

1. INTRODUCTION

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Overview

Georgia Power’s Plant Bowen is located nine (9) 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. The physical address of the plant is 317 Covered Bridge Rd SW, Cartersville, GA 30120. Plant Bowen operates four coal-fired combined cycle units outfitted with flue gas desulfurization (FGD) equipment (scrubbers) for air pollution control and has been in operation since the 1970s.

Georgia Power operates a coal combustion residuals (CCR) landfill located on approximately 500 acres on the eastern portion of the plant property. The Plant Bowen Coal Combustion By-Product (CCB) Landfill currently operates under Industrial Solid Waste Handling Permit No 008-0018D(LI)¹ issued by the Georgia Environmental Protection Division (EPD) on November 17, 2006, and amended by several minor modifications to the permit. This facility will now be referred to as the Plant Bowen Coal Combustion Residuals (CCR) Landfill to conform to the newly adopted Georgia Solid Waste Rules and Regulations, Rule 391-3-4-.10, Coal Combustion Residuals (Rules).

The Plant Bowen CCR Landfill is currently permitted to operate ten (10) coal-combustion residual (CCR) disposal cells, i.e. Cell 1 through 10. Cells 1, 2, 3, 4, 9 and 10 were constructed prior to October 19, 2015, and meet the regulatory definition of an “existing CCR Landfill”. Cells 5 through 8 are future cells and are considered “lateral expansions” of the existing CCR unit under the Georgia Environmental Protection Division (EPD) Rule 391-3-4-10 for Coal Combustion Residuals (CCR Rules).

The Plant Bowen CCR Landfill cells were originally designed and permitted with a clay liner and no leachate collection system. Cells 1 through 4 and Cells 9 and 10 were built as permitted. Cells 3 and 4 were retrofitted with a composite liner and leachate collection system in 2014, and Cells 9 and 10 were retrofitted with a composite liner and leachate collection system in 2020. The design of the Cells 9 and 10 liner retrofit is documented in a separate Engineering Report dated September 28, 2018 submitted to EPD in support of a Minor Modification to the existing solid waste handling permit. All future cells constructed at the Plant Bowen CCR Landfill are lateral expansions of the existing CCR landfill and will be constructed in accordance with the Rules for new or lateral expansions of CCR landfills.

¹ The current Solid Waste Handling permit refers to this landfill as a “Coal Combustion By-Product” (CCB) disposal facility. New State and Federal Rules refer to the material disposed in these landfill cells as “Coal Combustion Residuals” or “CCR”. All the new documents and drawings developed for this application make references to CCRs; however, some of the supporting documentation and plan drawings that were not revised as part of this permit application still refer to the material disposed at this facility as CCB. For this permit application, CCBs and CCRs refer to the same materials.

Plant Bowen CCR Landfill Permitting Requirements

This submittal addresses the permit application requirements of Rule 391-3-4-.10(9)(b) and Rule 391-3-4-.10(9)(c)1 and 391-3-4-.10(9)(c)3. for lateral expansion of CCR landfills and existing CCR landfills, respectively. The Rules are addressed in this permit application as follows:

General Permit 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 the 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 3 of Part A of the permit application.

- *OCGA 12-8-25.1 – Is disposal facility within 5,708 yards of a site in Georgia designated as a National Historic Site?*

Plant Bowen is not located within 5,708 yards of a National Historic Site (see the Hydrogeologic Assessment Review, performed by Bunnell-Lammons Engineering, Inc. and included in Section 1 of Part B of the 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 included in Section 10 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.*

Financial Assurance is addressed in the Closure and the Post-Closure Plan included in Sections 8 and 9 of Part A of this permit application and will be provided once EPD concurs with the closure estimates provided by Georgia Power.

- *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 4 of Part A of the permit application

Lateral Expansions to CCR Landfill Permit Requirements (apply to Cells 5 through 8)

- *391-3-4-.10(9)(c)1. New CCR landfills or lateral expansion of CCR landfills*
 - *391-3-4-.10(9)(c)1. (i) Technical data and report to comply with location restrictions in 40 CFR 257.60, 40 CFR 257.61, 40 CFR 257.62, 40 CFR 257.63, and 40 CFR 257.64.*

A review of the location restrictions evaluations performed when the landfill was originally permitted is included Section 1 of Part B.
 - *391-3-4-.10(9)(c)1. (ii) Siting report that meets the criteria specified in "Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia", Circular 14, Appendix A. The report shall be prepared by a qualified groundwater scientist.*

An updated siting report evaluation has been prepared by Bunnell-Lammons Engineering, Inc. and is included in Section 1 of Part B. The siting report when the landfill was originally permitted is also included in this section prepared.
 - *391-3-4-.10(9)(c)1. (iii) Plan and profile sheets of the disposal area. The plan and profile sheets shall include topographical maps at contour intervals of not more than five feet for the existing ground surface elevations, initial disposal area elevations, final disposal area elevations, and buffers.*

Plans and sections of the CCR cells are included in the permit drawings in Section 10 of Part A of this permit application.
 - *391-3-4-.10(9)(c)1. (iv) Design of a liner and leachate collection system as required by 40 CFR 257.70.*

The liner system meets the requirements of 40 CFR 257.70. It is discussed in the Engineering Report included in Section 2 of Part B, and details are included in the permit drawings in Section 10 of Part A of this permit application.
 - *391-3-4-.10(9)(c)1. (v) Quality assurance/quality control (QA/QC) plan for the construction of the liner system, leachate collection system, and the final cover system.*

The Construction Quality Assurance Plan is included in Section 6 of Part A of this permit application.
 - *391-3-4-.10(9)(c)1. (vi) An operation plan that includes at a minimum:*
 - ✓ *391-3-4-.10(9)(c)1.(vi)(I) A fugitive dust plan in compliance with 40 CFR 257.80.*
 - ✓ *391-3-4-.10(9)(c)1.(vi) (II) A run-on and run-off control plan in compliance with 40 CFR 257.81.*

- ✓ 391-3-4-.10(9)(c)1.(vi) (III) *Inspection requirements in compliance with 40 CFR 257.84.*
- ✓ 391-3-4-.10(9)(c)1.(vi) (IV) *Identification of any uniquely associated wastes as listed in 40 CFR 261.4(b)(4), the estimated quantities generated by the facility, and a description of how these wastes will be managed.*
- ✓ 391-3-4-.10(9)(c)1.(vi) (V) *Procedures for compliance with recordkeeping, notification, and posting of information to the internet as required by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107.*
- ✓ 391-3-4-.10(9)(c)1.(vi) (VI) *Procedures for updating all plans and assessments periodically as required by 40 CFR Part 257.*

The Operations Plan that includes the items listed above is included in Section 5 of Part A of this permit application.

- 391-3-4-.10(9)(c)1. (vii) *A groundwater monitoring plan in accordance with Rule 391-3-4-.10(6).*

The Groundwater Monitoring Plan is included in Section 7 of Part A of this permit application.

- 391-3-4-.10(9)(c)1. (viii) *A closure and post-closure plan in accordance with Rule 391-3-4.10(7).*

The closure and post-closure plans are included in Sections 8 and 9, respectively, of Part A of this permit application.

- 391-3-4-.10(9)(c)1. (ix) *Any additional information that may be required by the Division.*

Existing CCR Landfills Permit Requirements (apply to Cell 1 through 4 and Cells 9 and 10)

- 391-3-4-.10(9)(c)3. *Existing CCR Landfills*
 - 391-3-4-.10(9)(c)3. (i) *Location restriction demonstration requirements in 40 CFR 257.64.*

A review of the location restrictions evaluations performed when the landfill was originally permitted is included Section 1 of Part B.

- 391-3-4-.10(9)(c)3. (ii) *Description of how the CCR landfill's operating criteria requirements in 40 CFR 257.80, 40 CFR 257.81, and 40 CFR 257.84 are met.*

The Operations Plan is included in Section 5 of Part A of this permit application.

- *391-3-4-.10(9)(c)3. (iii) Groundwater monitoring plan in accordance with 391-3-4-.10 (6). Explanation of how groundwater monitoring and corrective action criteria requirements in 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.*

The Groundwater Monitoring Plan is included in Section 7 of Part A of this permit application.

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

The closure and post-closure plans are included in Sections 8 and 9, respectively, of Part A of this permit application.

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

The postings required by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107 are found on the Georgia Power website under Environmental Compliance.

2. APPLICATION FORM (GEORGIA EPD)

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: Vice President – 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

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): 34.1359° N; 84.9034° 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

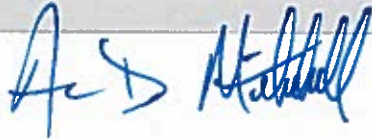
CCR Landfill

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:



Date:

7/27/2022

Sworn to and subscribed before me this 27 day of July, 2022.

Notary Public:

Dana L McLean

My commission expires:

4/26/26



3. LOCAL ZONING OR LAND USE CONFIRMATION



BARTOW COUNTY

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 Landfill

Dear Mr. Cown:

The Georgia Power Plant Bowen - CCR Landfill located at 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".

Peter Olson

Bartow County Administrator

4. PROFESSIONAL ENGINEER CERTIFICATION



HODGES, HARBIN,
NEWBERRY & TRIBBLE, INC.

Consulting Engineers

August 29, 2022

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:

Hodges, Harbin, Newberry and Tribble, Inc. (HHNT), 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. R. Brant Lane, P.E., with HHNT is the Engineer of Record for this permit application. He is registered in the state of Georgia and has more than 20 years of experience in Engineering.

"I certify under penalty of law that this document and 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 the application requirements of the Georgia Environmental Protection Division Solid Waste Rule 391-3-4-.10 for Management of Coal Combustion Residuals have been met."

ATTEST:

Hodges, Harbin, Newberry and Tribble, Inc.
Engineering Firm

R. Brant Lane, P.E.
Name of Professional Engineer

RBL
Signature

August 29, 2022
Date

Date



8/29/22

Education

Bachelor of Civil Engineering
Georgia Institute of Technology,
1997

Certifications

Georgia	27185
South Carolina	21474
North Carolina	27198
Florida	62092
Virginia	48990
Alabama	24594
Mississippi	20929
Louisiana	39556
Tennessee	116167

NPDES Level II Design

Professional Service

Georgia Erosion and Sediment
Control Overview Council

Georgia Soil and Water
Conservation Commission
Stakeholder Advisory Board

Mr. Lane is a Registered Professional Engineer with over 20 years of experience providing project management and environmental consulting services to clients throughout the Southeast United States. He has served as the Project Manager for numerous environmental and infrastructure permitting construction and design projects, including solid waste/CCR landfill, landfill gas collection, waste transfer facilities, hazardous site cleanup, mining facilities, storm water management facilities, roadway, water distribution, wastewater collection and recreation. He has performed numerous siting, feasibility evaluations and cost estimates on solid waste disposal facilities and the solid waste landfill closure alternatives.

Relevant Experience

- **Private Utility Client**

Senior Technical Engineer for the evaluation of coal combustion residual (CCR) management strategy at five electric power producing facilities. The work included an assessment of the CCR management strategy compliance with 40 CFR Par 257 and all state regulations on CCR. The evaluation included a review of structural stability compliance with Part 257, water handling strategy, CCR handling requirements, disposal alternatives and permitting strategy, proposed impoundment closure schedule and community acceptance of closure strategy for all CCR impoundments at each facility. The evaluation included quantifying risk and support in the development of cost estimates for the CCR management strategy.

- **Private Client, Georgia**

Senior Level Design Engineer for a CCR monofill. Facility includes approximately 13 million cubic yard CCR disposal capacity composite liner, leachate collection and CCR contact water handling facilities, wetland permitting, and new rail unloading facilities. Project duties include senior level review and strategic design, development of leachate and contact water handling facility design and quality assurance. Includes CCR handling and operations plan, closure plan and cost estimates for closure and post closure care.

- **Landfill Construction and Closure, Southeastern United States**

Lead Engineer and Senior Designer on over 40 composite lined landfill cell construction and closure construction projects. Projects include soil liners and caps, geomembrane liners and closure systems, leachate collection, leachate pumping and storage, borrow areas, alternate liner and cap system evaluations, construction quality assurance plans and management of the CQA Engineer, budget forecasting and tracking of all vendors and contractors. The work has been performed under numerous state agencies and regulations including North Carolina, Tennessee, South Carolina, Georgia, Alabama and Florida.

- **Habersham County Landfill, Georgia**
Lead engineer and primary consultant for Habersham County solid waste program. Completed successful horizontal and vertical expansion of the landfill footprint including management of all site hydrogeologic work, landfill design, engineering report, and public participation requirements. Prepared new solid waste management plan for the county and conducted all public participation proceedings. Evaluated and prepared remediation plan for landfill gas migration issues, provides annual capital budget projections, and design and construction oversight on landfill construction
- **Private Landfill Client, Georgia**
Engineer of record for this facility. Projects include Subtitle D Landfill closure, an exposed geomembrane cap, two municipal solid waste landfill cells, permitting adjacent tracts of land for soil borrow, landfill gas extraction system design and construction, leachate handling facilities design and construction, storm water management ponds and landfill expansion. The expansion project involves the significant expansion of a lined MSW landfill and the mining of an existing unlined MSW landfill and modification of the corrective active plan of the unlined facility. This project required extensive permitting negotiations with Georgia EPD. Continuing work on this landfill includes evaluation of landfill cell construction alternatives, construction cost estimating, capital projections and budget tracking of all capital projects.
- **Private Landfill Client, Southeastern United States**
Senior Engineer for all aspects of landfill operations consulting on 16 landfills in Florida, Georgia, Alabama, Mississippi, and Tennessee. Provided senior level consulting on items such as interim fill plans, landfill gas migration and remediation, groundwater monitoring and remediation, landfill gas extraction systems, soil balance and borrow site development, alternate daily covers, landfill cover planning, landfill expansion planning and strategy, stormwater management, coordination with State environmental agencies, reporting and landfill stability.
- **TVA Gallatin, Tennessee Fossil Plant**
Provided senior engineering assistance and site inspection for the peer review of the composite lined landfill construction. Inspection work focused on protective cover and leachate collection system installation and quality assurance.
- **Private Client, Georgia**
Lead Engineer and project manager for two Subtitle D landfill closure projects totaling approximately 60 acres. Projects included all elements of design, permitting of an alternate final closure design to match available cap materials, landfill gas system modifications, bidding, contract management, management of construction quality assurance work and final certification to the Georgia Environmental Protection Division.