



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

DEPARTMENT OF NATURAL RESOURCES

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OCT 23 2013

Mr. Brian Power
Area Environmental Manager
Republic Services, Inc.
13570 St. Charles Rock Road
Bridgeton, MO 63044

RE: North Quarry Action Plan, Bridgeton Landfill LLC, Permit Number 0118912, St. Louis County

Dear Mr. Power:

This letter is in response to the North Quarry Action Plan (NQAP) and North Quarry Contingency Plan –Part 1 and Part 2 (NQCP) Response to Comments dated October 7, 2013, and received October 10, 2013, and prepared by Civil & Environmental Consultants, Inc. (CEC), Cornerstone Environmental Group, LLC, Feezor Engineering, Inc., and P.J. Carey & Associates, P.C. The submittal documented a proposed alternative to the previously submitted NQCP. Specifically, the NQAP will result in installation of a synthetic interim cap, or Ethylene Vinyl Alcohol cap (EVOH Cap), and enhance the gas collection and control system (GCCS) in the North Quarry. The NQAP also entails the construction of an Isolation Barrier that separates the North Quarry from the radiologically impacted material (RIM) in West Lake OU-1 Area 1, without the pre-approved trigger criteria being prompted. The NQAP also addresses the applicable comments set forth in the Missouri Department of Natural Resources' (Department) Solid Waste Management Program (SWMP) letter dated September 17, 2013, regarding the relevant sections of the NQCP.

The SWMP has reviewed the submission and hereby approves the proposed NQAP as being in substantial compliance with the Missouri Solid Waste Management Law and regulations. The Isolation Barrier project is still under review pending the RIM investigation in West Lake OU-1 Area 1 and the associated design plans. The Department's review of the Isolation Barrier design plan will be coordinated with the U.S. EPA.

The enhanced GCCS and interim EVOH capping plan are approved for construction based on the following conditions which are integral to this approval. Republic Services, Inc. shall immediately proceed with installation of the enhanced gas collection and extraction system in the North Quarry and placement of the EVOH cap in the North Quarry. Compliance with the following conditions shall, in part, determine compliance with Permit Number 0118912.

CONDITIONS:

1. Section 2.3.1 states that parameters and frequencies of data collection in the South Quarry may be reduced as the NQAP is implemented. However, the submittal did not propose alternative monitoring. Any modifications to monitoring must be submitted and approved by the SWMP before any of the data collections may be reduced.
2. Section 2.3.2 states that Bridgeton Landfill will continue with the monthly New Source Performance Standards (NSPS) monitoring requirements for the existing and enhanced North Quarry GCCS and submit monthly carbon monoxide (CO) laboratory testing for gas extraction wells (GEWs) that exceed 145°F. In addition to notifying the St. Louis County and Department's Air Pollution Control Programs, Bridgeton shall also notify the SWMP of any GEWs which exceed NSPS standards within 10 days of each exceedance. In regards to the CO sampling and reporting, be aware that under the authority of the First Agreed Order, sampling and reporting protocol is monthly.
3. The Report/Narrative was not completely revised as stated. There are multiple sections that still reference the NQCP and/or triggers. These sections are required to be revised.
4. Figure 3, Schematic Plan of Action, does not currently show a GEW-202 although that well is included later in the design drawings. Additionally, the revised figure needs to explicitly detail and identify the proposed well T-56 which has a different spacing and naming convention than the other proposed GEWs. This figure will need to be revised to completely and accurately detail the enhanced GCCS including the locations of all GEWs.
5. Section 5.4 of Appendix C: Landfill Gas Collection and Control System Evaluation of Appendix A: EVOH Geomembrane Cap and Cap Integrity System Plan Narrative states the proposed upgraded header to increase capacity from the north quarry wellfield to the blower/flare station will not be installed until the area is experiencing an SSE. Although this is an allowable practice, the facility shall establish a value for installation and provide that value to the Department for review and approval.
6. When developing average well spacing in Table D-2 with the potential for SSE conditions, the calculations were based on a design with a landfill gas generation rate of 2,100 scfm, which is lower than the potential rate of 2,850 scfm as stated in Section 3.2.3 and a collection efficiency of 85%. Section 3.2.3 states this is a conservative approach due to the age of the waste and that the event would have to spread throughout the entire North Quarry to result in this generation rate. The LandGEM models for both the north and south quarries have peak generation rates shown for 2004 with descending curves thereafter (scaled to each size) showing the North Quarry will act similarly to the South Quarry and that the age of waste does not alter the potential generation amount. Should the SSE conditions surpass the model conditions or the system not be operated at the assumed efficiencies (modeled the average extraction efficiency of the south quarry without SSE conditions at 75%), then the enhanced North Quarry GCCS shall be

reviewed and additional modifications and or additions will need to be submitted for approval by the Department.

7. After installation of the EVOH Cap in the North Quarry, the integrity of the cap shall be maintained per the Operations, Maintenance and Monitoring Plan. All repair work and excavation required to remove and abandon landfill infrastructure, including reinforced concrete pipes if one or more surfaces due to settlement, must be timely completed.
8. The response to comments and confirmation of the HydroCAD data specifies that some channels and culverts at the site are not built to the capacity of a 25 year 24 hour storm. The response indicates these channels and culverts will still properly drain to the designated outfalls as designed. Bridgeton shall be responsible for all conditions, effluent limitations, and monitoring requirements per the landfill's Missouri State Operating Permit MO-0112771 and shall be responsible to improve the stormwater design if violations or consistent issues arise.
9. Appendix C Installation Plan for Additional Temperature Monitoring Probes (TMPs) proposes the relocation of the three previously approved TMP locations in the South Quarry to the North Quarry. The locations of these TMPs will be established by the parties through the process of amending the First Agreed Order.
10. The First Agreed Order requires Bridgeton Landfill to submit quarterly as-built drawings of any infrastructure that has changed since the previous quarterly submittal. This is further reiterated throughout previous submittals and correspondence including this NQAP. Bridgeton Landfill needs to timely submit as-builts in compliance with the First Agreed Order and the facility's permits.

Please resubmit a revised NQAP signed and sealed by a professional engineer registered in the state Missouri within 20 days of receipt of this conditional approval letter as per Section 11 of the First Agreed Order. If the revised NQAP is submitted using an FTP site, please also provide an original, sealed document sent to the Department at P.O. Box 176, Jefferson City, Missouri 65102-0176.

If you have any questions or comments regarding this letter, please contact Mr. J. P. Boessen of my staff at (573) 526-3940 or P.O. Box 176, Jefferson City, Missouri 65102-0176.

Sincerely,

SOLID WASTE MANAGEMENT PROGRAM



Charlene S. Fitch, P.E.
Chief, Engineering Section

CSF:jbl

Mr. Brian Power
Bridgeton Landfill, LLC
Page 4 of 4

- c: Peter Carey, P.E., P.J. Carey & Associates, P.C
Michael Beaudoin, P.E., Civil & Environmental Consultants, Inc.
Ms. Laura Yates, St. Louis County Department of Health
Mr. Larry Lehman, Chief, Compliance/Enforcement Section, SWMP
St. Louis Regional Office via Electronic Shared File