STATE OF MISSOURI

PERMIT BOOK

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: 082014-001 Project Number: 2014-05-063

Parent Company: Transmed Midwest Mobile

Parent Company Address: 3045 Snyder Ave, Box 112, Cedar, IA 52543

Installation Name: Transmed Midwest Mobile - Model 260

Installation Number: PORT-0705

Location Information: Varies

Application for Authority to Construct was made for:
The installation of a portable large animal incinerator. 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.

AUG - 1 2014

EFFECTIVE DATE

Kyra L Moore

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 devises 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 sources(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 <u>and</u> operate your air contaminant sources(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.

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."

Transmed Midwest Mobile - Model 260
PORT ID Number: PORT-0705
Location: Varies

1. Process Requirements for the Human Crematory (EU-01)
   A. Transmed Midwest Mobile - Model 260 will burn exclusively non-infectious animal bodies or body parts (as defined in the Installation Description) and containers not containing chlorine.

   B. Charging of waste during burn cycles is prohibited.

   C. The crematory shall be equipped with a port in the stack no more than12 inches above the afterburner chamber to record the temperature in the final combustion chamber with a handheld digital thermometer with an accuracy of two percent (±2%). The temperature in the stack shall be recorded every two hours while the incinerator is in operation.

   D. Attachment A or an equivalent form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.C.

   E. Transmed Midwest Mobile - Model 260 shall maintain the temperature in the final combustion chamber at or above 1200 degrees Fahrenheit.

   F. The Transmed Midwest Mobile - Model 260 incinerator (EU-01) shall be operated with an afterburner.

   G. Remains shall be incinerated at a rate not exceeding 260.0 pounds per hour in the incinerator (EU-01).

   H. Batch capacity shall not exceed 2600 pounds for the Transmed Midwest Mobile - Model 260 incinerator (EU-01).

SPECIAL CONDITIONS:

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

I. Transmed Midwest Mobile - Model 260 shall maintain an accurate record of the number of cremations and the total mass of remains cremated at this installation per month. Attachment B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.G and 1.H.

2. Opacity

A. The incinerator (EU-01) shall have opacity of less than ten percent (10%) at all times, as determined by a certified visible emission observer performing EPA Reference Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources.

3. Requirements for Operators of the Animal Crematory (EU-01)

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.

4. Restriction of Odors

If a continued situation of verified nuisance odors exists in violation of 10 CSR 10-6.165, the Director may require through written notice that Transmed Midwest Mobile - Model 260 submit within ten days a corrective action plan adequate to timely and significantly mitigate the odors. Transmed Midwest Mobile - Model 260 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.

5. Plant Location Record

A. Transmed Midwest Mobile shall keep record of the duration and location of each cremation performed by the Transmed Midwest Mobile - Model 260 incinerator within the state of Missouri.

SPECIAL CONDITIONS:

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

B. Attachment C or an equivalent form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 5.A.

6. Fuel Requirement of Burners

A. Transmed Midwest Mobile - Model 260 shall burn exclusively ultra low sulfur diesel or distillate fuel oil No. 2 in the burner (EU-02) with a sulfur content less than or equal to 0.0015% by weight.

B. Transmed Midwest Mobile - Model 260 shall demonstrate compliance with Special Condition 6.A by obtaining records of the fuel's sulfur content from the vendor for each shipment of fuel received or by testing each shipment of fuel for the sulfur content in accordance with the method described in 10 CSR 10-6.040 *Reference Methods*.

C. Transmed Midwest Mobile - Model 260 shall keep the records required by Special Condition 6.B with the unit and make them available for Department of Natural Resources' employees upon request.

7. Record Keeping and Reporting Requirements

A. Transmed Midwest Mobile - Model 260 shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

B. Transmed Midwest Mobile - Model 260 shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

8. Transmed Midwest Mobile shall contact the local agencies prior to locating to their jurisdiction to see if there are any additional requirements. The list of local agencies is below:

A. Springfield/Greene County (417) 864-1662
B. Kansas City Metro Area (816) 513-6314
C. St. Louis City/St. Louis County (314) 615-5000

SPECIAL CONDITIONS:

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

9. Transmed Midwest Mobile shall contact the Missouri Department of Natural Resources regional office that is associated with the location of at PORT-0705 at least one (1) day prior to locating at the desired location. The list of the regional offices is below and also can be found on the internet at http://www.dnr.mo.gov/regions/ro-map-color.pdf
   A. Kansas City Regional Office (816) 251-0700
   B. Northeast Regional Office (660) 385-8000
   C. Southeast Regional Office (573) 840-9750
   D. Southwest Regional Office (417) 891-4300
   E. St. Louis Regional Office (314) 416-2960

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2014-05-063
Installation ID Number: PORT-0705
Permit Number:

Transmed Midwest Mobile - Model 260 Complete: June 6, 2014

Parent Company:
Transmed Midwest Mobile
3045 Snyder Ave, Box 112
Cedar, IA 52543

Location: Varies

REVIEW SUMMARY

- Transmed Midwest Mobile has applied for authority to use a portable large animal incinerator for use at facilities within the state of Missouri.

- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment, but are less than their respective Screen Modeling Action Levels.

- New Source Performance Standard (NSPS) E does not apply to this installation because the installation will incinerate less than 50 tons per day.

- NSPS Ec does not apply to this installation because the installation is not allowed to burn Hospital/Medical/Infectious Waste.

- 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.

- An afterburner 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 of each pollutant are below respective de minimis levels. A permit is required per 10 CSR 10-6.060 Construction Permits Required (1)(B).

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- 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 a similar unit and approved by the Air Pollution Control Program's Testing and Emissions Unit.

- A Basic Operating Permit is not required for this installation.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Transmed Midwest Mobile – Model 260 is a new portable installation. The installation consists of an animal incinerator that is mounted on a semi-tractor trailer. This unit will move between facilities in Missouri to dispose of animal carcasses.

No permits have been issued to Transmed Midwest Mobile - Model 260 from the Air Pollution Control Program.

PROJECT DESCRIPTION

Transmed Midwest Mobile – Model 260 will be used to cremate animals at a rate of 260 pounds of animal carcasses per hour. The incinerator has two main burners and one afterburner as a control device. Each burner is rated at 2.5 gallons per hour (gph) and will only burn ultra low sulfur diesel. The applicant submitted stack test results to demonstrate compliance with the Air Pollution Control Program's requirements for crematories. These requirements include that the crematory achieve a combustion efficiency of 99.9%, that the maximum particulate concentration in the crematory's stack gas is 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 ensure proper combustion, which ensures destruction of HAPs.

The crematory is permitted to cremate non-infectious animal bodies and body parts. The Air Pollution Control Program's definition of this term is 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:

Medical/infectious waste means 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.

Infectious and non-infectious human bodies and body parts are not permitted to be cremated in this incinerator.

EMISSIONS/CONTROLS EVALUATION

The emission rates for particulate matter less than ten (10) microns in aerodynamic diameter (PM_{10}), carbon monoxide (CO), and carbon dioxide (CO_2) used in this review were obtained from a stack test performed on a similar incinerator using EPA Federal Reference Methods 1-5, 9, and 10 by Compliance Services, Inc. on June 14, 2002 in Cedar, Iowa. The stack test results were approved by the Air Pollution Control Program Testing and Emission Unit in a memorandum dated May 2, 2014 (Steve Sidebottom). Burner emissions of sulfur oxides (SO_x), nitrogen oxides (NO_x), volatile organic compound (VOC), and Hazardous Air Pollutants (HAPs) were calculated using the emission factor from AP-42 Table 1.3-1. Cremation emissions of nitrogen oxides and volatile organic compound emissions were calculated using an emission factor from Factor Information Retrieval (FIRE), Source Classification Code (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.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Existing Actual Emissions (2013 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/A	N/A	0.1489	N/A
PM_{10}	15.0	N/A	N/A	0.1489	N/A
$PM_{2.5}$	10.0	N/A	N/A	0.1489	N/A
SOx	40.0	N/A	N/A	0.0071	N/A
NOx	40.0	N/A	N/A	2.3652	N/A
VOC	40.0	N/A	N/A	1.7148	N/A
CO	100.0	N/A	N/A	0.6294	N/A
GHG (mass)	75,000 / 100,000	N/A	N/A	1356.57	N/A
GHG (CO_2e)	0.0 / 100.0 / 250.0	N/A	N/A	1359.08	N/A
HAPs	10.0/25.0	N/A	N/A	0.0026	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 each pollutant are below respective de minimis levels.

APPLICABLE REQUIREMENTS

Transmed Midwest Mobile - Model 260 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.

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.

- *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 10-6.165

- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

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.

_____ _____

Bryce Mihalevich Date
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 20, 2014, received May 20, 2014, designating Transmed Midwest Mobile as the owner and operator of the installation.

- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

- Stack test report on Lewis Livestock Incinerators – Model 260A w/Afterburner by Compliance Services, Inc. on June 14, 2002.

Attachment A –Incineration Temperature Compliance Sheet

Transmed Midwest Mobile - Model 260
Project Number: 2014-05-063
Installation ID Number: PORT-0705
Permit Number: _____

Facility Name: _____
Address: _____
City, State Zip: _____
Date: _____

Time	Final Combustion Chamber Temperature (Fahrenheit)
Example 10:00 am	1400

Note: A temperature at or above 1,200 degrees Fahrenheit in the final combustion chamber implies compliance with Special Condition 1.E.

Attachment B – Incineration Rate Compliance Sheet

Transmed Midwest Mobile - Model 260
Project Number: 2014-05-063
Installation ID Number: PORT-0705
Permit Number: _____

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

Date (MM/DD/YYYY)	Batch Weight (pounds)	Incineration Time (minutes)	Incineration Rate (Pounds per hour)
Example	120	180	40

Note 1: Calculate the incineration rate using the following equation:
(Batch Weight)/(Incineration Time) x 60
Note 2: A value less than 2,600 pounds per batch implies compliance with Special Condition 1.H.

Attachment C: Project Location Tracking Record

Transmed Midwest Mobile - Model 260
Project Number: 2014-05-063
Installation ID Number: PORT-0705
Permit Number: _____

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

Start Date (mm/dd/yyyy)	End Date (mm/dd/yyyy)	Facility Name	Site Address	County, [1]CSTR

Note 1: County Section, Township, Range

Mr. Larry Lewis
President
Transmed Midwest Mobile - Model 260
3045 Snyder Ave, Box 112
Cedar, IA 52543

RE: New Source Review Permit - Project Number: 2014-05-063

Dear Mr. Lewis:

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 Bryce Mihalevich, at the Department's 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

Susan Heckenkamp
New Source Review Unit Chief

SH:bml

Enclosures

c: Kansas City Regional Office; Northeast Regional Office; Southeast Regional Office; Southwest Regional Office; St. Louis Regional Office
PAMS File: 2014-05-063

Permit Number: