



AECOM
1600 Perimeter Park Drive
Morrisville, NC 27560
www.aecom.com

919-461-1100 tel
919-461-1415 fax

October 15, 2018

Tennessee Valley Authority
1101 Market Street
Chattanooga, TN 37402-2801

**Engineer's Certification of Unstable Area Demonstration
North Rail Loop Landfill Cell 1
Tennessee Valley Authority Gallatin Fossil Plant
Gallatin, Tennessee**

1.0 PURPOSE

The purpose of this document is to certify that the Tennessee Valley Authority (TVA) Gallatin Fossil Plant (GAF) North Rail Loop (NRL) Landfill Cell 1 is in compliance with the Unstable Areas location requirements specified in 40 CFR § 257.64 of the United States Environmental Protection Agency (USEPA) CCR Rule (CCR Rule). Presented below is the background, summary of findings, and certification.

2.0 BACKGROUND

In accordance with 40 CFR §257.64(a), all new and existing CCR impoundments, new and existing CCR landfills, and lateral expansions of units must not be located in an unstable area unless the owner or operator demonstrates that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit so that the integrity of the structural components of the CCR unit will not be disrupted. In accordance with 40 CFR §257.64(b), soil conditions, geologic or geomorphologic, and human-made features or events were considered.

3.0 SUMMARY OF FINDINGS

As part of the NRL Landfill Part II Solid Waste Disposal Facility Permit Application (Application), a Hydrogeologic Evaluation was performed which included a karst evaluation (URS, 2013). The Application was submitted to the Tennessee Department of Environment and Conservation (TDEC) on January 26, 2013. The karst evaluation included surface reconnaissance mapping, Electrical Resistivity Imaging (ERI) and seismic refraction geophysical surveys and confirmation drilling of ERI anomalies, a drilling program consisting of 75 borings inside the proposed landfill boundary and 54 borings around the outside perimeter of the proposed boundary, including geophysical logging of boreholes. No evidence of adverse soil conditions, karst features, human-made surface or subsurface features, or other adverse geologic or geomorphologic features were identified within the NRL landfill limit. In addition, a Sinkhole Contingency Plan (Plan) was included in the Operations Manual (URS, 2014) prepared as part of the Application. The purpose of the Plan was to provide guidance on generally accepted engineering practices for remediation of sinkholes, cavities, and drop-outs that may be identified during construction. Further, the site was inspected during construction and no evidence of karst activity was identified (AECOM, 2016).



AECOM
1600 Perimeter Park Drive
Morrisville, NC 27560
www.aecom.com

919-461-1100 tel
919-461-1415 fax

4.0 CERTIFICATION

I, Gabriel Lang, being a Professional Engineer in good standing in the State of Tennessee, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with generally accepted engineering practices; that the information contained herein is accurate as of the date of my signature below; and that the North Rail Loop Landfill Cell 1 meets the requirements of 40 CFR § 257.64(a).



SIGNATURE _____

DATE 10-15-18

ADDRESS: AECOM
1600 Perimeter Park Drive,
Morrisville, NC 27560

TELEPHONE: 919-461-1100

REFERENCES: AECOM (2016), *Gallatin Fossil Plant, Sumner County, Tennessee, North Rail Loop Landfill Cell 1, TVA Project 202216, Earthwork CQA Construction Record Documentation Report (Rev. 0)*, February 25, 2016

URS (2013), *TVA Gallatin Fossil Plant – Sumner County, Tennessee, Part II Permit Application, CCP Disposal Facility – North Rail Loop, Hydrogeologic Evaluation*, January 16, 2013.

URS (2014), *TVA Gallatin Fossil Plant – Sumner County, Tennessee, Part II Permit Application, CCP Disposal Facility – North Rail Loop, Operations Manual, Revision 4*, June 24, 2014.