Luminant

Office Memorandum

Date: October 1, 2021

To: Cynthia Vodopivec

Charles Koudelka
cc: Phil Morris

From: Vic Modeer

Dynegy Midwest Generation, LLC
Baldwin Energy Complex
Subject: Bottom Ash Pond

BACKGROUND

The October 2016 certified "CCR Certification Report: Initial Structural Stability Assessment, Initial Safety Factor Assessment, and Initial Inflow Design Flood Control System Plan, for the Bottom Ash Pond at the Baldwin Energy Complex" (CCR Certification Report)" prepared by AECOM describes the outlets of the East Ash Pond. The Bottom Ash Basin has a screened vertical drop structure that empties into a 30-inch diameter HDPE pipe that flows beneath the embankment and into the secondary pond.

The CCR Certification Report states: "*Stability and Structural Integrity of Hydraulic Structures (§257.73(d)(1)(vi)); CCR unit designed, constructed, operated, and maintained with hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit that maintain structural integrity and are free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the hydraulic structure.*

The structural stability and integrity of the Bottom Ash Pond hydraulic structure was evaluated using inspection data performed by AECOM. Only the primary 30-inch HDPE discharge pipe that passes through the dike of the Bottom Ash Pond was inspected and analyzed, as neither the emergency spillway nor the pumping station comprise hydraulic structures that underlie the base of or pass through the embankment of the Bottom Ash Pond. No other hydraulic structures are known to pass through the dike of or underlie the base of the Bottom Ash Pond.

Inspection of the 30-inch HDPE discharge pipe was performed on September 20, 2016 using closed-circuit television (CCTV) inspection equipment. The inspection accessed 459.7 feet of the approximately 500-foot-long outfall structure. The remaining approximately 40 feet, near the outlet of the pipe into the non-CCR Secondary Pond, was not inspected because

the pipe was full of water at near the outlet, which did not allow for sufficient visibility to complete the inspection. The inspection found that the discharge pipe is free of significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris accumulation that may negatively affect the operation of the hydraulic structure, within the inspected portions of the structure. The structure was installed in 2012 and has been observed to be flowing by AECOM. Therefore, there is only a low potential for significant deterioration, deformation, distortion, bedding deficiencies, sedimentation, or debris within the approximately 40-foot uninspected length of the approximately 500-foot-long hydraulic structure. Additionally, the approximately 40-foot-long uninspected length is at the downstream outlet of the structure and is not within the Bottom Ash Pond embankment.

Based on these evaluations, the Bottom Ash Pond meets the requirements in §257.73(d)(1)(vi).”

EVALUATION

2021 Pipe Inspection.

An inspection was performed by the author on the 30-inch HDPE discharge pipe on September 23, 2021. A visual inspection of the drop inlet manhole was possible due to the low flow volume at the time of the inspection. The downstream end of the 500-foot-long discharge was flowing freely.

The pond, the pump station, outfall, and spillway are monitored weekly and after 1-inch rainfall events for safe operation. A dam inspection, including the listed items, is conducted annually and the results are posted on the Luminant CCR website. The outfall drop inlet has a screen that does not allow debris to enter the system. There have been no rainfall events that have initiated the use of the emergency spillway. The pump station is set to operate to a volume of one-half of the 1000-year probable maximum precipitation. The pump system has four pumps to achieve this volume. The pump system has a diesel generator for backup power and is tested monthly. No more that two pumps have been operated during a rainfall event since the 2016 certification. The pump system and outfall have had no flow restrictions or incidents where the system was not in full operation.

The Baldwin Bottom Ash Basin flows into secondary and tertiary ponds. These ponds are designed to accept full discharge flow from the plant in order to meet the NPDES permit requirements.

Based on these evaluations, the Bottom Ash Basin outfall meets the requirements in §257.73(d)(1)(vi). Please let me know if you have any questions.

Sincerely,

Vic Modeer, PE, D.GE
(IL, MO, IN, KY, OH, LA)
Engineering Manager