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17 October 2018

Kansas City Board of Public Utilities
540 Minnesota Avenue
Kansas City, KS 66101

Attention: Ingrid Setzler, Director of Environmental Services

Subject: Bottom Ash Surface Impoundment Location Restriction §257.63 Seismic Impact Zones

Conclusion:

The Bottom Ash Surface Impoundment at the Nearman Creek Power Station, Per CCR Rule §257.63, is not within a seismic impact zone.

The conclusion of this evaluation is based on the following references:

1) U.S. Geological Survey, Unified Hazard Tool, accessed June 27, 2017, from USGS web site: https://earthquake.usgs.gov/hazards/interactive/
2) American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures, ASCE Standard ASCE/SEI 7-10, 2010.

Seismic Impact Zone Evaluation:

According to the CCR Rule §257.53, a Seismic impact zone is an area having a 2% or greater probability that the maximum expected horizontal acceleration will exceed 0.10 g in 50 years. To evaluate this, Black & Veatch determined the site adjusted, peak ground acceleration (PGA) for a 2% probability in 50 years based on the US Geologic Survey Seismic Hazard Maps (Reference 1) and ASCE 7-10 (Reference 2). The USGS maps are based on the 2014 National Seismic Hazard Maps and indicated a PGA value of 0.0437 g for the site if the ground conditions meet the requirements for Site Class B or C. To account for the actual site conditions, the site coefficient F_{PGA} for a Site Class D ground condition from ASCE 7-10 (Reference 2) was used. Using the F_{PGA} value of 1.6, the site class adjusted PGA value is 1.6 * 0.0437 = 0.070 g. The determined PGA value is less than 0.10 g; therefore the impoundment is not located within a Seismic impact zone.

Certification Statement

This evaluation meets the requirements of CCR Rule paragraph (a) §257.63 Seismic impact zones.

Very truly yours,

BLACK & VEATCH CORPORATION

Gary D. Sommerfeld P.E.
Geotechnical Engineer

10/17/2018

cc: File
Fred Freeland
Jim Liljegren