



Office Memorandum

Date: November 30, 2020

To: Cynthia Vodopivec

cc: Matt Ballance
Jason Campbell
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From: Vic Modeer

Subject: Ash Pond No. 1 Structural Stability Assessment
Illinois Power Resources Generating, LLC
Coffeen Power Station

BACKGROUND

The Coffeen Power Station was retired in November 2019. The October 2016 certified “CCR Rule Report: Initial Structural Stability Assessment for Ash Pond No. 1 at the Coffeen Power Station” (CCR Certification Report) prepared by AECOM for Illinois Power Resources Generating (IPRG) describes the outlets for the spillway system for Ash Pond No. 1. The spillway system includes a concrete recycle intake structure with a gated inlet to a 48-inch diameter steel recycle intake pipe, which acts as the primary outflow pipe for Ash Pond No. 1, and a secondary 24-inch corrugated metal (CMP) overflow pipe that flows into the recycle intake pipe, which are all constructed of non-erodible materials designed to carry sustained flows. AECOM’s 2016 report states that the Ash Pond No. 1 hydraulic structures cannot be structurally certified due to inability to complete a closed-circuit television (CCTV) inspection of the 48-inch steel recycle intake pipe. However, the 48-inch pipe and 24-inch CMP have been inspected numerous times thereafter and found to be structurally sufficient. Thus, both hydraulic structures for Ash Pond No. 1 are structurally sufficient.

Specifically, AECOM’s 2016 report states that the 24-inch CMP overflow pipe was able to be internally inspected via a CCTV inspection and “found to be free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris.” In addition, the AECOM report states that “[e]valuation of design drawings and operational and maintenance procedures for [the 24-inch pipe] also did not identify any issues.” However, AECOM could not certify that the 48-inch pipe met the requirements of § 257.73(d)(1)(vi) due to the inability to visually inspect the pipe as a result of the high flow volume while the plant was in operation. Notwithstanding, the 48-inch pipe was observed in the field by AECOM, and no structural defects were found as noted in AECOM’s 2016 report.

Dike Structural Stability. The stability of the Coffeen Ash Pond No. 1 embankment section at the 48-inch recycle intake pipe (Cross Section 13+00, "CCR Certification Report") had calculated factors of safety of 1.77, (§257.73(e)(1)(i) Minimum FS = 1.50), 1.77 (§257.73(e)(1)(ii) Minimum = 1.40) and 1.18 (§257.73(e)(1)(iii) Minimum = 1.00). The inspection history does not reveal any seepage at the standpipe spillway section.

48-inch Recycle Intake Pipe Stability. The embankment at the recycle intake pipe is stable as shown by visual inspection and the above listed calculations. The plant is no longer in operation, and the impoundment water level has been lowered to an elevation at or below the base of the intake pipe. There is no possibility of a pipe failure causing a release of CCR material.

Accordingly, both the 24-inch CMP overflow pipe and 48-inch recycle intake pipe are structurally sufficient and meet the requirements of § 257.73(d)(1)(vi).

Please let me know if you have any questions.

Sincerely,



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(IL, MO, IN, KY, OH, LA)
Consulting Engineer

