



HALEY & ALDRICH, INC.
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MEMORANDUM

16 October 2018
File No. 130116

SUBJECT: Location Restriction Demonstration – Placement Above Uppermost Aquifer
Killen Electric Generating Station
Collection Basin No. 1
Manchester, Ohio

AES Ohio Generation, LLC (AES) operates the coal-fired Killen Electric Generating Station (Plant) located near Manchester, Ohio. The Collection Basin No. 1 (Unit) is an existing coal combustion residuals (CCR) surface impoundment. This demonstration addresses the requirements of 40 CFR §257.60 (*Placement above the uppermost aquifer*) of the US Environmental Protection Agency's (EPA) rule entitled *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities*. 80 Fed. Reg. 21302 (Apr. 17, 2015) (promulgating 40 CFR §257.60); 83 Fed. Reg. 36435 (July 30, 2018) (amending 40 CFR §257.60).

§257.60(a): New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must be constructed with a base that is located no less than 1.52 meters (five feet) above the upper limit of the uppermost aquifer, or must demonstrate that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR unit and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table). The owner or operator must demonstrate by the dates specified in paragraph (c) of this section that the CCR unit meets the minimum requirements for placement above the uppermost aquifer.

Haley & Aldrich developed a contour map representing the upper limit of the uppermost aquifer for the Unit that identified elevations ranging from approximate elevation 489.6+/- feet to 489.7+/- feet across the base of the unit. Based on historic document review at the Unit, Haley & Aldrich identified base of unit elevations ranging from approximately 519+/- to 515+/- feet across the floor of the Unit. As a result, the separation between the base of the unit and the upper limit of the uppermost aquifer was confirmed to be greater than five feet and therefore meets the requirement of §257.60(a) for the Unit.

§257.60(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 Ohio, 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, for the above-referenced CCR Unit, that the demonstration regarding the location of the base of the CCR Unit is at least 1.52 meters above the upper limit of the uppermost aquifer as included in the Locations Restrictions Evaluation memorandum dated 12 October 2018 meets the requirements of 40 CFR §257.60(a).

Signed: 
Consulting Engineer

Print Name: Steven F. Putrich
Ohio License No.: 67329
Title: Vice President
Company: Haley & Aldrich, Inc.

Professional Engineer's Seal:

