

POST-CLOSURE PLAN

AP-3 – INACTIVE SURFACE IMPOUNDMENT

PLANT HAMMOND
FLOYD COUNTY, GEORGIA

FOR



Georgia
Power

May 2021



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TABLE OF CONTENTS

| | | |
|-----|---|---|
| 1. | Introduction..... | 1 |
| 2. | Responsible Supervisor..... | 2 |
| 3. | Post-Closure Use of the Property | 2 |
| 4. | Routine Inspection of Vegetative / Final Cover / Drainage System..... | 3 |
| 5. | Siltation and Erosion Control..... | 3 |
| 6. | Vegetative Plan..... | 4 |
| 7. | Groundwater Monitoring | 4 |
| 8. | Notification of Monitoring Standards Exceeded | 4 |
| 9. | Limited Access | 4 |
| 10. | Site Equipment | 5 |
| 11. | Post-Closure Monitoring..... | 5 |
| 12. | Post-Closure Care Cost and Financial Assurance | 5 |
| 13. | Amendment to the Post-Closure Plan | 5 |
| 14. | Notification and Certification | 6 |



1. INTRODUCTION

The Georgia Environmental Protection Division (EPD) adopted 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 waste streams. This closure method has eliminated the future impoundment of water, sediment, or slurry.

In addition to the closure of AP-3, which included the installation of a composite final cover system, Georgia Power Company has chosen to use *TreeWell*® technology downgradient of the closed unit as an advanced engineering method (AEM). This AEM will be implemented to enhance closure effectiveness. The *TreeWell*® field will be installed outside of the AP-3 waste footprint and will not affect the final cover system, stormwater management features, or perimeter dikes. The *TreeWell*® system utilizes a specialized lined planting unit constructed with optimum planting media designed to promote downward root growth and focus groundwater extraction from a targeted depth interval. The initial establishment period for the *TreeWell*® system will take approximately 3 to 4 years. During the initial establishment period, Georgia Power will perform site inspections to monitor plant vigor and identify any potential issues.

Based on State CCR Rule 391-3-4-.10(7)(a), GPC will conduct post-closure care for the CCR unit for 30 years which will consist of at least:

- A. Maintaining the integrity and effectiveness of the final cover system, including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover;
- B. Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of State CCR Rule 391-3-4.10(6).

2. RESPONSIBLE SUPERVISOR

The contact person for post-closure care at AP-3 is:

General Manager
Georgia Power Environmental Affairs
241 Ralph McGill Blvd NE
Atlanta, Georgia 30308
404-506-6505

3. POST-CLOSURE USE OF THE PROPERTY

Georgia Power is proposing to install solar panels and associated equipment on top of the closed AP-3 at Plant Hammond as part of its continued commitment to renewable energy generation. The proposed solar panel layout is included in Permit Drawing Sheet 14. The solar installation will not disturb the integrity of the final cover system or other components of the containment system or groundwater monitoring system. The solar panels and cables will be supported by a non-penetrating ballasted anchor system that rests on top of the final cover system. Two options are proposed for the non-penetrating ballasted anchor systems including precast concrete ballast block (Option A) and pour-in-place ballast tub (Option B). Both options are depicted in the Permit Drawing Sheet 15.

Engineering evaluations of the addition of solar panels on the closed ash pond is provided in the *Post-Closure Solar Development For Ash Pond Closure* (November 2018) as part of the Engineering Report included in Section 3 of Part B of the permit application. This report includes evaluation of global stability, veneer stability, potential settlement, and the initial evaluation of effects on drainage. Further hydraulic evaluations are provided in calculation DC-HM-HAM20002-001 Revision B (May 2021) as part of the Engineering Report which indicate installation of solar panels on the ash pond final cover system will change the hydraulic characteristics of the cover system by increasing stormwater runoff and reducing water storage in the cover soil. An additional 36-inch diameter pipe at the northeast discharge is proposed to provide additional capacity for the higher stormwater runoff from the final cover system.

During construction, erosion control measures will be maintained in accordance with the current edition of the "Manual for Erosion and Sediment Control in Georgia". Work limits, unit access points, laydown areas, and vehicle restrictions will be managed to minimize erosion and impacts to the final covers system. No later than 60 days following the completion of the solar panel installation, GPC will submit a construction certification report. The certification report will include as-built drawings and certification by a qualified professional engineer verifying that the solar installation has been completed in accordance with this plan. No impacts to the final cover system are anticipated, however any unanticipated impacts to the final cover system will be addressed in accordance with the Construction Quality Assurance Plan.

Post-construction, the existing grass will be monitored and supplemented if necessary in accordance with Section 6 of this Post-Closure Plan. If evidence of erosion is found, Georgia Power will take necessary action to repair the final cover system as part of ongoing maintenance. The solar panels are planned to remain through the post-closure care period.

Plant operations and maintenance will occur within the permit boundary but outside the limits of the closed AP-3 area (e.g. outside the CCR boundary and final cover system). 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 priming, electrical appurtenances, transmission structures, etc.) may be conducted at GPC's discretion. As discussed in Section 1, the *TreeWell* AEM will be installed outside of the AP-3 cover system footprint and will not affect the final cover system, stormwater management features, or perimeter dikes.

4. ROUTINE INSPECTION OF VEGETATIVE / FINAL COVER / DRAINAGE SYSTEM

Following closure, the site will be inspected on a quarterly basis for the required post-closure care period to identify any maintenance or repairs of the final cover system. Maintenance and repairs will be provided on the final cover system so that the integrity and effectiveness of the final cover system will be maintained. Maintenance activities will include, but not be limited to, any needed repairs to the final cover system to correct any damages related to settlement, subsidence, erosion, or other events, and will be performed to prevent run-off from eroding or otherwise damaging the final cover. Maintenance tasks could include, but not limited to, repair of erosion features, repairs to any synthetic cover system components and re-establishment of vegetation, where applicable.

If any repairs to the final cover system require repair of the geosynthetic components, a written repair plan will be prepared by a professional engineer licensed in Georgia. The repair plan will specify the construction materials, contractor means and methods or performance criteria, and provide construction quality assurance to document the repair is done in accordance with the original design of the final cover system. Any repairs to the geosynthetic components will be conducted within 180 days of being identified. Interim measures (e.g., diversion of stormwater from the affected area, tarping, etc.) will be taken to minimize stormwater infiltration and to mitigate releases of CCR, leachate, or contaminated run-off to the ground or surface water. The work will be documented and certified by the Construction Quality Assurance Engineer, submitted to EPD, and placed in the facility's operating record.

5. SILTATION AND EROSION CONTROL

Throughout the post-closure care period, all permanent ditches, pipes, culverts, silt fences, and other permanent drainage structures will be inspected and maintained. Erosion control structures will be maintained to prevent damage to the final cover. Maintenance activities will include cleaning out erosion control structures on an as-needed basis.

6. VEGETATIVE PLAN

All areas lacking proper vegetation during the closure-in-place post-closure care period will be grassed and maintained according to the schedules shown in Tables 1 and 2.

Table 1: Vegetation Schedule

| Seeds | lbs/Acre | Date of Planting |
|------------------------|----------|-------------------|
| Wilmington Bahia Alone | 60 | March 15 – May 31 |

Bahia may be mixed with tall fescue.

Table 2: Fertilization Rates

| Fertilizer Requirements | | | |
|-------------------------|---------------------------------|--------------|------------------------|
| Year | Analysis or Equivalent N-P-K | Rate | N Top Dressing Rate |
| Maintenance | 10-10-10 | 400 lbs./ac. | 30 lbs/ac |

7. GROUNDWATER MONITORING

Groundwater monitoring will continue throughout the post-closure care period as described in the Groundwater Monitoring Plan included in Part A of this Permit Application.

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.

8. NOTIFICATION OF MONITORING STANDARDS EXCEEDED

GPC will be responsible for conducting all monitoring activities. If at any time the monitoring results indicate exceedances of established standards or indicate a threat to human health or the environment, GPC will notify EPD and comply with all requirements of State CCR Rule 391-3-4-.10(6).

9. LIMITED ACCESS

Access to the site will be controlled by fencing, gates, buffers, etc. Access will be limited to those time periods when the site is undergoing maintenance activities or inspections.



10. SITE EQUIPMENT

GPC will make adequate equipment available to ensure that post-closure care requirements are executed correctly and efficiently. Rental equipment will be utilized in the event that equipment dedicated to the unit should break down during post-closure care procedures.

11. POST-CLOSURE MONITORING

GPC will be responsible for the closure-in-place monitoring through the post-closure care period.

12. POST-CLOSURE CARE COST AND FINANCIAL ASSURANCE

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

PLANT HAMMOND ASH POND 3 POST CLOSURE COST ESTIMATE

| Item Description | Quantity | Unit | Unit Cost | Cost |
|---|----------|------|-----------|------|
| Post Removal Cost | | | | |
| Maintenance - Grass ¹ | | | | |
| Dike & Road Maintenance | | | | |
| Environmental Monitoring | | | | |
| Groundwater Monitoring & Reporting | | | | |
| Sampling | | | | |
| Reporting | | | | |
| Laboratory Analysis | | | | |
| Groundwater Well Maintenance and Abandonment | | | | |
| Well Maintenance | | | | |
| Well Abandonment | | | | |
| | | | | |
| Subtotal | | | | |
| Contingency | | | | |
| 30 Year Post Removal Cost Estimate | | | | |
| Total Financial Assurance Required (Closure Cost + 30 Year Post Removal Care Cost) | | | | |

Notes:

1. Maintenance - Grass includes cost for mowing the site five times per year.

13. AMENDMENT TO THE POST-CLOSURE PLAN

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



14. NOTIFICATION AND CERTIFICATION

GPC will obtain written certification from a professional engineer registered in Georgia that the Post-Closure Plan or any amendment meets the requirements of State CCR Rule 391-3-4-.10(7)(g).

No later than 60 days following the completion of the post-closure care period, GPC must prepare a notification verifying that post-closure care has been completed. The notification must include the certification by a qualified professional engineer verifying that post-closure care has been completed in accordance with this plan. GPC has completed the notification when it has been placed in the facility's operating record as required by State CCR Rule 391-3-4-.10(8) and provided to EPD. The release of the CCR unit of post-closure care must be approved by EPD.