



HALEY & ALDRICH, INC.
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MEMORANDUM

16 April 2020
File No. 129342-028

SUBJECT: Location Restriction Demonstration – 40 CFR §257.63 Seismic Impact Zone
New Madrid Power Plant
Inactive Lined Pond
New Madrid, MO

Associated Electric Cooperative, Inc. (AECI) owns and operates the coal-fired New Madrid Power Plant (NMPP, Plant) located near New Madrid, Missouri. The Lined Pond (Unit) is an inactive coal combustion residuals (CCR) surface impoundment at the Plant. This demonstration addresses the requirements of 40 CFR §257.63 *Seismic Impact Zones* of the U.S. Environmental Protection Agency's (EPA's) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, 40 CFR Part 257 rule (CCR Rule), effective 19 October 2015, including subsequent revisions, for the Unit.

§257.63(a): New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must not be located in seismic impact zones unless the owner or operator demonstrates by the dates specified in paragraph (c) of this section that all structural components including liners, leachate collection and removal systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

A Seismic Impact Zone is defined in the CCR Rule (40 CFR §257.63) as “an area having a 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 50 years.” The site-specific seismic response analysis performed for the New Madrid Power Plant Lined Pond indicates that the maximum expected horizontal acceleration for 2 percent probability of exceedance in 50 years is 1.88g.

Although the Unit is located in a seismic impact zone, the results of Haley & Aldrich's evaluation indicate that the Unit is in compliance with 40 CFR §257.63(a). The Haley & Aldrich report entitled “Report on Initial Safety Factor Assessment Inactive Lined Pond, New Madrid Power Plant, New Madrid, Missouri” dated April 2018, and related evaluations prepared by Haley & Aldrich include engineering analysis, calculations, and findings that support the requirements of 40 CFR §257.63(a), and provides documentation that those requirements have been evaluated for the subject CCR unit.



§257.63(b): The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the demonstration meets the requirements of paragraph (a) of this section.

I, Steven F. Putrich, being a Registered Professional Engineer in good standing in the State of Missouri, 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 the accepted practice of engineering. I certify, that the CCR Unit is located in a seismic impact zone and the completed demonstration meets the requirements of 40 CFR §257.63(a).

Signed: 
Consulting Engineer

Print Name: Steven F. Putrich
Missouri License No.: 2014035813
Title: Project Principal
Company: Haley & Aldrich, Inc.

Professional Engineer's Seal:

