Control Program as mandated in 10 CSR 10-6.060. Potential emissions are less than de minimis levels.

APPLICABLE REQUIREMENTS

Animal Cremation Service, 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 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.

Timothy Paul Hines
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 15, 2009, received July 23, 2009, designating Animal Cremation Service, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Factor Information Retrieval (FIRE) Data System Version 6.24
- Source Emissions Report for the Boone Iowa Humane Society conducted in Boone, Iowa and prepared by Environmental Consulting Services, Inc.
- Saint Louis Regional Office Site Survey, received June 26, 2009

Mr. Don Courtney
Operator/Owner
Animal Cremation Service, Inc.
P.O. Box 447
Imperial, MO 63052

RE: New Source Review Permit - Project Number: 2009-06-011

Dear Mr. Courtney:

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 revised 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 Tim Hines at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or by telephone (573) 751-4817. Thank you for your attention to this matter. .

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B Hale
Permits Section Unit Chief

KLM:thl

Enclosures

c: Saint Louis Regional Office
PAMS File 2009-06-011

Permit Number: