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: 032018-009
Project Number: 2018-02-013
Installation Number: 183-0265

Parent Company: St. Charles County Police Department
Parent Company Address: 101 Sheriff Dierker Court, O'Fallon, MO 63366
Installation Name: St. Charles County Police Department
Installation Address: 101 Sheriff Dierker Court, O'Fallon, MO 63366
Location Information: St. Charles County, S22, T47N, R3E

Application for Authority to Construct was made for:
Installation of an ELASTEC Drug Terminator. 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.

Prepared by
Kathy Kolb
New Source Review Unit

Director or Designee
Department of Natural Resources

MAR 20 2018
Effective Date
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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of 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 within 30 days of actual startup. Also, you must notify the Department’s 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department’s 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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/
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."

St. Charles County Police Department
St. Charles County, S22, T47N, R3E

1. Process Requirements for the Incinerator (EU-01)
   A. St. Charles County Police Department shall burn exclusively contraband or prohibited goods such as illegal drugs as defined in Chapter 195 Drug Regulations Section 195.017 RSMo. Revised, updated, or corrected sections of Chapter 195 that define illegal drugs are also authorized for incineration.

   B. St. Charles County Police Department shall maintain the temperature in the final combustion chamber at or above 1,100 degrees Fahrenheit. Compliance shall be determined by recording the temperature per batch in Attachment A or by the operation of a continuous chart or electronic recorder.

   C. 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. This includes during stirring of the fire bed in the incinerator. Opacity less than 10 percent does not contain soot or black smoke.

   D. St. Charles County Police Department shall only burn charcoal or clean wood as fuel during a burn cycle. Paper is allowed during startup.

   E. St. Charles County Police Department shall maintain an accurate record of each batch incinerated that will include the following:
      1) item(s) combusted,
      2) the date combusted,
      3) a court case or other criminal identification marker associated with the item(s) combusted,
      4) the temperature of the exhaust,
      5) observation that the exhaust is clean of soot and less than ten percent opacity,
      6) the approximate weight of the items incinerated, and
      7) fuel type.
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 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 St. Charles County Police Department. 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. through 1.E.

2. Restrictions
St. Charles County Police Department shall not incinerate any sharps that have been used in animal or human patient care or treatment, for illegal drug use, or in medical, research, or industrial laboratories, such as 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.

3. 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 St. Charles County Police Department submits within ten days a corrective action plan adequate to timely and significantly mitigate the odors. St. Charles County Police Department 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.

4. Record Keeping and Reporting Requirements
A. St. Charles County Police Department 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. St. Charles County Police Department 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 any record required by this permit shows an exceedance of a limitation imposed by this permit.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2018-02-013
Installation ID Number: 183-0265
Permit Number: 032018-009

Installation Address:
St. Charles County Police Department
101 Sheriff Dierker Court
O'Fallon, MO 63366

Parent Company:
St. Charles County Police Department
101 Sheriff Dierker Court
O'Fallon, MO 63366

St. Charles County, S22, T47N, R3E

REVIEW SUMMARY

• St. Charles County Police Department has applied for authority to install a waste incineration unit to be used for the destruction of contraband.

• 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. Individual HAPS are not listed in Table 1 because all are negligible (less than 0.001 tons per year).

• 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, 2008" does not apply to this unit. This unit is exempted 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) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed 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 the installation are below each pollutant's de minimis level. All incinerators are required to obtain a Construction Permit.
- This installation is located in St. Charles County, a marginal nonattainment area for the 2008 8-hour ozone standard, a moderate nonattainment area for the 1997 PM$_{2.5}$ standard, and an attainment/unclassified 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. 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 and below the SMALS.

- Emissions testing is not required for the equipment.

- An Operating Permit application is not required for this installation.

- This unit is considered an institutional waste incinerator.

- Approval of this permit is recommended with special conditions.

**INSTALLATION/PROJECT DESCRIPTION**

An ELASTEC Drug Terminator incinerator will be used to destroy exclusively illegal drugs, contraband, or prohibited goods as defined in NSPS EEEE. The unit is portable and offsite storage of the unit between operation events is allowed. The St. Charles County Police Department will operate the incinerator at 1,100 degrees Fahrenheit in accordance with Special Condition 1.B. Ordinary consumer charcoal briquettes and clean wood can be used to 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 or preservatives (treated lumber). The unit may 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 may occur to extend the cycle time of the unit. The burn rating for the Drug Terminator is 50 pounds per hour. The unit can be reloaded with contraband or prohibited goods when the unit's exhaust is maintained at or above 1,100 Fahrenheit.

This unit can burn or incinerate those items that are in the possession of the St. Charles County Police Department that are considered to be illegal drugs as defined in Chapter 195 Drug Regulations Section 195.017. Revised, 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, 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
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.

In order to be exempt from NSPS subpart EEEE, 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 (Other Solid Waste Incinerator) unit subject to the Subpart EEEE. The exclusion does not apply to items confiscated by private, industrial, or commercial entities.

No permits have been issued to St. Charles County Police Department from the Air Pollution Control Program.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition. The emission rates for criteria pollutants from the drug incinerator and the charcoal fuel were calculated using emission factors from Chapter 1.6 “Wood Residue Combustion in Boilers” September 2003, Table 1.6-1 and Table 1.6-2. Pollutant emission factors were for dry wood with no control since emission factors for drug incinerators do not exist. The higher heating value of charcoal (0.0128 MMBtu/lb) was used to convert the emission factors to lb/ton. The emission factors used in the analysis of HAP emissions were obtained from FIRE for SCC 1-02-009-08. 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 One: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Regulatory De Minimis/SMAL Levels</th>
<th>Existing Potential Emissions</th>
<th>Existing Actual Emissions (N/A EQ)</th>
<th>Potential Emissions of the Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{2.5}$</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>1.04</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>N/A</td>
<td>N/A</td>
<td>1.21</td>
</tr>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>1.35</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.08</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>1.65</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.06</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/A</td>
<td>N/A</td>
<td>2.02</td>
</tr>
<tr>
<td>GHG (CO$_2$)mass/e</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>655.95</td>
</tr>
<tr>
<td>HAPs</td>
<td>25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.12</td>
</tr>
<tr>
<td>Benzene</td>
<td>2.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.014</td>
</tr>
<tr>
<td>Acrolein</td>
<td>0.04</td>
<td>N/A</td>
<td>N/A</td>
<td>0.0135</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.0148</td>
</tr>
<tr>
<td>Hydrogen Chloride</td>
<td>1.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.0639</td>
</tr>
</tbody>
</table>

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 pollutants are de minimis.

APPLICABLE REQUIREMENTS

St. Charles County Police Department 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.
• *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
Attachment A – Burned Items Tracking Sheet

St. Charles County Police Department  
St. Charles County, S22, T47N, R3E  
Project Number: 2018-02-013  
Installation ID Number: 183-0265  
Permit Number: 032018-009

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Item combusted</th>
<th>Illegal drugs, contraband or other prohibited goods?</th>
<th>Court case number or other criminal identification marker.</th>
<th>Temperature in secondary chamber while incinerating (Fahrenheit) And Stack Gas Opacity in Percent</th>
<th>Approximate weight of item in pounds</th>
<th>Only Wood/Charcoal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Sudafed Cold Tablets</td>
<td>yes</td>
<td>Case # 57</td>
<td>1400</td>
<td>&lt;10</td>
<td>5</td>
</tr>
<tr>
<td>Example</td>
<td>Chapter 195 Drug Regulations Section 195.017 RSMo item</td>
<td>yes</td>
<td>Items from investigation 9657</td>
<td>1420</td>
<td>&lt;10</td>
<td>2</td>
</tr>
</tbody>
</table>

Note 1: Incineration of items that are not illegal drugs, contraband or other prohibited goods voids the exemption in Subpart EEEE.  
Note 2: 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
APPENDIX A

Abbreviations and Acronyms

% ............ percent
°F ............ degrees Fahrenheit
acfm ........ actual cubic feet per minute
BACT ...... Best Available Control Technology
BMPs ...... Best Management Practices
Btu .......... British thermal unit
CAM ...... Compliance Assurance Monitoring
CAS ........ Chemical Abstracts Service
CEMS .... Continuous Emission Monitor System
CFR ........ Code of Federal Regulations
CO .......... carbon monoxide
CO₂ ........ carbon dioxide
CO₂ₑ ...... carbon dioxide equivalent
COMS .... Continuous Opacity Monitoring System
CSR ...... Code of State Regulations
dscf ...... dry standard cubic feet
EIQ .......... Emission Inventory Questionnaire
EP .......... Emission Point
EPA ........ Environmental Protection Agency
EU .......... Emission Unit
fps ......... feet per second
ft ........... feet
GACT ...... Generally Available Control Technology
GHG ...... Greenhouse Gas
gpm ....... gallons per minute
gr .......... grains
GWP ...... Global Warming Potential
HAP ...... Hazardous Air Pollutant
hr ......... hour
hp ........ horsepower
lb ........... pound
lbs/hr ...... pounds per hour
MACT ...... Maximum Achievable Control Technology
µg/m³ ...... micrograms per cubic meter
m/s ......... meters per second
Mgal .......... 1,000 gallons
MW ........ megawatt
MHDR .... maximum hourly design rate
MMBtu .... Million British thermal units
MMCF ...... million cubic feet
MSDS .... Material Safety Data Sheet
NAAQS .. National Ambient Air Quality Standards
NESHAPs National Emissions Standards for Hazardous Air Pollutants
NOₓ ........ nitrogen oxides
NSPS ...... New Source Performance Standards
NSR ...... New Source Review
PM .......... particulate matter
PM₂.₅ ...... particulate matter less than 2.5 microns in aerodynamic diameter
PM₁₀ .... particulate matter less than 10 microns in aerodynamic diameter
ppm .......... parts per million
PSD ...... Prevention of Significant Deterioration
PTE ...... potential to emit
RACT ...... Reasonable Available Control Technology
RAL ...... Risk Assessment Level
SCC ....... Source Classification Code
scfm ...... standard cubic feet per minute
SDS ...... Safety Data Sheet
SIC ...... Standard Industrial Classification
SIP ...... State Implementation Plan
SMAL ...... Screening Model Action Levels
SOₓ ........ sulfur oxides
SO₂ ........ sulfur dioxide
SSM ...... Startup, Shutdown & Malfunction
tph ....... tons per hour
tpy ........ tons per year
VMT ...... vehicle miles traveled
VOC ...... Volatile Organic Compound
<table>
<thead>
<tr>
<th>Pollutant</th>
<th>De Minimus Level (tpy)</th>
<th>PTE (tpy)</th>
<th>Conditioned PTE</th>
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<tbody>
<tr>
<td>PM</td>
<td>25</td>
<td>1.3455</td>
<td>1.3455</td>
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<tr>
<td>PM10</td>
<td>15</td>
<td>1.2110</td>
<td>1.2110</td>
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<td>PM2.5</td>
<td>10</td>
<td>1.0428</td>
<td>1.0428</td>
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<td>SOx</td>
<td>40</td>
<td>0.0841</td>
<td>0.0841</td>
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<td>40</td>
<td>1.6483</td>
<td>1.6483</td>
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<td>0.0572</td>
<td>0.0572</td>
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<tr>
<td>CO</td>
<td>100</td>
<td>2.0183</td>
<td>2.0183</td>
</tr>
<tr>
<td>CO2</td>
<td>75,000 / 100,000</td>
<td>655.9488</td>
<td>655.9488</td>
</tr>
<tr>
<td>HAPS</td>
<td>10.0/25.0</td>
<td>0.1215</td>
<td>0.1215</td>
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</table>

Pounds of contraband per year | 438000.00
<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor</th>
<th>Emission Factor</th>
<th>PM10 (lb/MMBtu)</th>
<th>PM10 (ton/Charcoal)</th>
<th>PM2.5 (ton/Charcoal)</th>
<th>CO (ton/Charcoal)</th>
<th>CO2 (ton/Charcoal)</th>
<th>HAP (ton/Charcoal)</th>
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</thead>
<tbody>
<tr>
<td>PM**</td>
<td>0.4</td>
<td>10.24</td>
<td>60</td>
<td>262.8</td>
<td>1.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM10**</td>
<td>0.36</td>
<td>9.216</td>
<td>60</td>
<td>262.8</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM2.5**</td>
<td>0.31</td>
<td>9.836</td>
<td>60</td>
<td>262.8</td>
<td>1.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO2**</td>
<td>0.025</td>
<td>0.64</td>
<td>60</td>
<td>262.8</td>
<td>0.28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOX**</td>
<td>0.49</td>
<td>12.544</td>
<td>60</td>
<td>262.8</td>
<td>1.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC**</td>
<td>0.017</td>
<td>0.4352</td>
<td>60</td>
<td>262.8</td>
<td>0.08</td>
<td></td>
<td></td>
<td></td>
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<td>CO2**</td>
<td>0.6</td>
<td>15.36</td>
<td>60</td>
<td>262.8</td>
<td>2.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HAPS**</td>
<td>195</td>
<td>4992</td>
<td>60</td>
<td>262.8</td>
<td>655.55</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Higher heating value (HHV) for fuel (MMBtu/lb)
Charcoal*** 0.0128

Notes:
- Pollutant emission factors are for dry wood with no control
- HHV used to convert lb/MMBtu to lb/ton
- Charcoal HHV is higher than dry wood so it was used for worst case calc.

Sources:
AP-42 Chapter 1.6 Wood Residue Combustion in Boilers
*Table 1.6-1 Emission Factors for PM from wood residue combustion
**WebFire
***http://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
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### Table: Emission Factors and Air Quality Data

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**Note:** Emission Factors are for dry wood with no control.

**EPA:** Environmental Protection Agency

**PM:** Particulate Matter

**VOC:** Volatile Organic Compounds

**CO2:** Carbon Dioxide

**HHV:** Higher Heating Value

**MHV:** Lower Heating Value

**HHV used to convert lb/MMBtu to lb/ton.**

**Calculation:**

1. Convert MMBtu to lb/MMBtu using HHV.
2. Calculate emissions in lb/MMBtu.
3. Convert emissions from lb/MMBtu to lb/ton using HHV.

**Additional Notes:**

- PM10: Particulate Matter 10 microns or less in aerodynamic diameter.
- PM2.5: Particulate Matter 2.5 microns or less in aerodynamic diameter.
- CO2: Carbon Dioxide.

**HHV:** Higher Heating Value, used for燃烧 calculation.

**MHV:** Lower Heating Value, used for conversion to dry wood.

**Conversion Factor:**

1. Convert MMBtu to lb/MMBtu using HHV.
2. Calculate emissions in lb/MMBtu.
3. Convert emissions from lb/MMBtu to lb/ton using HHV.

**References:**

- [EPA Air Quality Tool](http://www.epa.gov/air/)

**Hi:** Higher than dry wood on air.

**Low:** Lower than dry wood on air.

**Note:** Emissions factors are for dry wood with no control.

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**Total volatile organic compounds (VOCs)**: 1.70E-02 4.35E-01

**Total** 1.35E-01
MAR 20 2018

Sgt. Ryan Streck
Forensic Supervisor
St. Charles County Police Department
101 Sheriff Direker Court
O'Fallon, MO 63366

RE: New Source Review Permit - Project Number: 2018-02-013

Dear Sgt. Streck:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions 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 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: http://dnr.mo.gov/regions/. The online CAV request can be found at http://dnr.mo.gov/cav/compliance.htm.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.
If you have any questions regarding this permit, please do not hesitate to contact Kathy Kolb, at the Department of Natural Resources’ 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

Enclosures

c: St. Louis Regional Office
   PAMS File: 2018-02-013

Permit Number: 032018-009