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: 112014-009 Project Number: 2014-09-037 Installation Number: 163-0040

Parent Company: Waste Corporation of Missouri, Inc.

Parent Company Address: 33924 Olathe Drive, Lebanon, MO 65536

Installation Name: Eagle Ridge Sanitary Landfill

Installation Address: 13100 Highway VV, Bowling Green, MO 63334

Location Information: Pike County, S2, T53N, R3W

Application for Authority to Construct was made for:
The installation of a gas flare. 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.

NOV 18 2014

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. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of 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.
Eagle Ridge Sanitary Landfill
13100 Highway VV
Bowling Green, MO 63334
Pike County, S2, T53N, R3W

Parent Company:
Waste Corporation of Missouri, Inc.
33924 Olathe Drive
Lebanon, MO 65536

REVIEW SUMMARY

- Eagle Ridge Sanitary Landfill has applied for authority to install a gas flare.

- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are combustion products from landfill gas, including polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs).

- 40 CFR 60 Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills, applies to the equipment.

- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.

- No air pollution control equipment is being used 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. Potential emissions of all pollutants are below de minimis levels.

- This installation is in Pike 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.

- Emissions testing is not required for the equipment.

- A Part 70 Operating Permit is required for this installation.

- Approval of this permit is recommended without special conditions.
INSTALLATION DESCRIPTION

Eagle Ridge Sanitary Landfill is an active Municipal Solid Waste Landfill that opened in 1972. The installation has a design capacity of 6.0 million cubic meters. Based on Tier 2 calculations for the landfill, the non-methane organic compound (NMOC) emissions rate is below 50 megagrams per year (Mg/yr). Therefore, a gas collection and control system is not required at this time. Eagle Ridge Sanitary Landfill requires a Part 70 Operating Permit because the site’s potential to emit exceeds major emission levels for Hazardous Air Pollutants (HAPs). A Part 70 Operating Permit (OP2007-052) was previously issued in October of 2007, and an Operating Permit renewal is currently undergoing technical review. No New Source Review construction permits have previously been issued to Eagle Ridge Sanitary Landfill from the Air Pollution Control Program.

PROJECT DESCRIPTION

Eagle Ridge Sanitary Landfill plans to install an active gas control system. The system will consist of collection wells installed in the existing waste mass, rock remediation wells; landfill gas collection piping to convey the collected gas; a blower to provide a vacuum to the collection rock and remediation wells; and a 30,000 scf/hr flare (EU-0020) to combust the collected landfill gas. Although the facility is not currently required to implement active gas collection and control, the system is being installed due to an off-site migration issue. This construction permit is for the landfill gas flare only.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the EPA document AP-42, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition (AP-42).

PM, NOx, and CO emissions from the flare were calculated using emission factors from AP-42 Section 2.4, Table 2.4-5, Municipal Solid Waste Landfills (November 1998). For the remaining criteria pollutants, emission factors were taken from AP-42 Section 1.4, Table 1.4-2, Natural Gas Combustion (July 1998). It was conservatively assumed that all PM emissions were equal to PM$_{10}$ and PM$_{2.5}$ emissions.

HAP emissions from the flare were calculated using emission factors taken from the EPA’s online emission factor database, WebFIRE. These emission factors were representative of HAP emissions released after flare combustion, so the flare’s destruction efficiencies for VOCs and HAPs were not included in calculations.

No other air pollution control equipment is being used in association with the new equipment.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the latest operating permit for the installation, OP2014-022. Existing actual emissions were taken from the installation’s 2013 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).
Table 1: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>2.23</td>
<td>N/A</td>
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<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
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<td>N/D</td>
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<td>2.23</td>
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<tr>
<td>PM&lt;sub&gt;2.5&lt;/sub&gt;</td>
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<td>0.46</td>
<td>2.23</td>
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<tr>
<td>SO&lt;sub&gt;x&lt;/sub&gt;</td>
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<td>N/D</td>
<td>N/D</td>
<td>0.08</td>
<td>N/A</td>
</tr>
<tr>
<td>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>40.0</td>
<td>N/D</td>
<td>N/D</td>
<td>5.26</td>
<td>N/A</td>
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<tr>
<td>VOC</td>
<td>40.0</td>
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<tr>
<td>CO</td>
<td>100.0</td>
<td>5.28</td>
<td>N/D</td>
<td>98.55</td>
<td>N/A</td>
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<tr>
<td>GHG (CO&lt;sub&gt;2&lt;/sub&gt;e)</td>
<td>75,000</td>
<td>230,027</td>
<td>N/D</td>
<td>15,768</td>
<td>N/A</td>
</tr>
<tr>
<td>Combined HAPs</td>
<td>25.0</td>
<td>31.70</td>
<td>0.43</td>
<td>0.03</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

Eagle Ridge Sanitary Landfill 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
SPECIFIC REQUIREMENTS
  • *New Source Performance Regulations*, 10 CSR 10-6.070
    o *Standards of Performance for Municipal Solid Waste Landfills*, 40 CFR Part 60, Subpart WWW

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 without special conditions.

Ryan Schott
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

  • The Application for Authority to Construct form, dated September 18, 2014, received September 22, 2014, designating Waste Corporation of Missouri, Inc. as the owner and operator of the installation.


  • EPA’s online emission factor database, WebFIRE, [http://cfpub.epa.gov/webfire/](http://cfpub.epa.gov/webfire/)
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
tph .......... tons per hour
tpy .......... tons per year
VMT ...... vehicle miles traveled
VOC ...... Volatile Organic Compound
Mr. Ethan Shackelford  
Region 1 Director of Engineering and Compliance  
Eagle Ridge Sanitary Landfill  
33924 Olathe Drive  
Lebanon, MO 65536  

RE: New Source Review Permit - Project Number: 2014-09-037  

Dear Mr. Shackelford:

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. 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 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 of 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 found at: www.oa.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott, 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

SH:rs1

Enclosures

c: Northeast Regional Office  
PAMS File: 2014-09-037  
Permit Number: