PERIODIC INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN
391-3-4-.10(5) and 40 C.F.R. PART 257.82
PLANT HAMMOND ASH POND 2 (AP-2)
GEORGIA POWER COMPANY

The Federal CCR Rule, and, for Existing Surface Impoundments where applicable, the Georgia CCR Rule (391-3-4-.10) require the owner or operator of a CCR surface impoundment to design, construct, operate and maintain an inflow design flood control system capable of adequately managing flow during and following the peak discharge of the specified inflow design flood. The owner or operator must prepare an inflow design flood control system written plan documenting how the inflow design flood control system has been designed and constructed. *See* 40 C.F.R. § 257.82; Ga. Comp. R. & Regs. r. 391.3-4-.10(5)(b). In addition, the Rules require periodic inflow design flood control system plans within 5 years of development of the previous plan. *See* 40 C.F.R. § 257.82(c)(4); Ga. Comp. R. & Regs. r. 391.3-4-.10(5)(b).

The existing CCR surface impoundment known as AP-2 is located in Floyd County, west of Rome, Georgia on Plant Hammond property. The facility consists of a 26-acre CCR storage area. The Notification of Intent to Initiate Closure was placed in the Operating Record on 8/31/2020 and closure has been designed to have no negative impacts on the inflow design flood control plan.

The inflow design flood consists of the rainfall that falls within the limits of AP-2. Storm water is temporarily stored within the limits of AP-2 and discharged through a system of spillways. AP-2 is divided into a northern and southern cell, each having an independent, primary spillway (corrugated metal pipe) that discharges to a smaller basin located in the northeast corner of the impoundment. The discharge from this basin is routed to AP-1 through a fiberglass reinforced pipe which penetrates the top of the dike. An independent auxiliary emergency spillway for the northern and southern cells consists of a corrugated metal pipe which penetrates the separator dike and discharges to a basin located in the southwest corner of the pond. From the basin, flows discharge through a 24-inch diameter high density polyethylene (HDPE) pipe to a tributary of the Coosa River.

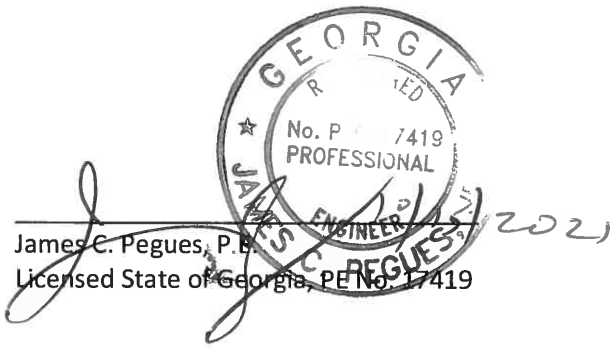
The inflow design flood has been calculated using the Natural Resources Conservation Service method (also known as the Soil Conservation Service (SCS) method) using the 1,000-yr storm event required for a Significant Hazard Potential facility. Appendix A and B from the Urban Hydrology for Small

Watersheds (TR-55) were used to determine the rainfall distribution methodology. Precipitation values were determined from the National Oceanic and Atmospheric Administration's (NOAA's) Precipitation Frequency Data Server (Atlas-14).

This information was placed into the computer software program PC-SWMM to analyze the design storm. Resulting calculations indicate that AP-2 can safely store and pass the 1,000-yr, 24-hr inflow design storm. This plan is supported by appropriate engineering calculations which are attached.

The facility is operated subject to and in accordance with § 257.3-3 of EPA's regulations.

I hereby certify that the inflow design flood control system plan meets the requirements of 40 C.F.R. § 257.82.



2021

James C. Pegues, P.E.
Licensed State of Georgia, PE No. 17419

Inflow Design Control System Plan:
Hydrologic and Hydraulic Calculation Summary

for

Plant Hammond Ash Pond 2

Prepared by:

Southern Company Services
T&PS Environmental Solutions

Originator: Stantec Consulting Services, Inc.

Reviewer: Joshua K Myers 10/8/21
Joshua K. Myers Date

Approval: 10/8/21
James C. Pegues Date

1.0 Purpose of Calculation

The purpose of this report is to demonstrate the hydraulic capacity of the subject CCR impoundment in order to prepare an inflow design flood control plan as required by the United States Environmental Protection Agency's (EPA) final rule for Disposal of CCR from Electric Utilities (EPA 40 CFR 257) and the Georgia Environmental Protection Division's (EPD) Georgia CCR Rule (391-3-4-.10).

2.0 Summary of Conclusions

A hydrologic and hydraulic model was developed for the Plant Hammond Ash Pond 2 to determine the hydraulic capacity of the impoundment. Ash Pond 2 is located west of the center of the plant and is between Ash Pond 4 and the Coal Yard. Stormwater is temporarily stored within the limits of Ash Pond 2 and then discharged through either a 12" diameter riser structure to Ash Pond 1 or a 24" diameter pipe to Western Creek.

The design storm for the Plant Hammond Ash Pond 2 is a 1,000-year rainfall event. Southern Company has selected a storm duration of 24-hours for all inflow design flood control plans. The results of routing a 1,000-year, 24-hour rainfall event through the impoundment are presented in Table 1 below:

Table 1 - Flood Routing Results for Plant Hammond Ash Pond 2

Plant Hammond	Normal Pool El (ft)	Top of embankment El (ft)	Peak Water Surface Elevation (ft)	Freeboard* (ft)	Peak Inflow (cfs)	Peak Outflow (cfs)
Ash Pond 2	593.0	599.0	594.8	4.2	225.3	26.0

*Freeboard is measured from the top of embankment to the peak water surface elevation

3.0 Methodology

3.1 HYDROLOGIC ANALYSES

The Plant Hammond Ash Pond 2 is classified as a significant hazard structure. The design storm for a significant hazard structure is a 1,000-year rainfall event. A summary of the design storm parameters and rainfall distribution methodology for these calculations is summarized below in Table 2.

Table 2 - Plant Hammond Ash Pond 2 Storm Distribution

Hazard Classification	Return Frequency (years)	Storm Duration (hours)	Rainfall Total (Inches)	Rainfall Source	Storm Distribution
Significant	1000	24	10.7	NOAA Atlas 14	SCS Type II

The hydraulic capacity of Ash Pond 2 was evaluated using stage-storage methodology. The contributing drainage area to Ash Pond 2 is approximately 25.9 acres and consists of the dam and impoundment and the immediate ground surface that drains to Ash Pond 2. The drainage basin for Ash Pond 2 is shown on Figure 1 within the supporting information.

3.2 HYDRAULIC ANALYSES

Storage values for the Ash Pond 2 were developed by utilizing existing ground contours. The spillway system at the Plant Hammond Ash Pond 2 consists of a principal spillway and an auxiliary spillway. The principal spillway for Ash Pond 2 consists of a riser structure with a 12" pipe that discharges into Ash Pond 1. The auxiliary spillway consists of a 24" HDPE pipe that discharges directly into Western Creek. Table 3 summarizes the spillway system of Ash Pond 2.

Table 3 – Ash Pond 2 Hydraulic Characteristics

Plant Hammond – Pond 2	Material / Size	Rim Elevation, ft	US Invert, ft	DS Invert, ft	Length, ft
Principal Spillway	Riser Structure with 12" dia. HDPE pipe	593.0	590.0	586.0	2600
Auxiliary Spillway	24" dia. HDPE pipe	NA	594.12	565.0	180

Based upon this analysis, Ash Pond 2 has sufficient spillway capacity and/or reservoir storage to safely pass the design storm. Supporting calculations related to Ash Pond 2 are included in the supporting information of this report.

4.0 SUPPORTING INFORMATION

4.1 DRAINAGE BASIN

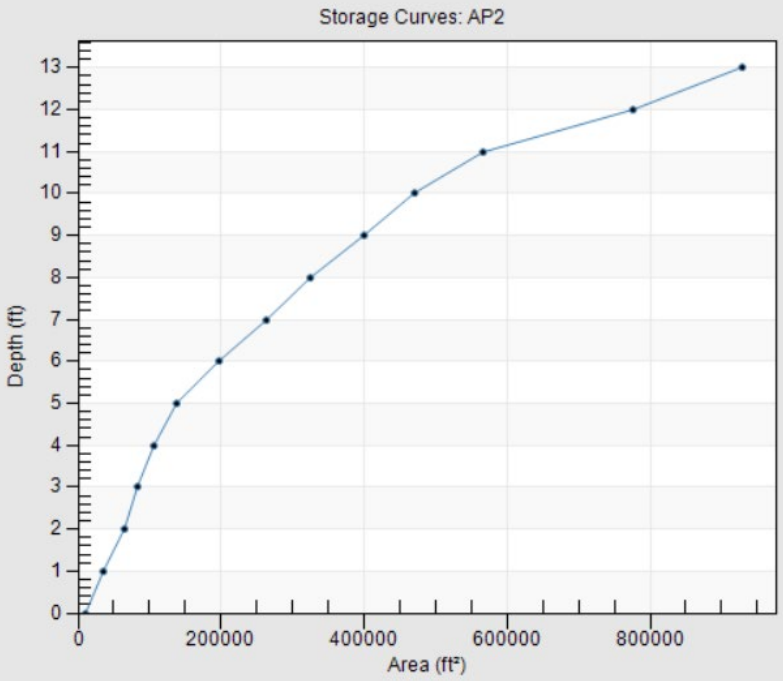
4.2 STAGE STORAGE

Name:
AP2

Description:
Storage of Ash Pond 2

Data:

	Depth (ft)	Area (ft²)
1	0	11351.06
2	1	35375.199
3	2	64033.898
4	3	83537.776
5	4	105597.99
6	5	137495.04
7	6	196485.07
8	7	262899.6
9	8	324815.33
10	9	400427.82
11	10	470185.03
12	11	567259.15



4.3 RATING CURVE

Elev.	Head 1	Weir 1	Orifice 1	Full Flow Pipe	P/S Total
594.12	0.00	0.00	-	68.33	0.00
595.00	0.88	5.08	-	69.40	5.08
595.12	1.00	6.20	-	69.55	6.20
596.00	1.88	7.59	14.19	70.60	7.59
596.30	2.18	-	16.43	70.95	16.43
596.76	2.64	-	19.37	71.49	19.37
597.00	2.88	-	20.74	71.77	20.74
598.00	3.88	-	25.67	72.93	25.67
598.70	4.58	-	28.62	73.73	28.62
599.00	4.88	-	29.80	74.06	29.80