

INITIAL STRUCTURAL STABILITY ASSESSMENT
40 C.F.R. § 257.100(f)(2)(iv) and 40 C.F.R. § 257.73(d)
PLANT HARLLEE BRANCH ASH POND B (AP-B)
GEORGIA POWER COMPANY

A rule amendment to the Federal CCR Rule became effective on November 8, 2024. See Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Legacy CCR Surface Impoundments, 89 Fed. Reg. 38950 (“Legacy Rule”). This Legacy Rule defines the term “legacy CCR surface impoundment” and establishes regulatory requirements for units that meet the definition of a legacy CCR surface impoundment. The Legacy Rule requires the owner or operator of a legacy CCR impoundment to conduct an initial and periodic structural stability assessment of the CCR unit and document whether the design, construction, operation and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded therein. See 40 C.F.R. Part 257, § 257.100(f)(2)(iv) and § 257.73(d). In addition, the Rules require a subsequent assessment be performed within 5 years of the previous assessment. See 40 C.F.R. § 257.73(f)(3).

The legacy CCR surface impoundment known as Ash Pond B (AP-B) at Georgia Power Company’s (Georgia Power) Plant Harllee Branch (Plant Branch) property is located on the northern shore of Lake Sinclair, off State Route 24 (US 441) near Milledgeville and Eatonton in Putnam County, Georgia. AP-B is impounded by an earthen dam on the south and southwest sides and by natural ground on the remaining sides. The dam crest elevation varies with a minimum elevation of 380 feet (ft). The maximum height of the dam is approximately 66 ft from the crest of the dam to the downstream toe at Elevation (El.) 314 ft. The upstream slope is approximately 2 Horizontal:1 Vertical (2H:1V), and the downstream slope is approximately 1.5H:1V.

Georgia Power submitted a CCR handling permit application to the Georgia Environmental Protection Division (GA EPD) in November 2018 in accordance with the Georgia Rules for Solid Waste Management, Chapter 391-3-4-.10 (State CCR Rule). The CCR handling permit application is currently under review by GA EPD. Georgia Power intends to close AP-B in accordance with 40 C.F.R. § 257.102(c) and corresponding State CCR Rule 391-3-4-.10(7)(b) by removing and relocating the CCR to a permitted on-site landfill and/or selling the CCR for beneficial use.

AP-B encompasses approximately 55 acres. Construction of the AP-B dam was completed in 1967 by establishing a rock base partially across the cove to approximately El. 340 ft and building an earthen dam on top of the rock base. The earthen dam includes unweathered to partially decomposed biotite gneiss, similar in size to the rock base, mixed with soil. The subsurface stratigraphy beneath the AP-B dam and abutments includes, from top to bottom, saprolite, partially weathered rock, and competent bedrock.

Five seepage zones were identified on the downstream slope of the dam in 1968 following initial filling of AP-B. An attempt to stop the seepage by dumping crushed stones and clayey soils on the upstream

side of the dam failed, and a grouting program was implemented in January 1969 and completed in March 1969. In April 1969, reports indicated that the seepage was successfully stopped following the grouting program. No additional remedial measures were implemented.

AP-B is partially wet with ponded water in the central area. Other areas within AP-B are covered with light vegetation. Wave action within the CCR surface impoundment is not a concern due to the operational characteristics of the impoundment. Additionally, AP-B is not operated in such a manner as to normally be subjected to rapid drawdown conditions.

Construction specifications were not available for the dam. Based on the review of available information and visual observations, the AP-B dam has been properly constructed using mechanical stabilization and compacted to a density sufficient to withstand a range of loading conditions. Inspections of the AP-B dam are conducted on a regular basis. No actual or potential structural weaknesses of the dam or abutments, nor any existing conditions that disrupt or may disrupt the operation and safety of AP-B, were documented in the recent inspection reports (i.e., 2024 and 2025).

The exposed portion of the upstream slope and crest are covered with grass or graded aggregate base. The vegetation is properly maintained to a manageable height that allows for routine visual inspections. The exposed portion of the downstream slope is vegetated with trees and brush extending to Lake Sinclair, and the vegetation inhibits comprehensive routine visual inspections. Documented site inspections indicate appropriate maintenance of slope vegetation on the upstream slope and crest.

Historically, AP-B featured an overflow structure including a 36-inch (in.) diameter corrugated metal pipe (CMP). The 36-in. diameter CMP was decommissioned by grouting and abandoned in place in 2016. There is no evidence of deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris following the abandonment. Presently, the operating water elevation within AP-B is controlled by three pumps working in parallel and discharging to the on-site wastewater treatment system, which is permitted under National Pollutant Discharge Elimination System (NPDES) Permit Number GA0026051 as Outfall Number 03. The auxiliary spillway, permitted under NPDES Permit Number GA0026051 as Outfall Number 06, is located along the southern dam of the CCR surface impoundment and includes a trapezoidal weir with a bottom width of 20 ft, height of 2 ft, and 3H:1V side slopes at El. 378.92 ft. The weir discharges to a 76-ft long, 36-in. diameter CMP with an upgradient invert elevation at El. 371.12 ft and a downgradient invert elevation at El. 369.93 ft. There is no evidence of deterioration, deformation, distortion, bedding deficiencies, sedimentation, and debris which may negatively affect the operation of the auxiliary spillway.

The inflow design flood is the 1,000-year flood for a significant hazard potential CCR surface impoundment (§ 257.82(a)(3)(ii)). While the operating water elevation within AP-B is controlled by three pumps working in parallel, only the auxiliary spillway is included in the capacity calculations. With a maximum allowable starting water surface elevation of El. 376.1 ft, the auxiliary spillway at AP-B can adequately manage the 1,000-year, 24-hour storm event without overtopping the dam (i.e., El. 380 ft).

A review of current conditions indicates the downstream slope of the dam may be subject to inundation from the one percent annual chance flood (i.e., the 100-year storm event) of Lake Sinclair. The Federal Emergency Management Agency's base flood elevation is El. 340.8 ft, and the rock base was constructed to approximately El. 340 ft. Large rocks on the downstream slope protect the dam against potential wave action and surface erosion. Historical operational performance and inspection reports reveal no known rapid drawdown for the downstream slope of AP-B and indication of associated slope instability.

I hereby certify that the structural stability assessment was conducted in accordance with 40 C.F.R. § 257.100(f)(2)(iv) and 40 C.F.R. § 257.73(d).



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Mehmet Iscimen, P.E.

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