

# PERMIT BOOK

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: **032012-011** Project Number: 2011-11-020  
Installation Number: 077-0179

Parent Company: Greene County Sheriff's Office

Parent Company Address: 1010 North Boonville Avenue, Springfield, MO 65802

Installation Name: Greene County Sheriff's Office

Installation Address: 1010 North Boonville Avenue, Springfield, MO 65802

Location Information: Greene County, S13, T29, R22

Application for Authority to Construct was made for:

Installation of an institutional waste incinerator unit. 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.

MAR 30 2012

EFFECTIVE DATE

A handwritten signature in cursive script, appearing to read "Kyrat 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 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 startup of these air contaminant sources. 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 startup of these air contaminant sources.

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 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.

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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."*

Greene County Sheriff's Office  
Greene County, S13, T29, R22

1. Process Requirements for the Incinerator (EU-01)
  - A. Greene County Sheriff's Office will burn exclusively contraband or prohibited goods such as illegal drugs as defined in Chapter 195 Drug Regulations Section 195.017. Revised, updated, or corrected sections of Chapter 195 that define illegal drugs are also authorized for incineration.
  - B. Greene County Sheriff's Office shall maintain the temperature in the final combustion chamber at or above 1,400 degrees Fahrenheit. Compliance can be determined by recording the temperature per batch in Attachment A or by the installation of a continuous chart or electronic recorder.
  - C. The incinerator (EU-01) shall have opacity of less than ten percent (10%) at all times, this includes during stirring of the incinerator. Opacity less than 10 percent does not contain soot or black smoke.
  - D. Greene County Sheriff's Office shall only burn charcoal or clean wood as fuel during a burn cycle. Paper is allowed during startup. Use of lighter fluid or similar fire starting fluids or materials made for fire starting is not authorized.
  - E. Greene County Sheriff's Office shall maintain an accurate record of each batch incinerated that will include the following:
    - 1) Item combusted,
    - 2) the date combusted,
    - 3) a court case or other criminal identification marker associated with the item combusted,
    - 4) the temperature of the exhaust,
    - 5) observation that the exhaust is clean of soot and less than 10 percent opacity, and
    - 6) the approximate weight of the items incinerated

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**SPECIAL CONDITIONS:**

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

- F. The incinerator shall be operated only if it is in sound mechanical condition. The entire unit should be free from holes, dents and damage and the door/or lid seals and shall function as designed. Compliance shall be determined by monthly inspection of the unit and a log of the inspection shall be kept by the Greene County Sheriff's Office. The inspection shall include the name of the person making the inspection, any repair actions, and replacements parts, etc.
  - G. 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., 1.B., 1.C., 1.D., and 1.E..
2. **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 Greene County Sheriff's Office submits within ten days a corrective action plan adequate to timely and significantly mitigate the odors. Greene County Sheriff's Office 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.
3. **Record Keeping and Reporting Requirements**
- A. Greene County Sheriff's Office 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. Greene County Sheriff's Office shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2011-11-020  
Installation ID Number: 077-0179  
Permit Number:

Greene County Sheriff's Office  
1010 North Boonville Avenue  
Springfield, MO 65802

Complete: November 09, 2011

Parent Company:  
Greene County Sheriff's Office  
1010 North Boonville Avenue  
Springfield, MO 65802

Greene County, S13, T29, R22

REVIEW SUMMARY

- Greene County Sheriff's Office has applied for authority to install an institutional waste incineration unit.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. Antimony Compounds, Arsenic Compounds, Beryllium Compounds, Cadmium Compounds, Chromium Compounds, Manganese Compounds, Mercury Compounds, Nickel Compounds, Hydrogen Fluoride (Cas # 7664-39-3), Chlorine (Cas # 7782-50-5), dioxins/furans, PCB (polychlorinated biphenyls (Cas # 1336-36-6)), and HCl (hydrogen chloride (Cas # 7647-01-0)) are all expected from this incinerator. The HAPS not listed in Table 1 are in negligible amounts.
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60 Subpart EEEE, "Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced after December 9, 2004, or for Which Modification or Reconstruction is Commenced on or after June 16, 2006" would apply except this unit meets the exemption as it is owned by a government agency and is restricted to burning only contraband or prohibited goods.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) applies to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- A carbon filter is being used to control the odor 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 all pollutants are below de minimis levels. A construction permit is required for all incinerators.

- This installation is located in Greene County, an attainment area for all criteria pollutants.
- 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 are 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/PROJECT DESCRIPTION

A drug terminator incinerator will be used to destroy exclusively contraband or prohibited goods. The incinerator is not authorized to be operated at any other location. The unit is portable and offsite storage of the unit between operation events is allowed. The burn rate is 10 pounds of contraband or prohibited goods per hour. The operating temperature is 1,800 degrees Fahrenheit according to the manufacturer. 1,400 degrees is the recommended minimum temperature for combustion incineration. Ordinary consumer charcoal briquettes and clean wood fuel the incinerator. The unit can burn clean wood and paper to start the charcoal. Clean wood is wood free from contact with hazardous materials such as certain types of paints. The unit will hold 10 pounds of charcoal at a time. Recharging of fuel (charcoal or clean wood) during a burn cycle and stirring of the fire bed will occur to extend the cycle time of the unit. The unit can be reloaded with contraband or prohibited goods when the unit's exhaust is at or above 1,400 Fahrenheit. The exhaust emissions are routed through a carbon filter. No consideration was allowed for HAP or VOC control as no information was provided or available.

All incinerators are required to obtain a permit in the State of Missouri. This unit is considered an institutional waste incinerator. It is used for the destruction of illegal drugs, contraband, or prohibited goods. It is located in Greene County. It is the only emission source located on the site and it is a de minimis source. According to the application, the incinerator is located 150 feet from the nearest property boundary. No permits have been issued to Greene County Sheriff's Office from the Air Pollution Control Program.

This unit can burn or incinerate those items that are in the possession of the Greene County Sheriff's Office or other governmental agencies such as the police or a similar agency that are considered to be illegal drugs as defined in Chapter 195 Drug Regulations Section 195.017. Revised or updated or corrected sections of Chapter 195

Drug Regulations that define illegal drugs are authorized for incineration. In addition, items that are found to be in their possession by legal court action or due process of the legal system are considered to be illegal or contraband or prohibited goods.

The unit is not authorized to cremate non-infectious human bodies and body parts. It is not authorized to incinerate 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” unless it is an illegal drug, contraband or prohibited goods. Subpart Ec, could be applied if items are not identifiable as contraband, illegal drugs or prohibited goods. 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 included 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.

Greene County Sheriff's Office is authorized to incinerate those items that are exempt such as contraband, illegal drugs or prohibited goods as defined in NSPS Subpart EEEE, *Standards of Performance for Other Solid Waste Incineration (OSWI) Units for which Construction is commenced After December 9, 2004*. This unit must be owned by a government agency such as the police or similar agency. It can only destroy illegal or prohibited goods such as illegal drugs, or agricultural food products that cannot be transported into the country or across State lines. The unit is excluded from the subpart and is not considered an OSWI unit subject to the Subpart EEEE.

No permits have been issued to Greene County Sheriff's Office from the Air Pollution Control Program.

#### EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition. Knowing that the incinerator will periodically incinerate pharmaceuticals that would be characterized as medical waste, the Potential To Emit was calculated from emission factors from a controlled air medical waste incinerator, that is connect to no additional control devices.

Particulate matter is emitted as a result of incomplete combustion of organics (i. e., soot) and by the entrainment of noncombustible ash due to the turbulent movement of combustion gases. Particulate matter may exit as a solid or an aerosol, and may contain heavy metals, acids, and/or trace organics. Uncontrolled particulate emission rates vary widely, depending on the type of incinerator, composition of the waste, and the operating practices employed. Entrainment of PM in the incinerator exhaust is primarily a function of the gas velocity within the combustion chamber containing the solid waste. Controlled air incinerators have the lowest turbulence but it is turbulent and, consequently, the lowest PM emissions; rotary kiln incinerators have highly turbulent combustion, and thus have the highest PM emissions. This unit appears to be closer to a controlled air unit than a rotary kiln and controlled air incineration was chosen over excess air to calculate the emission rates. The emission rates are from Table 2.3-1 *Emission Factors for NO<sub>x</sub>, CO and SO<sub>x</sub> for Controlled Air Medical Waste*

*Incinerators found in Medical Waste Incineration, 1993 under Section 2, Solid Waste Disposal of AP-42.*

For particulate matter less than ten (10) microns (PM<sub>10</sub>) and less than two and one half microns in aerodynamic diameter (PM<sub>2.5</sub>), the emission factor was developed from the mass percent retained for each size for total Particulate Matter (PM). Volatile organic compound (VOC) emissions were calculated using an emission factor for total organic compounds from Table 2.3-2. The emission factors used in the analysis of Hazardous Air Pollutants (HAP) emissions were obtained from those HAPs listed in Table 2.3-2 through Table 2.3-10. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year.) The carbon filter was not taken into account in the Potential to Emit calculations and was deemed to provide no control, other than odor, as no information about the effectiveness was available.

To avoid underestimating emissions, AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.6, *Wood Residue Combustion in Boilers* (September 2003) dry wood emission factors were used to develop emissions for the charcoal fuel. These dry wood emissions for NO<sub>x</sub>, CO and SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and PM were added on to the medical waste incinerator emissions. The use of fuel oil or natural gas is implied in the medical waste incinerator factors. The following table provides an emissions summary for this project.

Table One: 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 <sub>2.5</sub>	10.0	N/A	N/A	0.04	N/A
PM <sub>10</sub>	15.0	N/A	N/A	0.06	N/A
PM	25.0	N/A	N/A	1.0	N/A
SO <sub>x</sub>	40.0	N/A	N/A	0.04	N/A
NO <sub>x</sub>	40.0	N/A	N/A	1.19	N/A
VOC	40.0	N/A	N/A	0.007	N/A
CO	100.0	N/A	N/A	1.14	N/A
HAPs	10.0/25.0	N/A	N/A	0.008	N/A
HCL	10.0	N/A	N/A	0.73	N/A
DioxinsFurans	0.0000006	N/A	N/A	0.00000004	N/A
PCB	0.009	N/A	N/A	0.0000001	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 of all pollutants are below de minimis levels.

## APPLICABLE REQUIREMENTS

Greene County Sheriff's Office 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
- *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 10-6.165

### 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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Tim Hines  
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 October 21, 2011, received November 09, 2011, designating Greene County Sheriff's Office as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.



Ms. Amber Jones  
Property & Evidence Custodian  
Greene County Sheriff's Office  
1010 North Boonville Avenue  
Springfield, MO 65802

RE: New Source Review Permit - Project Number: 2011-11-020

Dear Ms. Jones:

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 amended 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 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:thl

Enclosures

c: Southwest Regional Office  
PAMS File: 2011-11-020

Permit Number: