

# CLOSURE PLAN

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## AP-3 – INACTIVE SURFACE IMPOUNDMENT

### PLANT HAMMOND FLOYD COUNTY, GEORGIA

FOR



# Georgia Power

May 2021



ENVIRONMENTAL PROTECTION DIVISION

**Approved**  
**Solid Waste Management Program**

Approved By: \_\_\_\_\_



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## 1. INTRODUCTION

The Georgia Environmental Protection Division (EPD) adopted a new Solid Waste Regulation entitled “Rule 391-3-4-.10 Coal Combustion Residuals” (State CCR Rule). This rule, effective November 22, 2016, applies to owners and operators of new and existing coal combustion residuals (CCR) disposal facilities that dispose or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers. The State CCR Rule incorporates by reference the provisions contained in the United States Environmental Protection Agency (USEPA) Title 40 of the Code of Federal Regulations (CFR) §257 (40 CFR §257) (Federal CCR Rule). Per State CCR Rule 391-3-4.10(2)(a), which incorporates the definitions of the different CCR units under the Federal CCR Rule (40 CFR § 257.53), Plant Hammond Ash Pond 3 (AP-3) meets the definition of an inactive CCR surface impoundment.

Georgia Power Company (GPC) completed the closure-in-place of AP-3 in the second quarter of 2018 in accordance with State CCR Rule 391-3-4-.10(7)(b), which incorporates the requirements of the Federal CCR Rule 40 CFR §257.102(d). Closure of AP-3 included dewatering and grading the CCR within AP-3 to promote positive stormwater drainage and installing a geomembrane cover system. AP-3 no longer impounds free water nor receives CCR or other wastestreams. This closure method has eliminated the future impoundment of water, sediment, or slurry.

This Closure Plan was prepared to describe the activities and requirements for closure-in-place of AP-3 in accordance with State CCR Rule 391-3-4-.10(7). A Construction Certification Report will be submitted under separate cover.

## 2. NOTIFICATION

The last date of CCR receipt at AP-3 is not available, but CCR waste placement ceased in the early 1990s. GPC provided notice of the intent to close AP-3 in-place on December 7, 2015. This notice was also provided to EPD on December 7, 2015.

## 3. SURVEY CONTROL

A survey of the Permitted Site Boundary is included in the Closure Drawings.

## 4. LEGAL DESCRIPTION

The legal description of the permit boundary can be found in Appendix A.

## 5. PERMANENT IDENTIFICATION MARKER

A permanent identification marker was installed at AP-3 on August 6, 2015.

## 6. ESTIMATE OF CCR IN UNIT

AP-3 contains approximately 1,108,000 cubic yards of CCR.



## 7. AREA OF UNIT REQUIRING FINAL COVER

AP-3 consists of approximately 25 acres that have been closed with a final cover.

## 8. SUBGRADE DRAINAGE AND STABILIZATION

During closure construction, AP-3 was managed to sufficiently remove stormwater and to provide a stable base for the construction of structural fill material and the final cover system. Stormwater was removed from the surface impoundment by pumping to Plant Hammond Ash Pond 1 and discharging through the permitted NPDES outfall.

## 9. FINAL COVER

As part of the geomembrane cap construction, ash was graded within the footprint of the impoundment to create a subgrade for the final cover system. Final cover soil was secured from the AP-3 perimeter dike and off-site borrow areas as necessary.

The final cover system was constructed to control, minimize, or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and potential releases of CCR from the unit. This was accomplished by providing sufficient grades and slopes to:

- Preclude the probability of future impoundment of water, slurry, or sediment;
- Ensure slope and cover system stability;
- Minimize the need for further maintenance; and
- Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.

The final cover for the 25-acre unit consists of (from bottom to top) a 60 mil High Density Polyethylene (HDPE) liner, geocomposite drainage media, a minimum 18-inch protective soil cover, and a 6-inch vegetative layer to establish vegetation.

The Engineering Report included in Part B of this Permit Application discusses the design of the final cover system.

## 10. SURFACE WATER DRAINAGE

The final cover system was graded to promote drainage to a series of riprap lined drainage ditches. The riprap drainage ditches convey stormwater to three outfall locations around AP-3. One riprap-lined outfall is located in the northwest corner of the unit that outlets into an existing ditch along State Route 20. Another riprap-lined outfall is in the northeast corner of the unit. This ditch terminates at an 18-inch diameter reinforced concrete pipe that travels below the adjacent railroad, and ultimately discharges into Cabin Creek. The third riprap-lined outfall is in the southwest corner of the unit. The outfall of this ditch terminates in a stormwater surge pond. The drainage ditches were sized for a 25-year, 24-hour storm event. Calculations for the stormwater infrastructure are included in the Engineering Report in Part B of this Permit Application.

## 11. INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN

The unit no longer impounds free water nor receives CCR or other waste streams. The Inflow Design Flood Control System Plan required by State CCR Rule 391-3-4.10(5)(b) is not applicable to AP-3.

## 12. INSPECTIONS

The following inspections are performed in accordance with State CCR Rule 391-3-4-.10(5)(b).

### 7-day Inspections

GPC inspects the CCR disposal facility and discharge of all hydraulic structure outlets at intervals not exceeding seven (7) days. The 7-day inspections are made by a Qualified Person and include observation and documentation of any appearance of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the facility.

### Annual Inspections

A Professional Engineer registered in Georgia inspects the facility on an annual basis. The inspection includes observation and documentation of any appearance of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the facility. The results of this inspection are presented in a report that is placed in the facility's operating record and as well as on the Georgia Power website under Environmental Compliance.

## 13. FUGITIVE DUST EMISSIONS

This fugitive dust control plan identifies and describes the CCR fugitive dust control measures that GPC will use to minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from ash ponds, roads, and material handling activities. State CCR Rule 391-3-4-.10(2)(a) (incorporating 40 CFR § 257.53 by reference) defines "fugitive dust" as "solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than through a stack, or chimney."

Fugitive dust originating from the ash ponds and ash pond closure activities will be controlled using water suppression or polymer tackifiers.

The fugitive dust control measures identified and described in this plan were adopted and implemented based upon an evaluation of site-specific conditions and are determined to be applicable and appropriate for AP-3 closure. Evaluation included assessing the effectiveness of the fugitive dust control measures for the facility, taking into consideration various factors such as site conditions, weather conditions, and operating conditions.

GPC and construction personnel will assess the effectiveness of the control measures by performing visual observations of the ash ponds and surrounding areas and implementing appropriate corrective actions for fugitive dust, as necessary. Logs will be used to record the utilization of water-spray equipment.

Any complaint received from a citizen regarding a CCR fugitive dust event at the facility will be documented and investigated. Appropriate steps will be taken, including any corrective action, if needed.

**14. VEGETATIVE PLAN**

All disturbed areas were grassed and maintained in accordance with the schedules shown in Tables 1 and 2. Permanent covers which were slow to establish received temporary seeding. Planting dates, fertilizer rates, and seeding rates met the requirements in the current edition of the Manual for Erosion and Sediment Control in Georgia.

**Table 1: Vegetation Schedule**

Seeds	lbs/Acre	Date of Planting
Pensacola Bahia Alone or with temporary cover	60	April 1- May 31
Wilmington Bahia With other perennials	30	March 1 – May 31
Tall Fescue Alone	50	August 15 - October 15, March 1 – April 30
Tall Fescue With other perennials	30	September 1 - October 15
Reed Canary Grass Alone	50	August 15 - October 15
Reed Canary Grass With other perennials	30	September 1- October 15
Common Bermuda Unhulled seed w/ temporary cover	10	October 1- February 28
Common Bermuda unhulled seed w/ other perennials	6	November 1- February 28

Notes:

1. All seeding rates are pure live seed rates.
2. All seeding will be mulched with clean dry hay at the rate of 2.5 tons per acre. Mulch will be anchored by pressing the mulch into the soil immediately after the mulch is spread using a packer disk or disk harrow or equivalent piece of equipment.
3. Temporary seeding should also complement permanent seeding to produce a suitable cover while the permanent grasses germinate.
4. Disturbed slopes greater than 3%, including soil stockpiles, are to be mulched immediately.
5. D.O.T. or County Extension seed type, seed rates, fertilizer requirements, etc. may also be used in lieu of the table above.

**Table 2: Fertilization Rates**

Fertilizer Requirements				
Type of Species	Year	Analysis or Equivalent N-P-K	Rate	N Top Dressing Rate
1. Cool Season Grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs/ac.(1)(2)
	Second	6-12-12	1000 lbs./ac.	-
	Maintenance	10-10-10	400 lbs./ac.	30
2. Cool Season Grasses and Legumes	First	6-12-12	1500 lbs./ac.	0-50 lbs./ac.(1)
	Second	0-10-10	1000 lbs./ac.	-
	Maintenance	0-10-10	400 lbs./ac.	-
3. Ground Covers	First	10-10-10	1300 lbs./ac.(3)	-
	Second	10-10-10	1300 lbs./ac.(3)	-
	Maintenance	10-10-10	1100 lbs./ac.	-
4. Temporary Cover Crops Seeded Alone	First	10-10-10	500 lbs./ac.	30 lbs./ac.(4)
5. Warm Season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac.(2)(5)
	Second	6-12-12	800 lbs./ac.	50-100 lbs./ac.(2)
	Maintenance	10-10-10	400 lbs./ac.	30 lbs./ac.
6. Warm Season Grasses and Legumes	First	6-12-12	1500 lbs./ac.	50 lbs./ac.(5)
	Second	0-10-10	1000 lbs./ac.	-
	Maintenance	0-10-10	400 lbs./ac.	-

Notes:

1. Apply in spring following seeding.
2. Apply in split applications when high rates are used.
3. Apply in 3 split applications.
4. Apply to grass species only.
5. Apply when plants grow to height to 2"-4".

**15. SITE EQUIPMENT NEEDED**

GPC worked with the closure contractor to make adequate equipment available to ensure that closure requirements were executed correctly and efficiently.

**16. SEDIMENT REMOVAL**

Accumulated sediment was removed from drop inlets, drainage pipes, diversion ditches, and other drainage structures throughout construction as required.

**17. PENETRATIONS THROUGH DIKE**

During operation of AP-3, a 36-inch steel pipe, a 60-inch riser structure, and a 36-inch corrugated metal pipe functioned as the spillway system. These features were removed or sealed by grouting as part of closure construction.

After closure construction, AP-3 does not have any spillways. Stormwater from the cap is collected in riprap-lined perimeter ditches and directed towards three stormwater outfalls around the unit. The stormwater outfall in the northeast corner of the unit consists of single concrete box culvert installed within the perimeter dike which discharges into a rip rap outfall channel and then conveys flow to an 18 inch reinforced concrete pipe installed below the railroad. .

**18. EROSION AND SEDIMENTATION CONTROL**

During closure, all ditches, diversion berms, culverts, riprap, and other drainage structures serving disturbed areas, but not already built, were constructed and placed according to the Closure Drawings or as required. These controls were used until the site was stabilized.

**19. COST OF CLOSURE AND FINANCIAL ASSURANCE**

In compliance with applicable securities laws and regulations, cost estimates for remaining closure activities will be provided to EPD under separate cover. The total remaining closure costs include all items necessary for a third party to complete the project in accordance with the Closure Plan included herein. The cost estimates provided to EPD are based on an area of 25-acres and in 2019 dollars. The cost estimates will be adjusted annually for inflation.

**PLANT HAMMOND ASH POND 3 CLOSURE COST ESTIMATE**

Item Description	Quantity	Unit	Unit Cost	Cost
<b>Construction Directs</b>				
Advanced Engineering Methods				
			Subtotal Direct Costs	
			Subtotal Indirect Costs	
			Contingency	
			<b>Total Closure Cost Estimate</b>	





**20. CLOSURE SCHEDULE**

Closure construction began in Q2 2016 with CCR stabilization and grading. The final cover construction was completed in Q2 2018.

**21. AMENDMENT TO THE CLOSURE PLAN**

This Closure Plan will be amended within the timeframes established in State CCR Rule 391-3-4-.10(7)(b) if there is a change that would substantially affect the Closure Plan in effect or if there are unanticipated events that necessitate a revision of the Closure Plan.

**22. CERTIFICATION OF CLOSURE**

Within 30 days of completion of closure, GPC will prepare a notification which will include certification from a qualified professional engineer registered in Georgia verifying that closure has been completed in accordance with this closure plan. GPC will have completed the notification when it has been placed in the facility's operating record.

Upon completion of closure activities, a professional engineer registered in Georgia will prepare and submit a Construction Certification Report to the Director. The Construction Certification Report will be completed on forms provided by the Division.

Concurrent with the submission of this Construction Certification Report to EPD, GPC will submit confirmation to EPD that a notation on the property deed, inclusive of the AP-3 permit boundary, has been recorded in accordance with the State CCR Rule 391-3-4.10(7)(f).

**23. ON-GOING PLANT OPERATIONS AND MAINTENANCE**

Plant operations and maintenance will occur within the permit boundary. Activities not directly affecting the final cover system, such as those needed to construct, maintain, replace or repair systems for electric power generation or its delivery (such as subsurface piping, electrical appurtenances, transmission structures, etc.), may be conducted at GPC's discretion. However, should utility operations be required such that the final cover system must be disturbed, GPC will submit a minor modification request to EPD for review and approval prior to commencement of such operation.

## **24. RECORDKEEPING**

GPC maintains and will continue to maintain the facility's operating record at all times during the life of the disposal facility including the post-closure period. These records are maintained by plant personnel and are located at Plant Hammond. All information contained in the facility's operating record will be furnished to EPD or be made available at all reasonable times for inspection by EPD staff. Unless specified otherwise, each file must be retained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, record, or study.

## **25. NOTIFICATION AND INTERNET POSTING REQUIREMENTS**

Unless otherwise specified by the Georgia Solid Waste Rules, GPC will provide notifications to EPD within 30 days of placing documents in the facility's operating record. The notifications will be sent before the close of business on or before the day the notification is required to be completed. Notifications to EPD will be postmarked or sent by electronic mail. Electronic mail sent to a designated EPD recipient will be used only if approved by EPD. If a notification deadline falls on a weekend or federal holiday, the notification deadline will be extended to the next business day. GPC will state in the notification to EPD if the relevant information was placed on the publicly available GPC website under Environmental Compliance. Information posted on the GPC Environmental Compliance Website will be made available to the public for a period of at least five years from the date of posting.

## **26. GROUNDWATER MONITORING**

In accordance with the Georgia Water Well Standards Act (O.C.G.A. § 12-5-120), at least once every five years, the owner of the property on which a monitoring well is constructed shall have the monitoring well(s) inspected by a professional engineer or professional geologist, who shall direct appropriate remedial corrective work to be performed if the well does not conform to standards. Well inspection records and records of remedial corrective work are subject to review by EPD. Additionally, as part of the closure plan, the cost estimate based upon current year cost for the well inspections must be provided for as part of the cost calculations for the groundwater monitoring period.

## APPENDIX

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## **A. PERMIT BOUNDARY LEGAL DESCRIPTION**

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Plant Hammond  
Ash Pond 3 Permitted Site Boundary  
Tract 1  
Legal Description

All that parcel or tract of land lying and being in land lots 177 and 184 of the 4<sup>th</sup> District, 4<sup>th</sup> Section, Floyd County, Georgia and being more particularly described as follows:

COMMENCING at a point located at the intersection of the Central of Georgia R.R. centerline (having a 150 foot R/W), with the southeastern R/W of GA Hwy. 20; running thence S 65°14'00" W a distance of 22.25 feet to an iron pin set and the TRUE POINT OF BEGINNING; thence leaving said right of way and running the following courses and distances: 1) S 14°05'48" E a distance of 407.30 feet to an iron pin set; 2) S 15°04'29" E a distance of 874.76 feet to an iron pin set; 3) N 90°00'00" W a distance of 176.70 feet to an iron pin set; 4) southwest, along a curve to the right, an arc distance of 124.76 feet to an iron pin set (said arc having a radius of 490.21 feet and being subtended by a chord having a bearing S 41°44'01" W and a chord distance of 124.43 feet); 5) S 48°43'28" W a distance of 158.38 feet to an iron pin set; 6) S 48°24'42" W a distance of 170.79 feet to an iron pin set; 7) S 48°40'49" W a distance 201.20 feet to an iron pin set; 8) S 48°51'32" W a distance of 184.61 feet to an iron pin set; 9) S 79°40'31" W a distance of 64.30 feet to an iron pin set; 10) S 88°38'04" W a distance of 87.66 feet to an iron pin set; 11) N 54°21'57" W a distance of 66.25 feet to an iron pin set; 12) N 37°51'46" W a distance of 33.24 feet to an iron pin set; 13) northwest along a curve to the left, an arc distance of 31.60 feet to an iron pin set (said arc having a radius of 64.95 feet and being subtended by a chord having a bearing of N 53°38'21" W and a chord distance of 31.29 feet); 14) N 67°34'37" W a distance of 69.81 feet to an iron pin set; 15) N 62°28'04" W a distance of 45.79 feet to an iron pin set; 16) N 45°30'24" W a distance of 14.03 feet to an iron pin set; 17) S 70°14'31" W a distance of 251.14 feet to an iron pin set; 18) S 75°14'44" W a distance of 173.55 feet to an iron pin set; 19) N 51°51'22" W a distance of 27.89 feet to an iron pin set; 20) N 13°06'16" W a distance of 110.19 feet to an iron pin set; 21) N 05°45'02" W a distance of 129.98 feet to an iron pin set; 22) N 38°09'50" E a distance of 49.16 feet to an iron pin set; 23) N 88°20'09" E a distance of 19.39 feet to an iron pin set; 24) N 87°09'05" E a distance of 42.73 feet to an iron pin set; 25) N 85°36'06" E a distance of 116.79 feet to an iron pin set; 26) N 84°07'48" E a distance of 128.51 feet to an iron pin set; 27) N 08°17'40" E a distance of 145.25 feet to an iron pin set; 28) N 16°37'48" E a distance of 137.08 feet to an iron pin set; 29) N 84°26'54" E a distance of 25.00 feet to an iron pin set; 30) N 10°50'15" E a distance of 288.36 feet to an iron pin set; 31) N 13°44'46" W a distance of 487.97 feet to an R.R. iron found, located at the southwest R/W of GA Hwy. 20; 32) N 63°47'43" E along the right of way of GA HWY 20 a distance of 771.58 feet to an iron pin set; 33) northwest, along a curve to the right, an arc distance of 273.70 feet (said arc having a radius of 11409.18 feet and being subtended by a chord having a bearing of N 64°28'57" E and a chord distance of 273.69 feet) to the TRUE POINT OF BEGINNING.

Said tract being 36.96 ACRES, more or less.

Plant Hammond  
Ash Pond 3 Permitted Site Boundary  
Tract 2  
Legal Description

All that tract or parcel of land lying and being in Land Lots 177 and 184 of the 4<sup>th</sup> District, 4<sup>th</sup> Section, Floyd County, Georgia and being more particularly described as follows:

BEGINNING at a point located at the intersection of the centerline of the Central of Georgia R.R. (having a 150 foot width right-of-way), with the southeasterly right-of-way line of GA Hwy. 20 (having a variable width right-of-way), said point having coordinates of N 1,551,824.32 and E 1,942,800.36, NAD83, Georgia State Plane, NAD83(94) West; thence run northeasterly along said southeasterly right-of-way line along the arc of a curve to the right, an arc distance of 76.08 feet to a point located at the intersection of said southeasterly right-of-way line with the easterly right-of-way line of the Central of Georgia R.R., having a radius of 11,409.18 feet, being subtended by a chord bearing N 65°28'14" E a chord distance of 76.08 feet; thence leave said intersection and run southeasterly along said easterly right-of-way line of the Central of Georgia R.R. S 14°34'423" E a distance of 285.72 feet to an iron pin set, said iron pin set having coordinates of N 1,551,579.37 and E 1,942,941.46, NAD83, Georgia State Plane, NAD83(94) West, said iron pin set being the TRUE POINT OF BEGINNING.

FROM THE TRUE POINT OF BEGINNING AS THUS ESTABLISHED, thence leave said easterly right-of-way line and run the following courses and distances: 36) N 80°25'32" E a distance of 78.45 feet to a point; 37) S 30°06'24" E a distance of 71.38 feet to a point; 38) S 15°43'59" W a distance of 122.37 feet to a point; 39) S 41°56'28" E a distance of 86.73 feet to a point; 40) S 37°11'05" E a distance of 78.99 feet to a point; 41) S 32°37'08" E a distance 64.41 feet to a point; 42) S 19°44'49" E a distance of 89.92 feet to a point; 43) S 53°07'47" W a distance of 54.25 feet to a point; 44) S 30°57'51" W a distance of 63.27 feet to a point; 45) S 24°04'18" W a distance of 83.10 feet to a point; 46) N 05°44'35" E a distance of 56.79 feet to a point; 47) S 37°52'29" E a distance of 49.49 feet to a point; 48) S 48°33'46" W a distance of 69.12 feet to an iron pin set located on the easterly right-of-way line of the Central of Georgia R.R.; 49) thence run northwesterly along said easterly right-of-way line N 14 °34'23" W a distance of 761.30 feet to an iron pin set, said iron pin set being the TRUE POINT OF BEGINNING.

Said tract or parcel of land containing 2.00 ACRES.