**INITIAL INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN**
**40 C.F.R. § 257.100(f)(3)(v) and 40 C.F.R. § 257.82(c)**
**PLANT MITCHELL ASH POND 1 (AP-1)**
**GEORGIA POWER COMPANY**

A rule amendment to the Federal Coal Combustion Residuals (CCR) Rule (40 C.F.R. Part 257) 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"). The 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 prepare a written inflow design flood control system plan documenting how the inflow design flood control system has been designed and constructed. *See* 40 C.F.R. § 257.100(f)(3)(v) and 40 C.F.R. § 257.82(c). In addition, the Rules require periodic preparation of inflow design flood control system plans within 5 years of development of the previous plan [*See* 40 C.F.R. § 257.82(c)(4)].

The legacy CCR surface impoundment known as Plant Mitchell Ash Pond 1 (AP-1) is located approximately 8 miles south of Albany, Georgia on Georgia Power's Plant Mitchell property. AP-1 was one of three former CCR surface impoundments constructed to store CCR from the former coal-fired electric plant. AP-1 encompasses approximately 53 acres. The inflow design flood consists of the rainfall that falls within the limits of the 53-acre surface impoundment. Stormwater collected within the surface impoundment is temporarily stored within the limits of AP-1 as follows: (i) noncontact water is routed to the Industrial Stormwater Detention Pond located within AP-1, which is then pumped out into the perimeter channel which discharges into the outfall channel and is eventually routed to the Flint River; and (ii) contact water is pumped into the Contact Water Lagoon located within AP-1 which is then pumped to the on-site water treatment system and treated prior to discharge.

The Notification of Intent to Initiate Closure of AP-1 was placed in the Operating Record in October 2019. AP-1 no longer receives CCR and is currently undergoing closure by removal wherein CCR material is removed and transported by rail and truck for beneficial use or disposal at an approved landfill. AP-1 is dewatered as required to facilitate the excavation and removal of CCR. During ash pond closure, accumulated contact water is managed by an onsite water treatment system. The treated water is then discharged via a National Pollutant Discharge Elimination System (NPDES) permitted outfall. When discharged, the treated water is sampled and monitored in accordance with the approved dewatering plan.

The 1,000-year, 24-hour storm event was selected as the inflow design flood as required in 40 C.F.R. § 257.82(a)(3)(ii) for a Significant Hazard Potential CCR surface impoundment. The magnitude of this storm was determined using the Natural Resources Conservation Service (NRCS) method, also known as the Soil Conservation Service (SCS) method. The following parameters were selected to calculate the total anticipated runoff at AP-1 for the inflow design flood event: (i) the runoff curve number was calculated using Table 2-2a from the Urban Hydrology for Small Watersheds (TR-55); (ii) Appendix A and Appendix B from TR-55 were used to determine the rainfall distribution methodology; and (iii) precipitation values were determined from the National Oceanic and Atmospheric Administration (NOAA)'s Atlas 14 website and the United States Army Corps of Engineers Hydrometeorological Report No. 51 - Probable Maximum Precipitation Estimates, United States East of the 105th Meridian.

The NRCS provided information on the soil characteristics and hydrologic groups present at the site. It was determined that hydrological group "D" should be used to best reflect the characteristics of the soils at the site. This information was used in AutoCAD Storm and Sanitary Analysis 2024 hydrologic modeling software and used to generate the appropriate precipitation curves, storm basin routing information, and resulting rating curves to evaluate the surface impoundment capacity.

Resulting calculations indicate that AP-1 has sufficient capacity (143.3 acre-feet) within the impoundment to safely store the total resulting flow from the inflow design flood from the 1,000-year, 24-hour storm event (46.7 acre-feet). This plan is supported by appropriate engineering calculations, which are attached.

The facility is operated subject to and in accordance with 40 C.F.R. § 257.3-3.

I hereby certify that the inflow design flood control system plan meets the requirements of 40 C.F.R. § 257.100(f)(3)(v) and 40 C.F.R. § 257.82(c).


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|---|---|---|---|
| Subject: | HYDROLOGIC AND HYDRAULIC CALCULATIONS | | |
| Date: | 9/17/2025 | Made By: | NM |
| Project No.: | US0037149.0170 | Checked By: | MT |
| Project Name: | PLANT MITCHELL CCR LEGACY RULE | Reviewed By: | SC |

## OBJECTIVE

The objective of these engineering calculations is to demonstrate the hydraulic capacity of Plant Mitchell Ash Pond 1 (AP-1) to support the inflow design flood control plan as required by the Federal CCR Rule (40 C.F.R. § 257). AP-1, located at Georgia Power Company's Plant Mitchell property, no longer receives CCR and is currently undergoing closure by removal.

Engineering calculations were performed for AP-1 using the topographic information obtained from January 2025 LiDAR survey that is available at the time of this evaluation.

## METHODOLOGY

Conditions were analyzed at AP-1 to determine if adequate capacity exists in the interim condition to safely manage inflows from a series of storm events. WSP delineated one basin that contributes runoff to the detention pond designated as AP-1. The use of pumps during the construction process allows all runoff to be managed during storm events to minimize ponded water within AP-1 outside of the Contact Water Lagoon.

## PRECIPITATION

The National Oceanic and Atmospheric Administration (NOAA)'s Atlas 14 was used to determine storm depths for a series of 24-hour storms ranging from the 100-year to the 1000-year storm event as shown in Table 1 below. Temporal distributions for SCS Type II and Type III were analyzed due to the proximity of the site to the boundaries of approximate geographic areas noted in the United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Urban Hydrology for Small Watersheds, TR-55. The 6-hour probable maximum precipitation (PMP) storm was also analyzed, with a total PMP storm depth of 32 inches taken from the NOAA and United States Army Corps of Engineers Hydrometeorological Report No. 51 - Probable Maximum Precipitation Estimates, United States East of the 105th Meridian.

Table 1: Storm Events & Depths

| Event | Depth (inches) | Temporal Distribution | ARC | Depth Source |
|---|---|---|---|---|
| 100-Year, 24-Hour | 8.61 | SCS Type II | II | NOAA Atlas 14 |
| 100-Year, 24-Hour | 8.61 | SCS Type III | II | NOAA Atlas 14 |
| 1000-Year, 24-Hour | 12.00 | SCS Type II | II | NOAA Atlas 14 |
| 1000-Year, 24-Hour | 12.00 | SCS Type III | II | NOAA Atlas 14 |
| PMP, 6-Hour | 32.00 | SCS 6-Hour | II | HMR 51 |

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## WATERSHED HYDROLOGY

The watershed was delineated using LiDAR survey of the site, collected in January 2025. The curve number and time of concentration computations are displayed below. The time of concentration is calculated using the Watershed Lag Method from the National Engineering Handbook Part 630, Chapter 15. The flow length and slope are estimated in ArcGIS based on LiDAR survey of the site collected in January 2025.

| | | | |
|---|---|---|---|
| Total Drainage Area (A) = | 52.82 | acres | (Measured on 2025 Site LiDAR) |
| Watershed Curve Number (cn') = | 93 | | |
| Watershed Flow Length (L) = | 250 | feet | |
| Maximum Potential Retention (S) = | 0.8 | inches | $S = \frac{1000}{cn'} - 10$ |
| Watershed Slope (Y) = | 3 | % | |
| Time of Concentration ($T_c$) = | 0.07 | hours | $T_c = \frac{\ell^{0.8}(S+1)^{0.7}}{1{,}140Y^{0.5}}$ |

### Curve Number

The curve number (CN) for antecedent runoff condition II (ARC-II) was chosen based on the recommended curve numbers given in Table 9-1, 9-2 and 9-5 of the National Engineering Handbook (NEH) for each of the land uses, found on the 2024 National Land Cover Database (NLCD) for the watershed.

CNs for developed land (Low Intensity, Medium Intensity, High Intensity and Open Space) were calculated using impervious data from the 2024 NLCD, with the assumptions that pervious areas are equivalent to pasture in good hydrologic condition and impervious areas have a CN of 98.

| | Impervious % | A | B | C | D |
|---|---|---|---|---|---|
| Developed, Low Intensity | 35 | 59 | 74 | 82 | 86 |
| Developed, Medium Intensity | 65 | 77 | 85 | 89 | 92 |
| Developed,High Intensity | 90 | 92 | 94 | 96 | 96 |
| Developed, Open Space | 10 | 45 | 65 | 76 | 82 |

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**CN for Existing Land Use**

| Soil Group | Type | CN | Area (acres) | CN*Area |
|---|---|---|---|---|
| D | Developed, Medium Intensity | 92 | 46.8 | 4307 |
| W | Open Water | 98 | 6.0 | 588 |
| | | | 52.8 | 4895.4 |
| | CN = S(CN*Area)/S(Area) | | CN | 93 |

Stage Storage

A stage-storage curve was generated for AP-1 based on January 2025 LiDAR information, shown in Table 2.

Table 2: Ash Pond 1 Stage-Storage Curve

| Contour Elev. (ft) | Stage Depth (ft) | Contour Area (Ac) | Inc. Vol. (Ac-ft) | Cu. Vol. (Ac-ft) | |
|---|---|---|---|---|---|
| 175 | 0 | 0.00 | N/A | 0.000 | Bottom of Pond |
| 176 | 1 | 0.00 | 0.00 | 0.003 | |
| 177 | 2 | 0.11 | 0.06 | 0.061 | |
| 178 | 3 | 0.85 | 0.48 | 0.543 | |
| 179 | 4 | 2.24 | 1.54 | 2.087 | |
| 180 | 5 | 4.68 | 3.46 | 5.544 | |
| 181 | 6 | 7.63 | 6.15 | 11.697 | |
| 182 | 7 | 9.94 | 8.78 | 20.481 | |
| 183 | 8 | 12.04 | 10.99 | 31.472 | |
| 184 | 9 | 13.29 | 12.67 | 44.137 | |
| 185 | 10 | 14.68 | 13.99 | 58.122 | |
| 186 | 11 | 17.05 | 15.87 | 73.987 | |
| 187 | 12 | 20.80 | 18.93 | 92.912 | |
| 188 | 13 | 24.43 | 22.62 | 115.527 | |
| 189 | 14 | 31.07 | 27.75 | 143.277 | |
| 190 | 15 | 39.47 | 35.27 | 178.547 | |
| 191 | 16 | 42.62 | 41.05 | 219.592 | Top of Berm |

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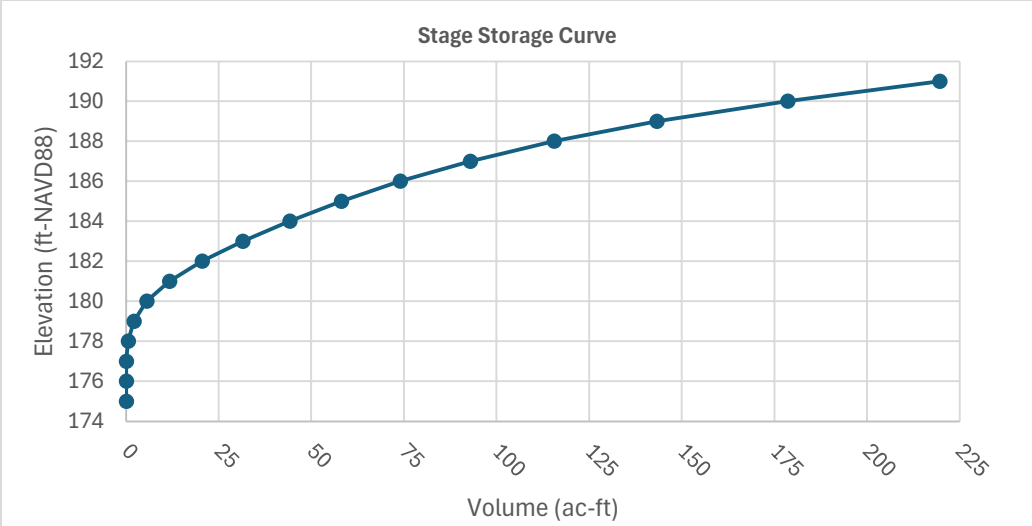


## HYDROLOGY AND RUNOFF VOLUME ANALYSIS

An analysis of the hydrology of AP-1 was performed based on the topography present in January 2025. The singular basin discharging to AP-1 was delineated and encompasses the area of AP-1. Table 3 gives an estimation of the peak inflow volumes for the different storm events managed by AP-1. The storm events were routed using Autodesk Storm and Sanitary Analysis (SSA) 2024 following NRCS TR-55 methodologies.

Table 3: Ash Pond 1 Hydrology Parameters and Inflow Volume

| CCR Unit | Design Storm | Temporal Distribution | ARC | Basin Size (acres) | Storm Depth (inches) | Total Inflow Volume (acre-feet |
|---|---|---|---|---|---|---|
| AP-1 | 100-Year, 24-Hour | SCS Type II | II | 53 | 8.61 | 32.2 |
| | 100-Year, 24-Hour | SCS Type III | II | 53 | 8.61 | 32.3 |
| | 1000-Year, 24-Hour | SCS Type II | II | 53 | 12.00 | 46.6 |
| | 1000-Year, 24-Hour | SCS Type III | II | 53 | 12.00 | 46.7 |
| | PMP, 6-Hour | SCS 6-Hour | II | 53 | 32.00 | 136.9 |