



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUN 12 2018

Ms. Erin Fanning
Division Manager
Bridgeton Landfill, LLC
13570 St. Charles Rock Road
Bridgeton, MO 63044

RE: New Source Review Permit Amendment - Permit Number: 042018-005A
Project Number: 2018-04-051; Installation Number: 189-0312

Dear Ms. Fanning:

The Air Pollution Control Program has received your May 3, 2018 request to amend Construction Permit 042018-005 to provide clarification on the twice monthly testing requirement and to remove emission point EP020. EP020 is used to identify a portable generator unit. As a portable unit, it is not included in stationary source permitting. Originally, the permit stated testing shall be conducted the 1st and 15th of each month. It was not our intent to require testing on those specific dates, but for testing to occur twice per month, spread out during the month. This project will amend the permit to clarify our intent and remove EP020. Please replace the specified pages of the permit with the amended pages.

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.



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Ms. Erin Fanning
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If you have any questions regarding this amendment, please do not hesitate to contact Nicole Weidenbenner, P.E., 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



Kendall B. Hale
Permits Section Chief

KBH:nwj

Enclosures

c: St. Louis Regional Office
PAMS File: 2018-04-051

SPECIAL CONDITIONS:

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

Table 1: LFG sulfur content sampling frequency

SO ₂ Emissions	Sampling shall be performed a minimum of....
For the first six months after the effective date of this permit or until 12 month rolling emissions are less than or equal to 75, whichever is later:	Twice per month, with testing being between 12 and 18 days apart.
If 12 month rolling emissions are less than 75 but greater than or equal to 50:	Monthly.
If 12 month rolling emissions are less than 50.	Annually, to be conducted between 11 and 13 months from the previous test.

5. **Leachate Management System Sulfur Emissions**
 Within 60 days after the issuance date of this permit, the permittee shall perform testing to quantify the volatilized sulfur in the leachate tanks. Within 30 days of the testing date, the permittee shall submit all documentation for the testing. This documentation shall include, but is not limited to, the following information. If the testing results indicate the volatilized sulfur is greater than 1.7%, the permittee shall submit an application for a permit amendment.
 - A. Testing date and location;
 - B. Sampling procedures and chain of custody;
 - C. Field data sheets; and
 - D. Sample analysis procedures, calculations, and results.

6. **Record keeping**
 - A. **Plant Wide Sulfur dioxide emissions**
 The permittee shall use Attachment Actual SO₂ Emissions, or equivalent, to determine the monthly SO₂ emissions from the entire installation. This calculation shall be used to determine compliance with the emission limitation in Special Condition #2.
 - B. The permittee 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.

7. **Exceedances**
 If the records required by this permit show the permittee exceeds the SO₂ emission limitations established in Special Condition # 2, the permittee shall submit an application to obtain a new construction permit, which is based upon the current level of emissions, within 60 days of the date the emission limit is exceeded.

- Emission testing is required as a part of this permit. Testing may be required as part of other state, federal or applicable rules.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Bridgeton Landfill, LLC owns and operates an inactive municipal solid waste landfill located at 13570 Saint Charles Rock Road in Bridgeton, Missouri. Bridgeton began landfilling operations in 1952 and has been closed since 2005, with a final capacity of approximately 17,000,000 cubic yards. Current operations at the inactive landfill facility are focused on managing gas and liquids from the landfill. Landfill gas is managed and controlled through the use of a gas collection and control system (GCCS). Additionally, the facility treats leachate onsite at a leachate pretreatment plant (LPTP). LPTP emissions are controlled by two natural gas fired thermal oxidizers, 2.75 MMBtu/hr each, which are permitted under Air Pollution Control Program project 2014-08-008, (St. Louis County permits 7864 and 7865). There are various other emission units onsite, with a complete listing in Table 2 below.

Table 2: Emission points and descriptions

Emission Point	Unit Description
EP-011	Flare #1: 3,500 SCFM John Zink open candlestick flare, installed 2012.
EP-012	Flare #2: 4,000 SCFM John Zink open candlestick flare, installed 2013.
EP-013	Flare #3: 4,000 SCFM John Zink open candlestick flare, installed 2013.
EP-014	Flare LFG CSU: 2,500 SCFM LFG Specialties open candlestick flare, installed 2013.
EP-016a	316,000 gallon leachate treatment tank
EP-017a	4-1 million gallon leachate treatment tanks (Tanks 1 through 4)
EP-018a	LMS RTO #1: 2.75 MMBtu/hr Cycle Therm regenerative thermal oxidizer used to control emissions from Leachate Management System (LMS) pretreatment and aeration tanks.
EP-018b	LMS RTO #2: 2.75 MMBtu/hr Cycle Therm regenerative thermal oxidizer used to control emissions from Leachate Management System (LMS) pretreatment and aeration tanks.
EP-019	1000 kW emergency generator, Caterpillar Model No. SR5, Engine Model C32 TA, 4 stroke, 32.10 Displacement, 12 cylinder. Combusts #2 fuel oil. Located in main flare yard.
EP-021	543 kW emergency generator, Perkins Model 2506C-E15TAG3. Combusts #2 fuel oil. Located at
EP-I09	Storage tank, #2 fuel oil, 500 gallon capacity
EP-I10	24 leachate frac tanks
EP-I11	LMS treated leachate tank, discharges to MSD, 97,000 gallon capacity

Attachment Actual SO₂ Emissions

oxidizer units. Emissions from the thermal oxidizers (EP-RTO#1 and RTO#2) are not included here, as they are included in the calculation of

$SO_{2-EmGen} = SO_{2-LMS}$. SO₂ emissions from the combustion of #2 fuel oil in the emergency generators, and any other sources that combust #2 fuel oil. For the emergency generators, emissions shall be calculated by using the following emission factors, and multiplying by the number of hours each engine is used in the specified time period. These emission factors are based a fuel oil sulfur content of 15 ppmv, and the rated horsepower of each engine.

Emergency Generator	Emission factor (ton SO ₂ /hour)	Ef Source
EP-019	7.97x10 ⁻⁸	AP42, Table 3.4-1
EP-021	2.55x10 ⁻⁴	AP42, Table 3.4-1

$SO_{2-LMS} =$ SO₂ emissions from the leachate management system process. Includes natural gas combustion and volatized sulfur in leachate tanks. Volatized sulfur emissions are estimated based on testing data which indicates 99 tons per year of sulfur passes through the leachate system, of which 1.7% volatizes. Each ton of volatized sulfur creates two tons of SO₂ when combusted. Potential SO₂ emissions from volatized sulfur are estimated at 3.37 tons/year (0.28 tons/month). Natural gas combustion emissions are estimated using the natural gas throughput in MMSCF/month and the emission factor 0.6 lb SO₂/MMSCF from AP 42 Table 1.4-2. In lieu of calculating actual emissions, the permittee may use the potential emissions of 3.38 tons/year (0.28 tons/month).

Equation 3:

$$SO_{2\ total} = SO_{2-EQ1} + SO_{2-EQ2}$$

Where:

$$SO_{2\ total} = \text{total plant wide emissions of SO}_2 \text{ from all sources}$$

The permittee shall record a monthly and 12 month rolling sum of $SO_{2-total}$ as shown in the following table. For the first twelve months after issuance of this permit, the permittee shall conduct this calculation twice per month, as detailed in Table 1. After this initial twelve month period, the testing schedule is dependent upon the 12 month rolling total emissions, as outlined in Table 1.

Attachment Actual SO₂ Emissions

Calculation of 12 month rolling total for month/year: _____

Sampling dates	<i>SO₂ total</i>
First sample of this month, Equation 3:	
Second sample of this month, Equation 3:	
[A] Sum of the items above for the current month:	
Calculation of Rolling 12 month sum	
(1) Total Emissions for this month [A]:	
(2) Previous consecutive 11 month emissions total from previous month's worksheets:	
(3) Current consecutive 12 month sum [(1) + (2)]	

*SSM emissions are required to be reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050. However, worst case SO₂ emissions occur when flares are operational 100% of the time. SSM of the flares is anticipated to decrease SO₂ emissions. As a conservative SO₂ emissions estimation method, there is no separate line item to account for SSM flare emissions.

Compliance with the Emission Limitation of Special Condition 2 is demonstrated when the current rolling 12 month sum (4) is less than 100.0 tons.