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File: let_024_175666013_certification
Revision 0

Initial Hazard Potential Classification Assessment
EPA Final CCR Rule
West Fly Ash Pond
Baldwin Energy Complex
Randolph County, Illinois

1.0 PURPOSE

This report documents Stantec's certification of the initial hazard potential classification assessment for the Baldwin Energy Complex West Fly Ash Pond.

40 CFR 257.73(a)(2) provides for 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 in September 2016 to evaluate potential hazards associated with a failure of the West Fly Ash Pond. The West Fly Ash Pond, designated by Dynegy as an existing CCR surface impoundment as defined in 40 CFR 257.53, is located adjacent to the East Fly Ash Pond, which is located adjacent to the Old East Fly Ash Pond. The East Fly Ash Pond and the Old East Fly Ash Pond are designated by Dynegy as inactive CCR surface impoundments as defined in 40 CFR 257.53. The three ponds are collectively referred to as the Fly Ash Pond System. Because a failure of the West Fly Ash Pond embankment has the potential to lead to a progressive failure of the East Fly Ash Pond and/or Old East Fly Ash Pond, the potential hazard assessment for the West Fly Ash Pond was performed by evaluating a breach from the Fly Ash Pond System. Breach failure scenarios were modeled at the northwest face of the West Fly Ash Pond and East Fly Ash Pond as well as the southern face of the West Fly Ash Pond and southwest face of the Old East Fly Ash Pond. 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 crest of the Fly Ash Pond System that also incorporated 1/3 of solids volume.

Analyses indicate that a potential breach of the Fly Ash Pond System impacts multiple structures along Conservation Road, Kaskaskia Street, Ruby Lane and Magnolia Drive, as well as plant facilities near the intersection of County Road 18 and the railroad. In all three breach scenarios, portions of the discharge flow to the Kaskaskia River. 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 Fly Ash Pond System dike will probably cause loss of human life.

Design with community in mind



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 and the relevant definitions in 40 CFR 257.53, the West Fly Ash Pond was assigned a high hazard potential classification.

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 Baldwin Energy Complex West Fly Ash Pond was conducted in accordance with the requirements specified in 40 CFR 257.73.

SIGNATURE

DATE

2/7/17

ADDRESS:

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Design with community in mind