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October 12, 2016
File: let_021_175666013_certification
Revision 0

Initial Hazard Potential Classification Assessment
EPA Final CCR Rule
East Fly Ash Pond System (East Ash Pond Cells 1, 2, 3, and 4)
Havana Power Station
Mason County, Illinois

1.0 PURPOSE

This report documents Stantec's certification of the initial hazard potential classification assessment for the Havana Power Station East Fly Ash Pond System.

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

A breach analysis was performed to evaluate potential hazards associated with a failure of the East Ash Pond System perimeter containment dike. Breach failure scenarios were modeled at six different locations around the circumference of the perimeter dike. Breach locations were selected based on locations of nearby downstream structures and locations that are typically occupied by people. Breach scenarios were simulated using water volumes corresponding to the maximum water surface elevation based on the crest elevations of the East Ash Pond System including 1/3 of the solids volume.

Analyses indicate that a potential breach of the East Ash Pond System results in depths greater than two feet and velocities greater than or equal to five feet per second. The six breach scenarios all indicate impacts to infrastructure believed to be off the Havana Power Station property, while two breach scenarios potentially impact plant infrastructure. A breach to the north/northeast or to the south could impact multiple buildings and roads in the vicinity of State Route 78 as well as the railroad. A breach to the west/northwest could impact multiple buildings and roads in the vicinity of State Route 78, the railroad, and the Havana Power Station. Due to breach simulation resultant maximum depths and velocities at various nearby residences and public facilities, it was concluded that a failure at certain locations along the East Fly Ash Pond System'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 East Fly Ash Pond System 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 Havana Power Station East Fly Ash Pond System was conducted in accordance with the requirements specified in 40 CFR 257.73.

SIGNATURE 

DATE 10/12/2016

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Design with community in mind