

# INTRODUCTION

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## PLANT BOWEN ASH POND 1 (AP-1) CLOSURE

BARTOW COUNTY, GEORGIA

FOR



Georgia  
Power

SUBMITTED NOVEMBER 2018

REVISED MARCH 2020



Geosyntec   
consultants

## 1. PURPOSE

In November 2016, the Georgia Environmental Protection Division (GA EPD) adopted amendments to the State’s Rules for Solid Waste Management. These amendments require all coal combustion residuals (CCR) units in Georgia to obtain a state permit. The amendments incorporate by reference several of the provisions contained in the Federal CCR Rule, administered by the United States Environmental Protection Agency (USEPA), in Title 40 of the Code of Federal Regulations (CFR) §257 (40 CFR §257).

Pursuant to these requirements, Georgia Power Company (GPC), the owner and operator of Plant Bowen in Bartow County near Cartersville, Georgia, is applying to the GA EPD for a Solid Waste Handling Permit for the closure of Ash Pond 1 (AP-1), an existing CCR surface impoundment located at the plant. This permit application package has been prepared for the closure of AP-1 as an “Existing Surface Impoundment” in compliance with the applicable provisions of the Georgia Rules for Solid Waste Management, Chapter 391-3-4-.10(9), Coal Combustion Residuals – Permits (i.e., State CCR Rule). This “Introduction” section of the permit application briefly describes Plant Bowen, and in particular AP-1, and the AP-1 closure strategy.

## 2. SITE BACKGROUND

Plant Bowen is a four-unit, coal-fired, electric generating facility located approximately nine miles southwest of Cartersville in Bartow County, Georgia. The plant is bordered by the Etowah River to the north and east, and Euharlee Creek to the northwest and west. Plant Bowen commenced operations in the 1970s.

CCR at Plant Bowen is stored in one ash pond (AP-1) with an area of approximately 254 acres (measured from the inside crest of the perimeter dike as interpreted from aerial photos and topographic maps). Per State CCR Rule 391-3-4.10(2)(a), which incorporates the definitions of the different types of CCR units under the Federal CCR Rule (40 CFR §257.53), AP-1 meets the definition of an existing CCR surface impoundment because it received CCR both before and after October 19, 2015. The northern approximately 125 acres of AP-1 were capped in-place between 2010 and 2015 with a soil cover. The remaining 129 acres on the southern portion of AP-1 received CCR after October 19, 2015. Infrastructure at AP-1 include two lined ash dewatering cells, two lined gypsum dewatering cells, and a clear water basin, all located within the AP-1 footprint. Approximately 30 acres of the southernmost portion of AP-1 previously served as a recycle pond for return flows to the plant. It now serves as an emergency overflow pond for the AP-1 perimeter contact water ditch (also known as the west ditch). The present inventory of CCR in AP-1 is approximately 20.4 million cubic yards (CY) (which includes about 0.2 million CY of native soil that will be excavated along with the CCR as part of the closure process).

## 3. CIRCUMSTANCES THAT TRIGGERED CLOSURE OF AP-1

This section briefly explains the specific circumstances that triggered the closure of AP-1, and how the unit will meet the closure requirements of 40 CFR §257.101 and §257.103.

Consistent with 40 CFR §257.101(b), evaluations were performed for the location standards specified in the Federal CCR Rule. GPC posted information to the internet pertaining to location standards on

October 17, 2018 at their publicly accessible website address listed below in Section 5 of this document. The outcome of the location restriction evaluations was that, under current conditions, AP-1 does not meet the uppermost aquifer location restriction of 40 CFR Part §257.60(a) or the unstable area location restriction of 40 CFR Part §257.64(a).

Under the Federal CCR Rule, an owner or operator of an existing CCR surface impoundment that has not met the location standards specified in 40 CFR §257.60 through §257.64, must within the timeframes specified in 40 CFR §257.101(b)(1), cease placing CCR and non-CCR waste streams into such unit, unless the owner complies with the alternative closure procedures of 40 CFR §257.103. Because GPC currently has no alternative disposal capacity for the flue gas desulfurization (FGD) waste streams currently provided by the gypsum dewatering cells within AP-1, and as allowed by the alternative closure requirements of 40 CFR §257.103, GPC prepared a certification demonstrating that the gypsum dewatering cells must continue to be managed within AP-1 until completion of construction and calibration of a new FGD wastewater treatment and solids removal system at Plant Bowen. The certification of no alternative CCR disposal capacity was posted to the internet at the publicly accessible website address listed below in Section 5 of this document. As indicated in the certification of no alternative CCR disposal capacity, placement of non-CCR and CCR waste streams ceased on or before April 17, 2019, with the exception of the FGD waste streams, which will continue to be received in AP-1 until approximately December 31, 2020 when alternative capacity is expected to be available. As required by 40 CFR §257.103(a)(2), once alternative capacity is available, AP-1 will initiate closure in accordance with the timeframes in 40 CFR §257.102(e) and (f).

#### **4. CLOSURE STRATEGY**

Pursuant to both the Federal and State regulations, GPC has elected to close AP-1 at Plant Bowen. As reflected in this permit application package, AP-1 will be closed in-place whereby the entirety of CCR within AP-1 will be excavated and consolidated into an approximately 144-acre fully-contained engineered structure (composite-lined and final-covered area) that will be constructed in the south-central portion of the current AP-1 footprint. This closure method is referred to in this permit application as consolidated lined closure. This closure strategy was chosen by GPC in recognition of the site-specific geological and geotechnical conditions at the plant site.

GPC estimates that it can complete AP-1 closure activities in accordance with this permit application within approximately 15 years following the beginning of closure. GPC will notify GA EPD of its intent to close AP-1 upon ceasing to receive CCR and non-CCR wastestreams or permit approval.

#### **5. WEBSITE ADDRESS**

The information applicable to Plant Bowen AP-1 that is required to be posted on a publicly accessible internet site is found, and will continue to be posted, at the following GPC website address under Environmental Compliance:

<https://www.georgiapower.com/CCRRuleCompliance>

#### **6. PLANT BOWEN AP-1 PERMITTING REQUIREMENTS**

This permit application for the consolidated lined closure of AP-1 at Plant Bowen addresses the State CCR Rule requirements for an Existing Surface Impoundment contained in 391-3-4-.10(9)(b) and 391-3-4-.10(9)(c)5. These requirements include:

### **General CCR Unit Permit Application Requirements**

- *391-3-4-.10(9)(b)1. - A completed form designated by EPD.*

The completed form is included in Section 2 of Part A of this permit application.

- *391-3-4-.10(9)(b)2. - Written verification that the site conforms to all local zoning or land use ordinances.*

Zoning confirmation is included in Section 4 of Part A of this permit application.

- *391-3-4-.10(9)(b)3. - Property boundary survey and legal description.*

The property boundary survey and legal description is included in the Closure Drawings in Section 9 of Part A of this permit application.

- *391-3-4-.10(9)(b)4. - Financial assurance mechanism meeting the criteria in Rule 391-3-4-.13.*

In compliance with applicable securities laws and regulations, GPC will provide specific cost estimates for closure and post-closure care during the permit application review process as estimates are developed and finalized. It is anticipated these estimates will be available to GA EPD in the first half of 2019. GPC will provide a demonstration of financial assurance upon approval of closure and post-closure care cost estimates by GA EPD.

- *391-3-4-.10(9)(b)5. - A qualified professional engineer's certification that all application requirements have been met.*

The professional engineer's certification is included in Section 3 of Part A of this permit application.

### **Existing CCR Surface Impoundment Permit Application Requirements**

- *391-3-4-.10(9)(c)5.(i) - Location restriction demonstrations required by 40 CFR 257.60, 40 CFR 257.61, 40 CFR 257.62, 40 CFR 257.63, and 40 CFR 257.64.*

The location restriction report is located in Section 1 of Part B of this permit application.

- *391-3-4-.10(9)(c)5.(ii) - Description of the CCR surface impoundment's design criteria required by 40 CFR 257.71 and 40 CFR 257.73.*

AP-1 at Plant Bowen AP-1 is an existing unlined CCR surface impoundment that will be lined and closed in accordance with State CCR Rule 391-3-4-.10(7)(b) which incorporates the closure

requirements in 40 CFR §257.102. The other closure design criteria contained in 40 CFR §257.73 have been addressed as follows:

- A permanent identification marker as set forth by §257.73(a)(1) was installed.
  - An Emergency Action Plan as required by §257.73(a)(3) was prepared and is included in the “CCR Postings” tab in Section 4 of Part B of this permit application.
  - The history of construction as required by §257.73(b) and (c) was prepared and is included in the “CCR Postings” tab in Section 4 of Part B of this permit application.
  - An initial hazard potential classification, and structural stability and safety factor assessments, as required by §257.73(a)(2), (b), (d), (e), and (f), were prepared and are included in the “CCR Postings” tab in Section 4 of Part B of this permit application.
  - Additional stability and other engineering analyses were conducted for the lined and closed configuration of AP-1. These additional analyses are presented in the Engineering Report included in Section 3 of Part B of this permit application.
  - Periodic assessments of the items required by §257.73(a)(2), (d), and (e) [i.e., hazard potential classification, structural stability, and safety factor] will be performed every five years. The assessment process will be conducted in accordance with §257.73(f)(3) and (g).
- *391-3-4-.10(9)(c)5.(iii) - Description of how the CCR surface impoundment's operating criteria required by 40 CFR 257.80, 40 CFR 257.82, and 40 CFR 257.83 are met.*

The fugitive dust control plan that identifies and describes the CCR fugitive dust control measures that will be used during AP-1 closure construction is located in Section 7 of Part A of this permit application. Additionally, an inspection plan is located in Section 7 of Part A of this permit application.

The hydrologic and hydraulic capacity requirements for AP-1 are included in the “CCR Postings” tab in Section 4 of Part B of this permit application. This includes an initial Inflow Design Flood Control System Plan prepared as required by §257.82(c). Amendments to the plan may be made at any time required due to a change in conditions that would affect the in-place plan. All revisions to the Inflow Design Flood Control System Plan will be documented and placed in the operating record. Furthermore, plan revisions (i.e., preparation of periodic inflow design flood control system plans) will be made every five years in accordance with §257.82(c)(4), (5) and (d).

- *391-3-4-.10(9)(c)5.(iv) - Groundwater monitoring plan in accordance with Rule 391-3-4-.10(6). Explanation of how groundwater monitoring and corrective action criteria required by 40 CFR 257.90, 40 CFR 257.91, 40 CFR 257.93, 40 CFR 257.94, 40 CFR 257.95, 40 CFR 257.96, 40 CFR 257.97, and 40 CFR 257.98 are met.*

A Groundwater Monitoring Plan has been prepared for Plant Bowen AP-1 in accordance with 40 CFR §257.90, 40 CFR §257.91, and 40 CFR §257.93 through 40 CFR §257.98. The plan is included in Section 6 of Part A of this permit application.

- *391-3-4-.10(9)(c)5.(v) - Explanation of how closure and post-closure care requirements found in 40 CFR 257.101, 40 CFR.257.102, 40 CFR 257.103, and 40 CFR 257.104 will be met.*

The Closure Plan and Post-Closure Plan for AP-1 are presented in Sections 7 and 8, respectively, of Part A of this permit application.

- *Rule 391-3-4-.10(9)(c)5.(vi) - Website address for information required to be posted by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107.*

The information that is required to be posted for Plant Bowen AP-1 is found on the GPC website under Environmental Compliance.

**Send completed application to:**  
Environmental Protection Division, Solid Waste Management Program  
4244 International Parkway, Suite 104  
Atlanta, GA 30354-3902

County:  
Facility Name:

## CCR Unit - Application for Solid Waste Handling Permit

(Please type or print)

### I. APPLICANT INFORMATION

Owner's Name or Registered Corporation Name: [Georgia Power Company](#)

Facility Address: [317 Covered Bridge Road, SW](#)

Phone: [404-506-6505](#)

City: [Cartersville](#)

State: [GA](#)

ZIP Code: [30120](#)

Authorized Official: [Aaron D. Mitchell](#)

Title: [General Manager – Environmental Affairs](#)

Mailing Address: [241 Ralph McGill Blvd NE](#)

Phone: [404-506-6505](#)

City: [Atlanta](#)

State: [GA](#)

ZIP Code: [30308](#)

Email Address: [gpcenv@southernco.com](mailto:gpcenv@southernco.com)

Facility CCR Website(s):

(<https://www.georgiapower.com/CCRRuleCompliance>)

II. PROPERTY DETAILS: Complete below **and attach** a street or highway map indicating the site/facility location. Application must be accompanied by written zoning confirmation.

County: [Bartow](#)

City: [Cartersville](#)

Co-ordinates (in decimal degrees, near facility center): [34.1297° N; 84.9298° W](#)

Property for Processing/Disposal is:  Owned  Leased (please complete owner details below)

Property Owner (if leased):

Address:

Phone:

City:

State:

Zip:

### III. APPLICATION TYPE:

New Permit

Major Modification to Existing Permit

Transfer of Permit

Other

### IV. CCR UNITS: List all CCR units covered under this application

[Ash Pond 1 \(AP-1\)](#)

V. OWNERS: List all owners of the facility (defined as holding a 5% or greater share). All owners listed below must complete the Supplemental Form for O.C.G.A. 12-8-23.1(a)(3)(B)

Georgia Power Company

VI. SIGNATURE

Authorized Official's Signature:

*Ar D Mitchell*

Date: *11/13/18*

Sworn to and subscribed before me this 13 day of November, 2018

Notary Public:

*Dana L. McLean*

My commission expires





Send with completed application to:  
 Environmental Protection Division, Solid Waste Management Program  
 4244 International Parkway, Suite 104  
 Atlanta, GA 30354-3902

County:

Facility:

## Solid Waste Handling Permit Supplemental Form for O.C.G.A. 12-8-23.1(a)(3)(B) (Please type or print)

I. INFORMATION: This form must be completed by each owner, or an authorized official of a corporation, holding a 5% or greater ownership share. This form must be notarized.

Name of Facility Applying for Solid Waste Handling Permit: Plant Bowen

Owner's Name or Registered Corporation Name: Georgia Power Company

Authorized Official: Aaron D. Mitchell

Title: General Manager – Environmental Affairs

Mailing Address: 241 Ralph McGill Boulevard

Phone: (404) 506 - 6505

City: Atlanta

State: GA

ZIP Code: 30308

Email Address: gpcenv@southernco.com

| A.  | Yes                      | No |
|---|--------------------------|----|
| (1) Has the applicant, or if the applicant is a corporation, partnership, or association, has any officer, director, manager, or shareholder of five percent or more of stock financial interest in the corporation, partnership, or association intentionally misrepresented or concealed any material fact in the application submitted to the director?  | <input type="checkbox"/> | X  |
| (2) Has the applicant, or if the applicant is a corporation, partnership, or association, has any officer, director, manager, or shareholder of five percent or more of stock financial interest in the corporation, partnership, or association obtained or attempted to obtain the permit by misrepresentation or concealment?  | <input type="checkbox"/> | X  |
| (3) Has the applicant, or if the applicant is a corporation, partnership, or association, has any officer, director, manager, or shareholder of five percent or more of stock financial interest in the corporation, partnership, or association been convicted by final judgment, and all appeals have been exhausted, in the State of Georgia or any federal court of any felony involving moral turpitude within three years immediately preceding the application for a permit? | <input type="checkbox"/> | X  |
| (4) Has the applicant, or if the applicant is a corporation, partnership, or association, has any officer, director, manager, or shareholder of five percent or more of stock financial interest in the corporation, partnership, or association been convicted of any violations of any environmental laws punishable as a felony in any state or federal court within five years preceding the application for a permit?  | <input type="checkbox"/> | X  |
| (5) Has the applicant, or if the applicant is a corporation, partnership, or association, has any officer, director, manager, or shareholder of five percent or more of stock financial interest in the corporation, partnership, or association knowingly, willfully, and consistently violated the prohibitions specified in Code Section 12-8-30.7?  | <input type="checkbox"/> | X  |
| (6) Has the applicant, or if the applicant is a corporation, partnership, or association, has any officer, director, manager, or shareholder of five percent or more of stock financial interest in the corporation, partnership, or association been adjudicated in contempt of any court order enforcing any federal environmental laws or any environmental laws of the State of Georgia within five years preceding the application for a permit?                               | <input type="checkbox"/> | X  |

B. On a separate sheet, please provide detailed explanations for each question above answered "yes."

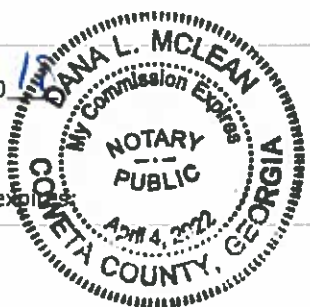
Signature: Aaron D. Mitchell

Date: 11/13/18

Sworn to and subscribed before me this 13 day of November, 2018

Notary Public: Dana L. McClean

My commission expires



14 November 2018

Mr. Richard Dunn  
Director  
Georgia Environmental Protection Division  
2 Martin Luther King Jr. Drive  
Suite 1456  
Atlanta, GA 30334-9000

**Re: Professional Engineer Certification  
Rule 391-3-4-.10(9)(b)5**

Dear Mr. Dunn:

Geosyntec Consultants, Inc. (Geosyntec) is an engineering firm employing professional engineers in good standing in accordance with State statutes, and the firm has experience in the design and construction of solid waste disposal facilities. I (Dr. Rudolph Bonaparte, P.E., Senior Principal with Geosyntec) am the Engineer of Record for this permit application, titled "*Plant Bowen Ash Pond (AP-1) Closure, Bartow County, Georgia*". I am registered as a Professional Engineer in the State of Georgia and have more than 35 years of experience in engineering.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I do hereby certify that in my professional opinion the applicable requirements of the *Georgia Environmental Protection Division Rule 391-3-4-.10 for Management of Coal Combustion Residuals* have been met.

**ATTEST:**

Geosyntec Consultants, Inc.

**Engineering Firm**

Rudolph Bonaparte, Ph.D., P.E.

**Name of Professional Engineer**

Rudy Bonaparte  
**Signature**

November 14, 2018  
**Date**





# BARTOW COUNTY

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**Steve Taylor**, Sole Commissioner

February 20, 2018

Mr. Jeffrey W. Cown

Branch Chief

Georgia Environmental Protection Division

2 Martin Luther King Jr. Drive, SE

Suite 1054, East Floyd Tower

Atlanta, GA 30334-9000

**Re: GA Power – Plant Bowen**

**Permit Application – CCR Surface Impoundment**

Dear Mr. Cown:

The Georgia Power CCR Surface Impoundment located at Plant Bowen, 317 Covered Bridge Road, S.W., Cartersville, Georgia complies with local zoning and land use ordinances.

Sincerely,

A handwritten signature in blue ink, appearing to read "Peter Olson", is written over a light blue horizontal line.

Peter Olson

Bartow County Administrator