



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

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MAR 25 2015

Mr. James Getting
13570 Saint Charles Rock Road
Bridgeton, MO 63044

RE: Bridgeton Sanitary Landfill – Corrective Measures Required to Address Updated Potential Emissions Calculations for Sulfur Dioxide

Dear Mr. Getting:

The Missouri Department of Natural Resources' Air Pollution Control Program (APCP) has updated its calculations of sulfur dioxide (SO₂) emissions from Bridgeton Sanitary Landfill's candlestick flares and has determined the combined emissions from these flares exceed 250 tons per year. These updated calculations are based on review of Bridgeton Sanitary Landfill's "Odor Mitigation Pilot Study Report," submitted November 14, 2014, and the "Sulfur Removal Technology Evaluation, Stage 2," submitted January 23, 2015. The updated emissions estimate has implications for permitting and will require corrective measures as described herein.

Background Information

On August 7, 2013, the St. Louis County Air Pollution Control Program issued Bridgeton Landfill, LLC three new construction permits and one modified construction permit (permit numbers 7787, 7788, 7790 and 7736) for the following:

- Two new construction permits for two 4,000 standard cubic feet per minute (scfm) John Zink candlestick flares;
- One new construction permit for a new 2,500 scfm LFG Specialties candlestick flare; and,
- A permit modification for an increase in the permitted landfill gas flow rate to an existing 2,500 scfm John Zink candlestick flare.

These permits were issued pursuant to Missouri State Rule 10 CSR 10-6.060(6), *General Permit Requirements for Construction or Emissions Increase Greater Than De Minimis Levels*, based on potential emissions (PTE) of SO₂ being less than 250 tons per year. These potential emissions estimates were based on the United States Environmental Protection Agency's (EPA's) AP-42 Section 2.4 *Municipal Solid Waste Landfills (11/98)*; Section 13.5 *Industrial*

Flares (09/91); landfill gas concentrations of total reduced sulfur (TRS) of 93.8 parts per million by volume (ppmv); and, other available site-specific data.

Information shared during August 26, September 24, and October 21, 2014 meetings between the St. Louis County Air Pollution Control Program, Bridgeton Landfill and the department's APCP staff revealed the landfill was likely not in compliance with their existing construction permits issued for the flares. The aforementioned *Odor Mitigation Pilot Study Report* and *Sulfur Removal Technology Evaluation, Stage 2* request provided actual TRS concentrations in landfill gas samples taken between July 31 and September 25, 2014. These sampling results show TRS concentrations in the landfill gas range between 1,033 and 1,299 ppmv. As a result of these submittals, the department re-calculated potential emissions of SO₂ based on these new data. The new estimated PTE exceeds 250 tons per year. Had this information been available to the department at the time of application, the department would have required an application be submitted for review pursuant to Missouri State Rule 10 CSR 10-6.060(8), *Attainment and Unclassified Area Permits*. The department is requiring corrective measures to address this deficiency.

Supporting Documentation (Data)

To assist with our evaluation of the permit application and any modifications needed, please provide the following, at a minimum, related to operation of the landfill gas collection and control system and the quality of landfill gas:

- Copies of all landfill gas analysis reports;
- Copies of all documents (including, but not limited to internal memos, discussion papers, raw lab data or lab analysis, reports and electronic correspondence) addressing sulfur content of landfill gas or any other reports identifying sulfur dioxide or other air emissions from the flare in excess of permit conditions or limits;
- Copies of all flare performance test reports and any related laboratory analysis; and
- Copies of all flare related SO₂ emission calculations.

Corrective Measures Required

The department is requiring Bridgeton Sanitary Landfill to take the following steps:

1. As part of the Sulfur Removal Evaluation, Stage II study, the facility shall begin collecting gas samples and flow rate measurements of landfill gas going to the flares on a weekly basis. The gas samples shall be analyzed for sulfur compound concentrations and TRS concentrations. Bridgeton Sanitary Landfill shall summarize the data on a monthly basis and submit the summary as part of the Monthly Report required by the Second Amendment to the First Agreed Order due to the department on the 20th of the month. The first summary shall be submitted with the Monthly Report due to the department on May 20th. Weekly collection and analysis of gas samples and flow rate measurements shall continue until determined otherwise by the department.

2. Within 30 days from the date of this letter, Bridgeton Sanitary Landfill shall submit for review and approval PTE calculations for the Bridgeton Sanitary Landfill installation on an emission unit basis for each pollutant found in 10 CSR 10-6.020(3)(A), *Table 1 – De Minimis Emission Levels*. The PTE calculations shall be based upon current operating conditions and the submittal shall include supporting explanations and documentation for the calculations.
3. Within 30 days from the date of this letter, Bridgeton Sanitary Landfill shall submit for review and approval a protocol for conducting an air quality impact analysis for SO₂.
4. Within 30 days of receiving approval of the protocol and PTE calculations from the department's ACP, Bridgeton Sanitary Landfill shall submit for review and approval an air quality impact analysis for SO₂ currently being emitted.
5. Within 180 days from the date of this letter, Bridgeton Sanitary Landfill shall submit a permit application to the department's ACP pursuant to 10 CSR 10-6.060, *Construction Permits Required*, for the two 4,000 scfm John Zink candlestick flares, the one 2,500 scfm LFG Specialties candlestick flare, and the 2,500 scfm John Zink candlestick flare. The application shall, at a minimum, include the following components:
 - a. A control strategy, or process changes, that result in SO₂ emissions reductions equivalent to best available control technology (BACT). The control strategy analysis shall be based upon EPA's "top-down" method for determining BACT.
 - b. PTE calculations for each pollutant found in 10 CSR 10-6.020(3)(A), *Table 1 – De Minimis Emission Levels*, on an emission unit basis for the entire installation. The PTE calculations should take into account the proposed control strategy. The submittal must include supporting explanations and documentation for the calculations.
 - c. A refined air quality impact analysis for sulfur dioxide and any pollutant whose PTE exceeds the de minimis levels found in 10 CSR 10-6.020(3)(A), *Table 1 – De Minimis Emission Levels*.
 - d. A compliance schedule, including a completion date for construction of control technologies and/or implementation of process changes identified in 5.a. above.

In addition, if the results of the air quality impact analysis required by item 4 above demonstrate a potential exceedance of the SO₂ National Air Quality Standard found in 10 CSR 10-6.010, *Ambient Air Quality Standards*, Bridgeton Sanitary Landfill will be required to conduct ambient air monitoring pursuant to a department-approved Quality Assurance Project Plan. Further directives and timelines for establishing ambient air monitoring will be forthcoming pending the results of the air quality impact analysis.

Following modification of the construction permits identified above, Bridgeton Sanitary Landfill will be required to incorporate these changes into the Title V operating permit renewal currently being reviewed by the department. Please note that the corrective actions identified in this correspondence are being required solely to address deficiencies with the construction permits in-light of the updated potential emissions calculations for SO₂. The department reserves the

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right to require additional corrective actions to further resolve these deficiencies and any other instances of non-compliance at the Bridgeton Sanitary Landfill.

The requirements of this letter do not resolve the violations documented in previous Notices of Violation issued by the department. The Missouri Air Conservation Law provides for penalties not to exceed \$10,000 per day, per violation. Further enforcement actions will be addressed under separate correspondence.

All submittals and documentation required above shall be submitted to Ms. Darcy Bybee with the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176. Should you have any questions regarding this correspondence, you may contact me at the department's same address above or by phone at (573) 751-0763.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY



Leanne Tippet Mosby
Division Director

Ltm/man

c: Ms. Kathrina Donegan, St. Louis County Department of Health
Mr. Tom Phillips, Missouri Attorney General's Office
Mr. Aaron Schmidt, Division of Environmental Quality
Mr. Chris Nagel, Solid Waste Management Program
Mr. Tom Markowski, St. Louis Regional Office
Ms. Becky Weber, US EPA Region 7
Ms. Jessica Merrigan, Lathrop & Gage
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