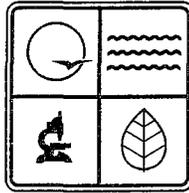


STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES  
MISSOURI AIR CONSERVATION COMMISSION



**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: **11 2 0 0 6 - 0 0 3** Project Number: **2006-07-045**

Owner: **Royer, Inc.**

Owner's Address: **101 SE 15th Street, Oak Grove, MO 64075**

Installation Name: **Royer Funeral Home**

Installation Address: **101 SE 15th Street, Oak Grove, MO 64075**

Location Information: **Jackson County, S4, T48, R29**

Application for Authority to Construct was made for:

**Installation of a human cremator. 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.

NOV - 2 2006

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.	2006-07-045

**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."*

Royer Funeral Home  
Jackson County, S4, T48, R29

1. Process Requirements for the Human Crematory (EP-01)
  - A. Royer Funeral Home 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 incinerator shall have a minimum combustion efficiency of 99.9% determined from the carbon dioxide (CO<sub>2</sub>) concentration divided by the sum of the carbon monoxide (CO) and CO<sub>2</sub> concentrations.
2. Record Keeping Requirements  
Royer Funeral Home 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. Royer Funeral Home 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 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)

Page No.	3
Permit No.	
Project No.	2006-07-045

**SPECIAL CONDITIONS:**

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

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 Royer Funeral Home submit a corrective action plan within ten days adequate to timely and significantly mitigate the odors. that Royer Funeral Home 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: 2006-07-045  
Installation ID Number: 095-0309  
Permit Number:

Royer Funeral Home  
101 SE 15th Street  
Oak Grove, MO 64075

Complete: July 17, 2006  
Reviewed: July 19, 2006

Parent Company:  
Royer, Inc.  
101 SE 15th Street  
Oak Grove, MO 64075

Jackson County, S4, T48, R29

REVIEW SUMMARY

- Royer Funeral Home has applied for authority to install a human cremator.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment, but in insignificant amounts.
- 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 Jackson 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. Stack testing was conducted on similar units and approved by the Air Pollution Control Program.
- 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

Royer Funeral Home, located in Oak Grove, Missouri, will provide cremation services for handling human remains. No permits have been issued to Royer Funeral Home from the Air Pollution Control Program. All incinerators are required to obtain an operating permit from the Air Pollution Control Program as mandated in 10 CSR 10-6.065(3)(B). Therefore, this installation will require a basic operating permit.

### PROJECT DESCRIPTION

Royer Funeral Home has applied for the authority to construct a Power Pak II crematory unit to be used for the cremation of deceased human remains. The Power Pak II crematory unit is a multiple chamber design unit with a rated capacity of 100 pounds per hour. Natural gas is used to power the unit which has two burners rated at a total of 1.9 million Btu per hour. Type 4 waste and a very small percentage of Type 0 waste will be combusted in the unit. Type 4 waste is non-infectious human remains, which includes bodies, body parts, organs and solid tissue waste. Type 0 waste is plastic not containing chlorine, wood and paper used to hold the bodies. It is a violation of this permit if Type 0 material is processed while not being used to hold bodies.

Royer Funeral Home submitted stack test data demonstrating compliance with the 99.9% combustion efficiency required for incinerators by the State of Missouri. The emissions testing was performed on a similar unit in Hudson, Florida on November 3, 1999. Results from that test demonstrated emissions from that incinerator of particulate matter less than ten microns (PM<sub>10</sub>), volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO). The test results for the Power Pak II were previously approved by the Air Pollution Control Program, and similar units have been permitted.

Sulfur oxide (SO<sub>x</sub>) emissions are also possible from the combustion of the fuel. 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.

## EMISSIONS/CONTROLS EVALUATION

There is no control equipment for this unit. The emission factor used in the analysis of HAP emissions was obtained from the Factor Information Retrieval (FIRE) Data System Version 6.23 for SCC 3-15-021-01. The composite emission factor of HAPs listed in FIRE was 0.076 pounds of HAP per body cremated. The potential emission is 0.167 tons per year. The rate of emission of PM<sub>10</sub>, SO<sub>x</sub>, NO<sub>x</sub>, VOC and CO were obtained from stack emission tests submitted by the applicant for a similar unit in Hudson, Florida.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). Since this facility has not received any construction permits from the Air Pollution Control Program, there are no existing potential emissions or existing actual emissions. The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2005)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	N/A	N/A	0.52	N/A
SO <sub>x</sub>	40.0	N/A	N/A	0.39	N/A
NO <sub>x</sub>	40.0	N/A	N/A	2.98	N/A
VOC	40.0	N/A	N/A	0.04	N/A
CO	100.0	N/A	N/A	0.10	N/A
HAPs	10.0/25.0	N/A	N/A	0.17	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*. Potential emissions of all criteria air pollutants are below de minimis levels.

## APPLICABLE REQUIREMENTS

Royer Funeral Home 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 10-2.070

## 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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Susan Heckenkamp  
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 July 13, 2006 received July 17, 2006, designating Royer, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated July 28, 2006.



Mr. F.M. Pete Royer  
President  
Royer Funeral Home  
101 SE 15th Street  
Oak Grove, MO 64075

RE: New Source Review Permit - Project Number: 2006-07-045

Dear Mr. Royer:

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 me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:shl

Enclosures

c: Kansas City Regional Office  
PAMS File: 2006-07-045

Permit Number: