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Initial Hazard Potential Classification Assessment
EPA Final CCR Rule
GMF Pond
Coffeen Power Station
Montgomery County, Illinois

1.0 PURPOSE

This report documents Stantec's certification of the initial hazard potential classification assessment for the Coffeen Power Station GMF Pond.

40 CFR 257.73(a)(2) requires the owner or operator of an existing CCR surface impoundment to conduct an initial hazard potential classification assessment and document the hazard potential classification, and the basis for the classification, of the CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment.

2.0 FINDINGS

Stantec reviewed an existing breach analysis (dated 2007) to evaluate potential hazards associated with a failure of the GMF Pond's perimeter containment dike and to see if the existing analysis was suitable for the purpose of informing Stantec's initial hazard potential classification assessment. The existing breach analysis utilized an approximate method of computing the inundation limits of gypsum slurry by computing a runout distance on a constant slope. The breach analysis used parameters consistent with the final design gypsum stack height and volume within the GMF Pond containment dike. The analysis also utilized topography and imagery of the surrounding area to estimate inundation limits. Breaches were simulated at multiple locations along the perimeter dike and the corresponding results were used to create inundation extents. The inundation extents are depicted for two inundations limits; a 10 foot inundation depth area and a 5 foot inundation depth area. There are a total of 12 potentially impacted structures (11 residential) within the 5 foot inundation depth area.

Based on its review, Stantec concluded that the existing analysis is suitable for the purpose of hazard potential classification and that there have not been any material changes to the GMF Pond or downstream areas that would significantly impact the previous analysis results. The existing breach analysis indicates that a breach failure near the northwest corner of the GMF Pond perimeter dike would inundate eight occupied structures, seven being residential structures and one industrial facility. The existing breach analysis also indicates that a breach to the east would inundate two residential structures along Red Ball Trail/County HWY 9 and a breach to the south would inundate frequently occupied Coffeen Power Station facilities. Based upon review of the existing breach analysis predicted depths and velocities at various frequently occupied Coffeen

Power Station facilities and surrounding residential structures, it was concluded that a failure of the GMF Pond's perimeter dike will probably cause loss of human life.

40 CFR 257.53 defines a "high hazard potential CCR surface impoundment" as a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

Based on the results of the analysis summarized above, the GMF Pond was assigned a High hazard potential classification per 40 CFR 257.53.

3.0 QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I, Matthew Hoy, being a Professional Engineer in good standing in the State of Illinois, do hereby certify, to the best of my knowledge, information, and belief that;

1. the information contained in this report and the underlying data in the operating record was prepared in accordance with the accepted practice of engineering and is accurate as of the date of my signature below; and

2. the initial hazard potential classification assessment for the Coffeen Power Station GMF Pond was conducted in accordance with the requirements specified in 40 CFR 257.73.

SIGNATURE _____ DATE 10/12/2016

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