

# CONSTRUCTION QUALITY ASSURANCE PLAN

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## AP-4 – DEWATERED SURFACE IMPOUNDMENT

PLANT HAMMOND  
FLOYD COUNTY, GEORGIA

FOR



Georgia  
Power

SEPTEMBER 2020



**GEORGIA**  
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

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

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



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## 1. GENERAL

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- A. The Georgia Environmental Protection Division (EPD) solid waste program will be notified of closure for Plant Hammond Ash Pond 4 (AP-4). Construction Quality Assurance (CQA) will be provided by a third-party consulting engineering firm specializing in the inspection and testing of soils. Resumes and qualifications including experience with projects of similar type, size, and complexity will be provided to Georgia Power Company (GPC) for their review and approval.
- B. The services of the Construction Quality Control (CQC) and CQA firm will be required during construction as described in this document.
- C. The project team will consist of the following:
  - 1. DESIGN ENGINEER: Responsible for providing interpretations and clarifications of the Contract Documents, reviewing and approving shop drawings, authorizing minor variations in the work from the requirements of the Contract Documents, and rejecting defective work. The DESIGN ENGINEER will be a registered professional engineer in Georgia.
  - 2. CQA ENGINEER: Responsible for implementing the quality assurance requirements as stated in the Closure Drawings, this CQA plan and the project objectives; verifying basic data as reasonable and complete; outlining procedures to process data; developing statistical procedures for the analysis of test data; and preparing quality assurance memoranda and quality assurance reports. The CQA ENGINEER will be paid for and report to GPC or Southern Company Services (SCS). This CQA ENGINEER will be a registered professional engineer licensed in Georgia. Reference to the CQA ENGINEER, for the purpose of this document, will include the CQA ENGINEER or his representative.
  - 3. ENGINEERING TECHNICIANS: Responsible for field observations, testing, and inspection. ENGINEERING TECHNICIANS will be assigned to the project as deemed necessary by the CQA ENGINEER and will be responsible to the CQA ENGINEER. The CQA ENGINEER, ENGINEERING TECHNICIAN, CQA ENGINEER'S representative will be on-site during all construction activities. Initial evaluation of various soil types by CQA ENGINEER during construction will be largely visual; therefore, the CQA ENGINEER and all ENGINEERING TECHNICIANS must be experienced with Visual-Manual Procedure for soil description and identification (ASTM D2488). The ENGINEERING TECHNICIANS will report to the CQA ENGINEER firm that has assigned them to the project.
  - 4. AS BUILT SURVEYOR: As-built certification surveys will be performed by a registered professional land surveyor licensed in Georgia. Drawings will be prepared for the following:
    - a. As-built subgrade elevation contours for the limits of coal combustion residual (CCR) excavation;
    - b. As-built subgrade elevation contours for the six inches of soil over-excavation below the CCR excavation subgrade;
    - c. As-built final topographic survey.

## 2. STRIPPING EXISTING COVER MATERIALS

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### A. GENERAL

AP-4 is currently covered with a cap system consisting of, from top to bottom, approximately 6 inches of topsoil, 18 inches of protective cover soil, a geocomposite drainage layer, and a geosynthetic clay liner (GCL). AP-4 will be closed by removal of the CCR to an offsite landfill permitted to receive CCR. The cap system will be removed during closure of AP-4.

### B. COVER SOIL REMOVAL

The vegetative cover soil will be removed and may be stockpiled for later use. This material will be segregated from the underlying protective cover soil if placed in stockpiles.

The protective cover soil will be removed to the underlying geocomposite materials. This protective cover soil material may be stockpiled and reused to obtain final-grade contours of the AP-4 footprint after removal of the CCR and additional six inches of soil. The CQA ENGINEER or his representative will determine if the removed protective cover soil is suitable for use as general fill material.

Due to the limited area inside the permit boundary, the protective cover soil will be stockpiled in a designated area on the Plant Hammond property for re-use in the project. Stockpiled soil will have silt fencing installed around its perimeter to prevent the uncontrolled release of sediment, seeded to promote vegetation and managed in accordance with erosion & sediment control requirements.

### C. GEOSYNTHETIC MATERIALS REMOVAL

AP-4 is covered with a geocomposite drainage layer and GCL. These materials will be removed and disposed offsite. The removal of these materials will be sequenced to minimize the footprint of exposed CCR underlying them.

### 3. EXCAVATION

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#### A. GENERAL

The CQA ENGINEER or his representative will observe the excavation of the CCR to verify removal. The CQA ENGINEER will also observe the over-excavation of six inches of soil below the CCR and document the work in daily field reports.

#### B. EXCAVATION

Excavation activities will be performed until, all visible CCR within the AP-4 footprint are removed. Areas to be excavated include the CCR within the unit, six inches of soil over-excavation, and two dike locations (after CCR removal) to allow stormwater drainage after the site is stabilized.

#### C. CCR REMOVAL VERIFICATION

##### I. Overview – Steps to CCR Unit Decontamination

Removal and Decontamination of the CCR Unit will be conducted in a three-step process:

1. All visible CCR shall be removed from the unit and placed in a permitted solid waste facility.
2. A minimum of 6 inches of soil beneath the visible CCR footprint will be excavated and placed in an appropriately permitted solid waste facility. Visual observations and use of the Munsell Soil Color Chart will be used to confirm that all visible CCR has been excavated from the former CCR footprint.
3. Groundwater monitoring of the former CCR unit will be conducted for a minimum period of 5 years and continue until groundwater monitoring concentrations do not exceed the groundwater protection standard established pursuant to 40 CFR 257.95(h) for Appendix IV constituents.

##### II. Removal and Verification Field Procedures

“CCR removal” refers to the process of verifying and documenting that CCR has been removed from AP-4. AP-4 is known to contain a mixture of fly ash and bottom ash collectively referred to as CCR. The CCR will be excavated until native soils are encountered indicating that the CCR has been removed. In addition, a six-inch layer of soil will be removed below the verified CCR/soil interface. After removal of the additional six-inch layer of soil, the intermediate surface will be inspected by EPD prior to backfill. The CCR excavation and removal criteria are described below.

##### Visual Verification of CCR Removal Procedure:

The CQA ENGINEER will monitor and document CCR removal according to the following procedure:

1. The CQA ENGINEER will prepare a map of AP-4 using a 100-ft grid spacing. Grid points will be assigned a unique alphanumeric label for reference and documentation of CCR removal.
2. CCR will be excavated from the bottom, side-slopes, and berms/dikes of the CCR unit until there is no visible CCR present. This surface will be referred to as the CCR/soil interface. All visible CCR shall be removed from the unit and placed in an appropriately permitted solid waste facility. Visual observations and use of the Munsell Soil Color Chart will be used to confirm that all visible CCR has been excavated from the former CCR footprint.
3. The CQA ENGINEER will observe the CCR/soil interface along the bottom, side-slopes, and berms/dikes of the CCR unit at the working face to confirm that visible CCR has been removed. Observations will be made with reference to the AP-4 grid map. Observations will include, but not be limited to, taking photographs, and describing soil color. The CQA ENGINEER will document observations in field logs or reports.
4. The CCR/soil interface surface will be surveyed.
5. The excavation along the bottom, side-slopes, and berms/dikes of the CCR unit will continue to a minimum of 6 inches below the CCR/soil interface or until rock is encountered. This surface will be referred to as the bottom of excavation. Excavated soil will be disposed of at an off-site permitted landfill.
6. The bottom of excavation surface will be surveyed and confirmed to be a minimum of 6 inches below the CCR/soil interface or until rock was encountered.

If CCR is observed below the initially established CCR/soil interface during the 6-inch over-excavation, the CQA Engineer will direct the contractor to continue excavation of CCR until visual verification indicates that all CCR has been removed. At that point, a minimum of 6 inches of soil beneath the visible CCR footprint will be excavated and placed in an appropriately permitted solid waste facility. Visual observations and use of the Munsell Color Chart will be used to confirm that all visible CCR has been excavated from the former CCR footprint.

## 4. GENERAL FILL

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Earthen fill is soil material which may be placed after CCR is removed to achieve final grades. Sources for earthen fill may include on-site or off-site soils. The fill will be placed and graded to promote positive drainage and support permanent vegetation to minimize erosion. The surficial soil layer will be capable of supporting vegetation and may be evaluated through soil testing and amended as necessary to support a permanent vegetative cover. Soils utilized in the closure of AP-4 will originate from the AP-4 dike embankments and, if necessary, appropriately permitted off-site sources. No new on-site borrow area will be established as part of this closure project.

## 5. CERTIFICATION

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The CQA ENGINEER will provide certification that AP-4 has completed all the closure-by-removal activities according to the Closure Drawings, the permit, and this CQA Plan. Said certification will have the CQA ENGINEER's seal as a professional engineer registered in Georgia. The CQA Certification Report documenting removal of all visible ash shall be submitted to EPD within 60 days of completion of closure by removal activities.