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## MEMORANDUM

17 October 2018  
File No. 129342-012

SUBJECT: Location Restriction Demonstration – 40 CFR §257.63 Seismic Impact Zone  
New Madrid Power Plant  
Pond 004  
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. Pond 004 (Unit) is an existing 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, with Amendments effective 29 August 2018, 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 Pond 004 indicates that the maximum expected horizontal acceleration for 2 percent probability of exceedance in 50 years is 1.74g.

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 Safety Factor Assessment Pond 003 and Pond 004, New Madrid Power Plant, Marston, Missouri” dated October 2016, and the memorandum prepared by Haley & Aldrich entitled “Liquefaction Evaluation Pond 003 and Pond 004 New Madrid Power Plant, Marston, Missouri” dated October 2018 includes 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:

