**Coal Combustion Residuals**

**Asset Retirement Obligation Program**

**Semi-Annual Program Status Report**

Georgia Power Company

*March 2020*

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**Georgia Power Company**

**Coal Combustion Residuals Asset Retirement Obligation Program**

**Semi-Annual Program Status Report**

**March 2020**

In accordance with the Georgia Public Service Commission’s (“Commission”) Final Order in the 2019 Integrated Resource Plan (“IRP”) proceeding in Docket No. 42310, Georgia Power Company (“Georgia Power” or the “Company”) provides this semi-annual report regarding the Asset Retirement Obligations (“ARO”) for its Coal Combustion Residuals (“CCR”) compliance strategy activities through December 31, 2019, and other notable updates.

**EXECUTIVE SUMMARY**

* **Georgia Power Company is complying with all federal and state requirements at its 29 ash ponds and 12 CCR landfills at 12 sites across the state.**

Georgia Power is required to comply with both federal and state CCR rules. Georgia Power’s Environmental Compliance Strategy (“ECS”) to comply with these rules was reviewed and approved by the Commission in the Company’s 2019 IRP. An annual update to the ECS will be filed with the Commission in March 2020. The following table summarizes the Company’s current PSC-approved closure strategy for its 29 ash ponds and 12 current CCR landfills.

**Table 1. Georgia Power’s Current Ash Ponds and CCR Landfills**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Ash Pond Closure Method** | | | **Current CCR Landfills** |
|  | **Closure By Removal** | **Closure In Place** | **Total** |
| **Arkwright** |  |  |  | **3** |
| **Bowen** |  | 1 | **1** | **1** |
| **Branch** | 5 |  | **5** |  |
| **Hammond** | 3 | 1 | **4** | **1** |
| **Kraft** | 1 |  | **1** | **1** |
| **McDonough** | 1 | 3 | **4** |  |
| **McIntosh** | 1 |  | **1** | **2** |
| **McManus** | 1 |  | **1** |  |
| **Mitchell** | 3 |  | **3** |  |
| **Scherer** |  | 1 | **1** | **1** |
| **Wansley** |  | 1 | **1** | **1** |
| **Yates** | 4 | 3 | **7** | **2** |
|  | 19 | 10 | **29** | **12** |

* **Georgia Power’s Environmental Compliance Strategy outlines its commitment to its customers and environmental compliance related to its operations.**

As outlined in the ECS, Georgia Power’s compliance strategy process has evolved and been refined over the years to adapt to changing regulations. The purpose of the process has always been to produce cost-effective compliance strategies that will maximize the benefit to customers while achieving environmental objectives and assuring compliance with all requirements.

Georgia Power’s ash pond closure plans and compliance strategy are designed to comply with the Federal CCR Rule, as well as the more stringent requirements of the Georgia CCR Rule. The Georgia CCR Rule regulates all ash ponds and landfills in the state and establishes a comprehensive permitting program through which the Georgia Environmental Protection Division (“EPD”) will review and issue all permits, as well as direct and oversee closure activities to ensure ash pond closures meet the requirements of the Georgia CCR Rule and are protective of human health and the environment.

* **The Company is making progress with its ash pond closures, with a focus on safety, compliance, and quality.**

Closure construction has progressed at 19 ash ponds at 8 facilities. The remaining 10 ponds are in various stages of engineering design, bid package review, and/or early site preparation. Project to date, the Company has spent $561 million on CCR ARO activities through December 31, 2019.

Georgia Power has instilled a culture of safety excellence on all active sites. Approximately 1.1 million safe workhours have been performed since February 2018.

Robust and site-specific quality assurance plans were included in the Company’s permit applications, discussed below, submitted to the Georgia EPD. Georgia Power has implemented a process of quality assurance through third-party engineering firms to assure that work will be accomplished per approved permit drawings and in compliance with permit requirements.

* **GPC’s CCR compliance strategy is a long-term effort, with construction currently expected to span the next 15 years, followed by interim post closure care (“IPCC”) and post closure care (“PCC”) at each site.**

Georgia Power’s overall program - including construction, IPCC, and PCC - is currently expected to span more than 50 years, with a majority of spend projected over the next approximately 15 years.

Extensive construction activities are or will be implemented at each site such as dewatering, excavation, ash consolidation/placement, installation of a cover system, installation of specialized engineered controls, and site restoration. IPCC and PCC activities involve maintenance of the facility and ongoing groundwater monitoring after closure. IPCC designates the time period following construction during which requirements to conduct monitoring and maintenance exist before the PCC period begins.

* **The total project cost related to Georgia Power’s CCR Asset Retirement Obligation program is currently estimated at $7.3 billion.**

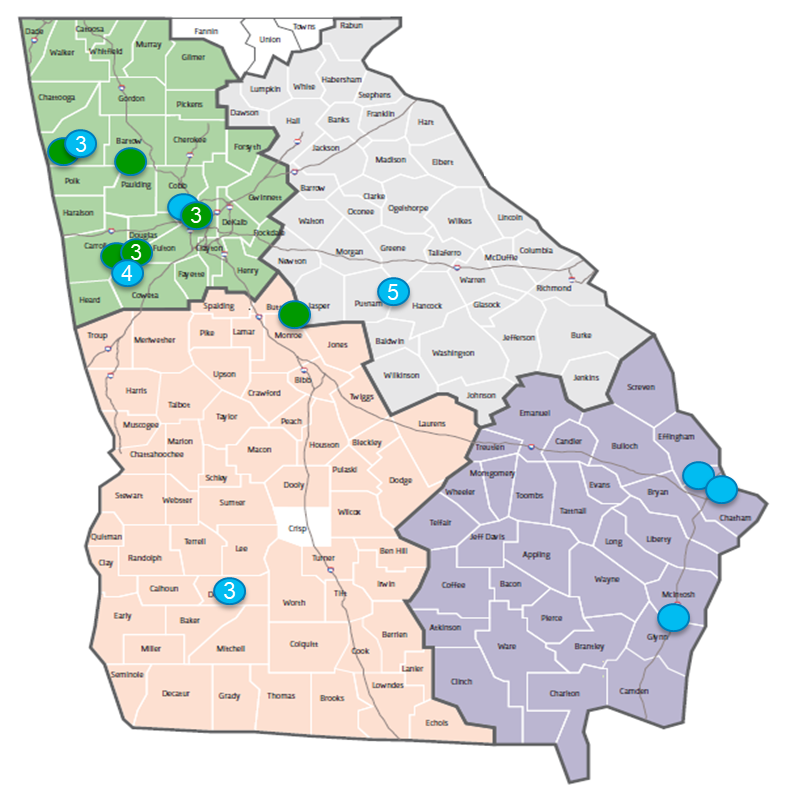
Georgia Power consistently monitors and evaluates project assumptions, including, but not limited to, timing and schedule assumptions on permits and construction, project scope, and estimated future escalation. Georgia Power’s total project cost is currently estimated at approximately $7.3 billion, including the $561 million in actual spend incurred through December 31, 2019.

* **As its compliance efforts continue, the Company will continue to focus on identifying and mitigating risks to the schedule and cost for each project.**

Various factors could impact the Company’s CCR ARO compliance efforts moving forward, including, but not limited to, regulatory deadlines, permitting requirements, state and federal rule amendments, legislative action, material procurement, ash volumes, design and/or scope changes, availability of qualified contractors, contractor performance, weather, and other market and external factors. The Company is committed to providing strategy, project leadership, and oversight to identify project risk and establish appropriate mitigation efforts. The Company will continue to refine cost and closure plans as these projects progress. Future adjustments to the Company’s current cost recovery, approved by the Commission in the 2019 base rate case in Docket 42516, will be addressed through Georgia Power’s 2020 and 2021 compliance filings, as well as future base rate case proceedings.

**PROJECT UPDATE**

**ASH POND LOCATIONS**

Georgia Power has 29 ash ponds at 11 sites across the state.

Closure by Removal Closure in Place

**ASH POND ESTIMATED CLOSURE TIMEFRAMES**

Ash pond estimated closure timeframes vary by location. As discussed previously, schedule duration and timing of each activity for the projects are influenced by numerous factors including state and federal regulatory actions and rule amendments, legislative action, necessary scope changes, weather, and other market and external factors. The schedule provided below represents the latest schedule for each project, informed by the appropriate factors in the project planning process. The Company will continue to update project schedules as necessary.

**Table 2. Ash Pond Estimated Closure Timeframes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Closure By Removal** | **Closure In Place** | **Total** | **Estimated Closure Timeframe** |
| **Bowen** |  | 1 | **1** | **2035** |
| **Branch** | 5 |  | **5** | **2035** |
| **Hammond** | 3 | 1 | **4** | **2030** |
| **Kraft** | 1 |  | **1** | **2016** |
| **McDonough** | 1 | 3 | **4** | **2023** |
| **McIntosh** | 1 |  | **1** | **2021** |
| **McManus** | 1 |  | **1** | **2020** |
| **Mitchell** | 3 |  | **3** | **2027** |
| **Scherer** |  | 1 | **1** | **2031** |
| **Wansley** |  | 1 | **1** | **2029** |
| **Yates** | 4 | 3 | **7** | **2023** |
|  | 19 | 10 | **29** |  |

**PERMITTING**

In compliance with Georgia’s CCR Rule, and as further discussed in the Company’s ECS, extensive permit applications for all CCR units (landfills and ash ponds) were submitted to the Georgia EPD in November 2018. The permit documents submitted to EPD include an abundance of compliance information on inspections, design criteria, operating criteria, groundwater monitoring, closure plans, post closure plans, quality control, and other similar information.

A final permit for Plant McIntosh was issued by the Georgia EPD on February 6, 2020. The issuance of the final permit was substantially consistent with the application and did not change the Company’s existing cost or schedule assumptions. Draft permits for Hammond AP-1 and Hammond AP-2 were issued on March 18, 2020. These draft permits will be out for public comment for 60 days.

EPD permitting activities for the remaining projects are currently expected to continue through 2022. The Company continues to respond to EPD’s requests for information and comments to the permit applications submitted in 2018.

**ASH POND CONSTRUCTION**

The Company has made construction progress at 19 ash ponds at 8 facilities. A summary of construction status for these ponds is listed in Table 3 below.

**Table 3. Ash Pond Construction Progress**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Closure by Removal** | **Closure in Place** | **IPCC** | **PCC** |
| **Construction Complete** | | | | |
| **Branch AP-A** | ● |  | ● |  |
| * Ash was removed from the 1-acre ash pond and consolidated with AP-E. Site restoration has been completed. Georgia Power submitted a certification of ash removal from AP-A to EPD in 2018 to provide documentation of the AP-A closure. AP-A is in IPCC. | | | | | |
| **Hammond AP-3** | |  | ● | ● |  |
| * Ash was consolidated in the 25-acre ash pond and a geomembrane cover system installed. A certification of construction complete document was submitted for AP-3 to EPD in 2018. AP-3 is in IPCC. | | | | | |
| **Kraft AP-1** | | ● |  | n/a | n/a |
| * Ash was removed from the 7-acre ash pond to offsite permitted landfills before the State CCR Rule became effective. Georgia Power submitted a certification of ash removal from AP-1 to EPD in 2018 to provide documentation of the AP-1 closure. | | | | | |
| **Yates AP-1** | ● |  | ● |  |
| * Ash was removed from the 23-acre ash pond and placed in an onsite permitted landfill and consolidated with other ash ponds closing in place. Site restoration has been completed. A certification of ash removal was submitted to EPD in 2019. AP-1 is in IPCC. | | | | |
|  | **Closure by Removal** | **Closure in Place** | **IPCC** | **PCC** |
| **Construction Underway or Significantly Completed** | | | | |
| **McDonough AP-1** |  | ● |  |  |
| * Closure construction is nearly complete on the 25-acre ash pond. The closure includes a geosynthetic cap cover system that is installed. Design for a barrier wall is underway consistent with plans for advanced engineering at this site. Construction activities are expected to continue until 2023. | | | | |
| **McDonough AP-2** | ● |  |  |  |
| * Ash was removed from the 7-acre ash pond and consolidated with AP-1, with some amounts placed in AP-3/4 in 2019. A certification of ash removal will be submitted to the EPD in 2020. Site restoration is underway. | | | | |
| **McDonough AP-3 & 4** |  | ● |  |  |
| * Ash consolidation of the combined ash pond area of 64-acres to a smaller 58-acre footprint is underway and a geosynthetic cap cover system is being installed. Advanced engineering related to the underdrain and additional dewatering wells have been incorporated into the closure activities.   2 | | | | |
| **McIntosh AP-1** | ● |  |  |  |
| * Ash will be removed from the 22-acre ash pond and placed in an onsite permitted landfill. Active dewatering is underway, the contractor has mobilized, early site work is underway, and ash removal is scheduled to begin in 2020. | | | | |
| **Mitchell AP-1, 2, A** | ● |  |  |  |
| * Ash will be removed from the combined ash pond area of 104-acres and transported for beneficial reuse and for disposal to an off-site permitted landfill. The contractor has mobilized, early site work is underway, dewatering plans are being finalized, and ash removal is scheduled to begin in 2020.   3 | | | | |
| **McManus AP-1** | ● |  | ● |  |
| * Ash was removed from the 82-acre ash pond and placed in an off-site permitted landfill. A certification of ash removal was submitted to EPD in 2019. In January 2020, EPD acknowledged that CCR removal activities in AP-1 have been completed. Site restoration activities are expected to be completed in 2020. | | | | |
|  | **Closure by Removal** | **Closure in Place** | **IPCC** | **PCC** |
| **Yates AP-A** | ● |  |  |  |
| * Ash is being removed from the 9-acre ash pond and consolidated with other ash ponds onsite being closed in place. Removal and restoration activities at AP-A are ongoing. A certification of ash removal will be completed and submitted in 2020. | | | | |
| **Yates AP-B** | ● |  |  |  |
| * Ash is being removed from the 6-acre ash pond and consolidated with other ash ponds being closed in place. | | | | |
| **Yates AP-2** | ● |  |  |  |
| * Ash is being removed from the 60-acre ash pond and consolidated with other ash ponds being closed in place. | | | | |
| **Yates AP-3, B’** |  | ● |  |  |
| * The combined ash pond area of 85 acres is being consolidated to a smaller footprint. Following ash consolidation, a geosynthetic cap cover system will be installed and site restoration will be completed. Advanced engineering methods have been evaluated and will be incorporated in the closure.   2 | | | | |
| **Yates AP-C** | |  | ● |  |  |
| * The former ash pond has been incorporated into the onsite permitted landfill and is being closed in place in accordance with the current landfill permit requirements. | | | | | |

Final construction certification documents for Branch AP-A, Hammond AP-3, Kraft AP-1, and Yates AP-1, as well as a certification of removal for McManus AP-1, have been filed with the Georgia EPD. The Georgia EPD sent a CCR removal acknowledgement letter for Plant McManus AP-1 in January 2020. The Company will continue to meet all regulatory compliance requirements while these documents are reviewed. Additionally, the certification of removal report for McDonough AP-2 and Yates AP-A will be submitted in 2020.

Pre-Construction Activities

A summary of progress for the remaining 10 ash ponds is listed in Table 4 below. The Company has made significant progress with ongoing work including engineering studies, closure evaluations, constructability reviews, and other pre-construction activities that have been completed for all the sites including the sites where significant construction activities have not yet begun. In addition, the Company is taking necessary preparations and actions related to contracting for the various stages of work associated with the closure of these ponds. All of the following ash ponds are in various stages of detailed design, permitting, and early site preparatory work.

**Table 4. Ash Pond Pre-Construction Activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Detailed Design** | **Active Dewatering** | **Bid Process** | **Early Site Preparation\*** |
| **Bowen AP-1** | Design at 90% | **√** | Underway | **√** |
| * Early site preparations are underway, initial dewatering is ongoing, long term dewatering plans are being finalized, and bids are scheduled to be reviewed and awarded in 2020. | | | | |
| **Branch AP-B, C, D, E** | In progress | **√** |  |  |
| * Dewatering has commenced and is operational. The detailed design for Ponds B, C, D, and E is ongoing.  Early site preparation is expected to start in 2020. | | | | |
| **Hammond AP-1, 4** | In progress |  |  |  |
| * Dewatering is expected to commence in 2020 and detailed design will continue to be progressed. | | | | |
| **Hammond AP-2** | In progress |  |  | Maintenance contractor excavating |
| * Dewatering is expected to commence in 2020 and detailed design will continue to progress while the current site maintenance contractor continues with excavation of ash to the GPC-owned offsite permitted landfill. | | | | |
| **Scherer** | In progress |  |  |  |
| * Optimizing and progressing the detailed design package. Early site preparation work is scheduled to begin in late 2020. | | | | |
|  | **Detailed Design** | **Active Dewatering** | **Bid Process** | **Early Site Preparation\*** |
| **Wansley** | In progress |  |  |  |
| * Optimizing and progressing the detailed design package. Early site preparation work is scheduled to begin in late 2020. | | | | |

*\*Early site preparation includes activities such as contractor mobilization, setup of temporary facilities, laydown area construction, stormwater control, etc.*

**LANDFILLS**

Georgia Power is complying with federal and state requirements at its 12 existing CCR landfills. Five of the 12 landfills are actively operated to either support current plant operations or ash pond closure projects. The remaining seven landfills are closed, undergoing closure, or in process of final closure design, and permits are being updated with Georgia EPD in compliance with the Georgia CCR rule.

* **Arkwright:** 3 CCR landfills, formerly closed under solid waste regulations at the time. 2 are planned to be removed and consolidated with the third into a new permitted onsite landfill.
* **Bowen:** 1 CCR landfill to remain as part of ongoing plant operations. The landfill will undergo closure when permitted capacity is reached or when CCR disposal is no longer needed.
* **Hammond Huffaker:** 1 CCR landfill to be closed along with ash ponds at Hammond.
* **Kraft Grumman Road:** 1 CCR landfill closed in 2019 and in IPCC. A final construction certification report was submitted to Georgia EPD in 2019.
* **McIntosh:** 1 CCR landfill currently in PCC; additionally, 1 CCR landfill will be closed upon pond excavation. A cell within this landfill is currently in IPCC.
* **Scherer:** 1 CCR landfill to remain as part of ongoing plant operations. The landfill will undergo closure when permitted capacity is reached or when CCR disposal is no longer needed.
* **Wansley:** 1 CCRlandfill to remain as part of ongoing plant operations. The landfill will undergo closure when permitted capacity is reached or when CCR disposal is no longer needed.
* **Yates:** 1 Gypsum landfill has been removed and is currently in IPCC. GPC has submitted the final construction certification report to the EPD. Additionally, 1 CCR landfill is being closed along with the ash ponds.

As part of its overall scope of the closure projects, Georgia Power will also permit two new onsite landfills to support closures at the following facilities in the future:

* + **Arkwright:** New lined landfill will receive ash from other onsite landfills.
  + **Branch:** New landfill will hold CCR from the 5 ash ponds onsite.

**BENEFICIAL REUSE**

Georgia Power’s ECS describes the Company’s efforts related to the beneficial reuse of operational coal ash, as well as the Company’s partnership with the Electric Power Research Institute (“EPRI”) and other utilities across the industry in the development of a center for beneficial use of harvested CCR, located at Plant Bowen.

Georgia Power is also seeking to identify opportunities for the beneficial reuse of stored coal ash at its active and retired plants across the state. The costs of and benefits from beneficial reuse of stored coal ash at these sites will be applied to the CCR ARO liability. Two updates are included below.

**Plant Mitchell**

The Company has finalized plans at Plant Mitchell to remove the stored coal ash at its three ash ponds for beneficial reuse. Over the next several years, approximately two million tons of ash are planned to be removed from the site to help create Portland cement, which is used to make concrete. These plans will significantly reduce the amount of ash required to be removed to an off-site landfill and save valuable landfill space.

**Request for Proposals**

In December 2019, Georgia Power announced a request for proposals for the beneficial reuse of stored coal ash. Interested bidders were asked to submit information and complete pre-qualification questionnaires in January. Georgia Power expects to complete the RFP process in 2020.

**FINANCIAL SUMMARY**

During the second half of 2019, Georgia Power completed an assessment of its plans to close the ash ponds in compliance with the federal and state CCR rules at all of its generating plants. Cost estimates were refined and revised to reflect updates to the timing of future cash outlays.

The Company’s cost estimates are based on various assumptions related to closure and post-closure costs, timing of future cash outlays, inflation and discount rates, and the methods for complying with closure requirements. Georgia Power expects to continue to update its cost estimates and ARO liabilities periodically as additional information related to these assumptions becomes available.

Please see table 5 below for the current retail estimates for CCR ARO ash pond closure and landfill projects.

**Table 5. Current Cost Estimates for CCR ARO Ash Pond Closure and Landfill Projects**



***Retail cost estimates***