**Coal Combustion Residuals**

**Asset Retirement Obligation Program**

**Semi-Annual Program Status Report**

Georgia Power Company

*October 1, 2021*

**FORWARD-LOOKING STATEMENT CAUTIONARY NOTE**

Certain information contained in this report is forward-looking information based on current expectations and plans that involve risks and uncertainties. Forward-looking information includes, among other things, statements concerning environmental regulations, related compliance plans, and estimated expenditures. Georgia Power cautions there are certain factors that can cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are not within the control of Georgia Power. Accordingly, there can be no assurance that such suggested results will be realized. The following factors, in addition to those discussed in Georgia Power’s Annual Report on Form 10-K for the fiscal year ended December 31, 2020 and subsequent securities filings, could cause actual results to differ materially from management expectations as suggested by such forward-looking information:the impact of recent and future federal and state regulatory changes, including tax, environmental, and other laws and regulations to which Georgia Power is subject, as well as changes in application of existing laws and regulations; the extent and timing of costs and legal requirements related to coal combustion residuals; current and future litigation or regulatory investigations, proceedings, or inquiries; the ability to control costs and avoid cost and schedule overruns during the development, construction and operation of facilities or other projects; the ability to construct facilities in accordance with the requirements of permits and licenses and to satisfy any environmental performance standards and the requirements of tax credits and other incentives; advances in technology; state and federal rate regulations and the impact of pending and future rate cases and negotiations, including rate actions relating to cost recovery mechanisms; catastrophic events such as fires, earthquakes, explosions, floods, tornadoes, hurricanes and other storms, droughts, pandemic health events, political unrest, or other similar occurrences; and the effect of accounting procurements issued periodically by standard-setting bodies. Georgia Power expressly disclaims any obligation to update any forward-looking information.

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**October 1, 2021**

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**Georgia Power Company**

**Coal Combustion Residuals Asset Retirement Obligation Program**

**Semi-Annual Program Status Report**

**October 1, 2021**

In accordance with the Georgia Public Service Commission’s (“PSC” or the “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 July 31, 2021, and other notable updates occurring in 2021.

1. EXECUTIVE SUMMARY

**Compliance with Federal and Georgia CCR Rules**

Georgia Power is required to comply with both the Federal CCR Rule and Georgia’s CCR Rule at its CCR ash ponds and landfills. The Company has 29 ash ponds and 12 existing CCR landfills at 12 sites across the state. To comply with these rules, Georgia Power presented its compliance strategy to the Commission in the 2019 Environmental Compliance Strategy (“ECS”) which was reviewed and approved by the PSC in the Company’s 2019 IRP (Docket No. 42310). The latest annual update to the ECS was filed with the PSC in March 2021. The following table summarizes the Company’s PSC-approved closure strategy for its 29 ash ponds and 12 existing CCR landfills.

Table . Georgia Power's Ash Ponds and Existing CCR Landfills ("CCR Units")

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Ash Pond Closure Method** | | | **Existing 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**

As outlined in the ECS, Georgia Power’s compliance strategy process is developed to respond to changing regulations. While the process itself will continue to necessarily evolve, the purpose of the process has always been to produce cost-effective compliance strategies which will maximize the benefit to customers while achieving environmental objectives and ensuring compliance with all requirements. The Company will continue to provide transparent updates on its CCR ARO compliance strategy and activities to all stakeholders through annual ECS updates, semi-annual CCR ARO progress reports, ongoing regulatory permitting activities with the Georgia Environmental Protection Division (“EPD”), and ongoing compliance information routinely posted on the Company’s external website.

Georgia Power’s ash pond and landfill 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 EPD incorporates Federal and Georgia CCR Rule requirements, including aggressive compliance schedules. The EPD will review applications for all CCR units, issue permits, and oversee ash pond closure activities to ensure they meet the requirements of the Georgia CCR Rule and are protective of human health and the environment. Georgia Power was required to submit CCR permit applications to the EPD for all ash ponds and CCR landfills in November 2018. These applications included active and previously closed CCR landfills and ash ponds.

Both the Federal CCR Rule and the Georgia CCR Rule, which adopts the Federal CCR Rule by reference, mandate strict regulatory deadlines to complete closure of ash ponds and the Company must comply with these compliance requirements. While the more stringent Georgia CCR Rule incorporates the regulatory deadlines outlined in the Federal CCR Rule, it creates additional compliance requirements through the state’s permitting process for the Company’s ash ponds and landfills, however, it does not currently tie regulatory deadlines to permit issuance. The Company, being therefore bound by these stringent regulatory deadlines regardless of permit issuance, must complete certain compliance requirements and proceed with work to meet these deadlines concurrent with the process of obtaining state CCR permits. The activities the Company is proceeding with include preparing ash pond closure studies, developing detailed engineering designs, commencing construction activities, as well as developing and implementing customized and comprehensive ash pond dewatering processes.

Extensive construction activities are being or will be implemented at each site, such as dewatering, ash excavation, ash consolidation/placement, installation of closure cover systems, installation of engineering controls, and site restoration. The Company, relying significantly on the experience and knowledge of third-party experts, has evaluated the volume, complexity, and duration of these required activities on a site-specific basis and created comprehensive closure plans and construction schedules necessary to comply with the CCR Rules. The closure plans for the CCR units are site-specific, and each project is progressing with design, dewatering, and construction based on site-specific project schedules and are at different stages of progress depending on individual project status.

Both Federal and Georgia CCR Rules specify post-closure care activities. In many cases, post-closure care spans for decades into the future and will include inspecting the closed ash ponds and landfills to verify continued structural integrity, maintaining the integrity of the final cover system, and sampling and maintaining the groundwater monitoring network. The interim post-closure care (“IPCC”) activities designate the time period following construction, while closure certification reports are being finalized and approved and permits are being issued, during which time the Company must conduct monitoring and maintenance, before the post-closure care (“PCC”) period begins.

Georgia Power’s overall program – including closure construction, IPCC, and PCC – is currently expected to span over 60-years, with a majority of spend projected over approximately the next 15 years during construction.

**CCR Program Progress Summary**

The Company continues to make progress on its CCR program. Construction and engineering activities have advanced, permitting activities continue, groundwater monitoring and reporting is ongoing, and dewatering activities have progressed as more sites move into active construction.

As closure construction has progressed, Georgia Power has instilled a culture of safety excellence on all sites. Over 390,000 safe workhours have been performed between January and July 2021, with a cumulative program total of 3.2 million safe workhours without significant injury, as defined by Edison Electric Institute. Construction activities have begun at each site for ash pond closures. This includes active closure construction at 22 ash ponds and preliminary sitework and final design at the remaining ponds to prepare the sites to enter closure construction activities in the near future. Construction activities are conducted by qualified contractors who are required to comply with regulatory and permit requirements, as well as robust design packages assembled by professional engineers.

Prior to issuing final permits and in order to gain public input, the EPD issues draft permits for public review and comment. The EPD addresses comments it receives prior to issuing permits as final. To date, the EPD has issued five final permits for closure by removal units. Additionally, draft permits were issued by EPD in July and September 2021 for two closure in place units. Site-specific closure plans and detailed engineering drawings were included in the Company’s permit applications previously submitted to the EPD. Quality assurance plans, which were also included in the Company’s permit applications, are implemented through third-party engineering firms and ensure that work is completed per approved permit drawings and in compliance with regulatory and permit requirements.

Georgia Power has installed comprehensive groundwater monitoring networks including more than 600 wells to actively monitor groundwater quality at ash ponds and landfills and has continued to add supplemental wells to these networks. The Company has hired independent, third-party engineers and groundwater professionals to install and maintain these groundwater monitoring well networks for each site. Third-party, independent engineers and geologists sample wells in the monitoring network, statistically analyze and evaluate the data, and write reports interpreting and summarizing results. Groundwater samples are analyzed by accredited, independent, third-party laboratories. Between January and July 2021, 32 groundwater wells and piezometers were installed, more than 2,500 groundwater samples were collected, and the results were included in 61 routine groundwater reports submitted to the EPD and posted to Georgia Power’s public website. Sampling, reporting and additional well installations, as necessary, will continue through the remainder of 2021 and beyond to ensure compliance with the CCR Rules.

The EPD has approved dewatering plans for eight of the Company’s sites, with one of those dewatering projects at Plant McManus now being complete. The dewatering plans describe the water treatment system, controls, and monitoring that will be used during the dewatering process to ensure that the water discharged is in compliance with wastewater permits and protective of water quality standards. The dewatering activities occur under the direction of independent, third-party licensed wastewater operators throughout the duration of each closure project. The Company has also engaged independent, third-party contractors for effluent and receiving stream sampling, and accredited, independent laboratories for analyses. Between January and July 2021, independent wastewater treatment contractors treated approximately 688 million gallons of water and independent sampling contractors conducted 365 sampling events for the effluent and receiving streams, bringing program totals to over 2.3 billion gallons of water treated and over 1,450 sampling events for the effluent and receiving streams. Water quality monitoring data is reported monthly to the EPD and a monthly summary is also placed on Georgia Power’s public website.

**Georgia Power’s CCR Asset Retirement Obligation**

Prior to January 1, 2003, the Company included estimated costs for the future closure of ash ponds and landfills in the cost of removal component in depreciation rates. After mandatory adoption of the Financial Accounting Standards 143 — Asset Retirement Obligations in January 2003, now Accounting Standards Codification (“ASC”) 410, the Company reclassified the costs to separate Federal Energy Regulatory Commission accounts, excluded the cost from depreciation rates, and began accounting for the cost as ARO. Such costs have consistently been included in rates established by the PSC since that time. From January 1, 2003 through July 31, 2021, the Company has spent $856 million on CCR ARO activities.

Georgia Power consistently monitors and evaluates project assumptions, including, but not limited to, timing and schedule assumptions for permits and construction, project scope, post-closure activities, and estimated future escalation. Georgia Power’s current forecast applicable to retail customers over the next 60-years or more is approximately $8.96 billion, which includes $856 million in actual costs previously incurred. Near term cash flows are projected to be lower than estimated at the time of the 2021 compliance filing. The nominal retail estimate at completion (“EAC”) for the CCR ARO program is unchanged from the Company’s last semi-annual progress report filed in March 2021. The overall change in Georgia Power’s total retail EAC is related to record setting inflation and its impact on the calculation of future escalation as required by ARO accounting under ASC 410. As outlined in Section V of this report, inflation rates have been impacted by the economy's response to the COVID-19 pandemic with increased demand for goods and a strained supply chain. As further illustrated in Table 8 of this report, forecasted escalation spans for many decades and will continue to be assessed going forward.

|  |  |  |  |
| --- | --- | --- | --- |
| *Dollars in Billions* | *March 2021* | *October 2021* | *Change* |
| *Nominal Retail EAC* | *$6.63* | *$6.63* | *$0.00* |
| *Forecasted Escalation* | *$1.49* | *$2.33* | *$0.84* |
| *Total Retail EAC* | *$8.12* | *$8.96* | *$0.84* |

The Company will continue to refine cost and closure plans as these projects progress. Future adjustments to the Company’s current cost recovery methodology, approved by the PSC in the 2019 base rate case in Docket 42516, will be addressed through Georgia Power’s 2021 compliance filing, as well as future base rate case proceedings.

Various factors could impact the Company’s CCR ARO compliance efforts, construction schedules, permit approvals, and overall cost moving forward. These factors include, but are not limited to, regulatory deadlines, permit issuance and requirements, state and federal rule amendments, legislative action, material procurement, ash volumes, design and/or scope changes, availability of qualified contractors, contractor performance, weather, completion of competitive bids and contracts for pending projects, water treatment plans and technology, optimization of groundwater monitoring networks, corrective action requirements, long-term maintenance needs, potential to take advantage of beneficial use opportunities, the impact of emerging technologies throughout the life of the program, and other market and external factors.

In order to establish and implement appropriate mitigation efforts to reduce the probability and potential impacts of such risks, the Company is committed to actively managing the program and projects with continued focus on strategic project leadership and oversight, and risk and change control processes as a whole by enhancing work practices to improve consistency, accuracy, and visibility across the program.

1. PROJECT UPDATES

Activity Overview

Georgia Power’s CCR compliance strategy includes site-specific closure plans for each ash pond or landfill project. In order to advance the program, and for the projects to comply with the deadlines in the CCR Rules, the Company has progressed design and engineering efforts, construction activities, permitting, groundwater monitoring and reporting, as well as dewatering projects.

**Permitting**

In compliance with Georgia’s CCR Rule, and as further discussed in detail in the Company’s ECS filings since 2019, permit applications for all CCR units were submitted to the EPD in November 2018. The permit documents submitted to the EPD include voluminous compliance information on inspections, design criteria, engineering calculations, operating criteria, groundwater monitoring, closure plans, post-closure plans, quality control, and other required information.

To date, a final permit for Plant Hammond AP-1, Hammond AP-2, Hammond AP-4, Plant McIntosh AP-1, and Plant McManus AP-1 have been issued by the EPD. During the course of EPD’s review, Georgia Power responded to multiple rounds of comments and data requests. The Company took steps to address EPD’s comments which included modifying groundwater monitoring networks, revising permit documents, and updating closure drawings and engineering calculations. However, while EPD required the Company to update its application and plans, the issuance of these final permits was largely consistent with the application and did not significantly change the Company’s closure plans.

On July 12, 2021, EPD issued a draft permit for Plant Hammond AP-3, a closure in place unit. Along with the issuance of this draft permit for a closure in place site, EPD held a public meeting on August 10, 2021 to receive input from the public on the draft Plant Hammond AP-3 permit. The 60-day public comment period ended in September, and EPD will address comments received prior to issuance of a final permit.

On September 14, 2021, EPD issued a draft permit for Plant Bowen AP-1, a closure in place unit. EPD is scheduled to have a public meeting on October 14, 2021.

The EPD permitting activities for the remaining projects are currently expected to continue through 2023. The Company continues to respond to the EPD’s requests for information and comments for the remaining permit applications currently under review.

Finally, through the permitting process, solar generation is also continuing to be evaluated on the closed CCR units. With the Commission’s approval in the 2016 IRP for ash pond solar demonstration projects, options for future solar development are currently included in the Hammond AP-3 draft permit and McDonough AP-2, AP-3, AP-4 permit application. A solar pilot is currently underway at Plant McDonough AP-3 and other installations will be completed after approved by EPD in the permitting process and closure construction of the CCR units is completed.

**Dewatering and Water Treatment**

The Company’s process for dewatering during ash pond closure provides treatment for the water to meet the requirements of the plants’ wastewater permits, as well as the associated dewatering plans approved by the EPD, to ensure compliance with water quality standards. As of July 2021, the Company is implementing seven EPD-approved dewatering plans at Plants Bowen, Branch, Hammond, McDonough, McIntosh, Mitchell, and Yates. Georgia Power will submit additional dewatering plans to the EPD for approval prior to commencement of dewatering at the remaining sites.

The dewatering activities occur under the direction of independent, third-party licensed wastewater operators throughout the duration of each closure project. In some cases, water treatment may continue into the PCC period to manage ongoing water treatment requirements. This support will continue until the needs of the sites are addressed. In addition, the Company has also engaged independent, third-party contractors for weekly effluent and bi-monthly receiving stream sampling throughout dewatering. Samples collected by independent contractors are analyzed by accredited independent laboratories.

The dewatering process is dynamic and complex. The treatment system demands are often impacted by rainfall and site-specific closure conditions. For these reasons, the required treatment technologies may be different at each site and may change during the closure process to support the needs of the site, which may cause labor resources, operating schedules, and associated costs to fluctuate. The Company will adjust the individual site dewatering infrastructure to align with site needs during closure, and post-closure as required, to ensure compliance with permits and to optimize performance.

Ash pond dewatering has concluded at Plant McManus, where all ash was removed from the former ash pond and placed in an off-site permitted landfill. A certification of ash removal was submitted to the EPD in November 2019. The EPD acknowledged the ash had been removed and that dewatering activities had been completed. The dewatering treatment system has been demobilized and removed from Plant McManus.

**Groundwater**

Georgia Power continues to monitor groundwater at ash ponds and landfills and report the results to the EPD, as well as post regular updates to the Company's website. Georgia Power has installed comprehensive groundwater monitoring networks, including more than 600 wells, at its facilities across the state to actively monitor groundwater quality at each site.

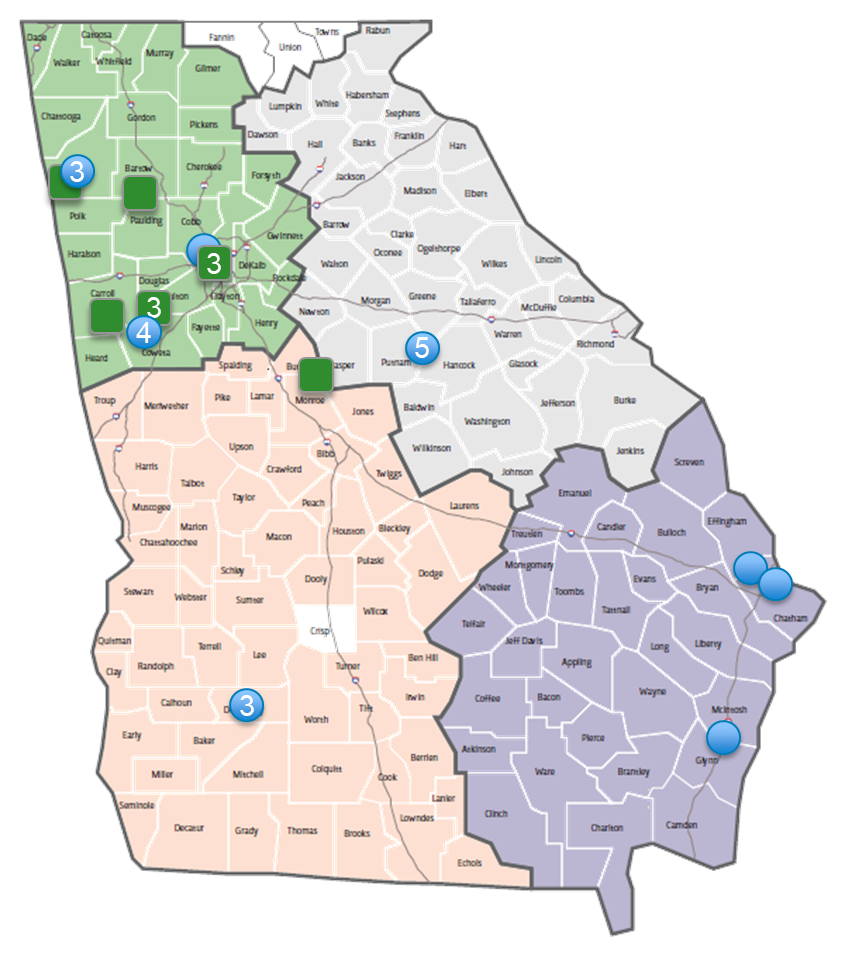
As required under the CCR Rules, the Company continues to perform routine sampling and reporting for the compliance parameters listed in the Rules. Where parameters have been observed at statistical levels above the groundwater protection standard, the Company entered into assessment of corrective measures (“ACM”). As required under the CCR Rules, the Company has installed additional monitoring wells to further characterize groundwater quality near CCR units in ACM. As the Company continues the ACM process, prior to implementing a corrective measure or remedy for applicable sites, additional activities will be occurring such as groundwater sampling, well and piezometer installation, laboratory bench scale testing, remedy selection, and reporting to the EPD. Third-party, independent consultants will continue groundwater sampling, data evaluation, interpretation, and reporting while accredited independent laboratories will continue performing analyses following the appropriate methodology and protocols.

The Company will continue to comply with groundwater monitoring requirements in the Federal and Georgia CCR Rules by conducting semi-annual groundwater monitoring and reporting for the sites during the closure process and in post-closure.

Ash Pond Locations

Georgia Power has 29 ash ponds at 11 sites.

Closure by Removal Closure in Place



**Ash Pond Estimated Closure Timeframes**

Ash pond estimated closure timeframes vary by location and are site-specific. As discussed previously, schedule duration and timing of each activity for the projects can be influenced by numerous factors, including, but not limited to, state and federal regulatory actions and rule amendments, legislative action, necessary scope changes, weather, final ash quantities, beneficial use market trends, contractor productivity, and other market and external factors. The summary provided below represents the individual ash pond closure strategy along with the currently estimated closure construction timeframe by site. Estimated closure completion timelines are indicative of aggressive targets, and unscheduled risks or opportunities can cause these estimated timeframes to change in the future. Additional unit-specific schedule information is provided in the Financial and Schedule Summary portion of this report. The Company will continue to update project schedules.

Table . Ash Pond Estimated Closure Timeframes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Closure by Removal** | **Closure in Place** | **Total** | **Estimated Closure Construction Completion\*** |
| **Bowen** |  | 1 | **1** | **2036** |
| **Branch** | 5 |  | **5** | **2037** |
| **Hammond** | 3 | 1 | **4** | **2031** |
| **Kraft** | 1 |  | **1** | **2016** |
| **McDonough** | 1 | 3 | **4** | **2024** |
| **McIntosh** | 1 |  | **1** | **2022** |
| **McManus** | 1 |  | **1** | **2020** |
| **Mitchell** | 3 |  | **3** | **2027** |
| **Scherer** |  | 1 | **1** | **2032** |
| **Wansley** |  | 1 | **1** | **2032** |
| **Yates** | 4 | 3 | **7** | **2022** |
|  | 19 | 10 | **29** |  |

*\*For those sites with multiple ash ponds, the date above reflects the last pond closure date for the site in total. The “Estimated Closure Construction Completion” date reflects the estimated end of closure construction and estimated completion of restoration activities that may go beyond the submittal of the Closure Certification Report.*

**Ash Pond Closure Construction**

The Company has made closure construction progress at 22 ash ponds (“AP”), at 9 facilities. These closure activities include dewatering, ash excavation, ash consolidation/placement, installation of closure cover systems, installation of engineering controls, and site restoration. A summary of construction status for these ponds is listed in Table 3 below.

Table . 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 before the Georgia CCR Rule became effective. Site restoration has been completed. Georgia Power submitted a certification of ash removal from AP-A to the EPD in 2018 to provide documentation of the AP-A closure. | | | | |
| **Hammond AP-3** |  | ● | ● |  |
| * AP-3 has been closed in place by grading the ash within the 25-acre footprint and installing an impermeable cover system that includes a geomembrane. A closure certification report was submitted for AP-3 to the EPD in 2018. AP-3 is in IPCC. Consistent with the post-closure plan, and to enhance the effectiveness of closure, a TreeWell® system will be installed outside and downgradient of the CCR footprint of AP-3. The system utilizes specialized lined planting units constructed with optimum planting media designed to promote downward root growth and focus groundwater extraction from a targeted depth interval. | | | | |
| **Kraft AP-1** | ● |  | Managed by EPD Response and Remediation Program | Managed by EPD Response and Remediation Program |
| * Ash was removed from the 7-acre ash pond to off-site permitted landfills prior to the Georgia CCR Rule becoming effective. Additionally, the removal was part of an expanded plant retirement project and was regulated by the EPD’s Response and Remediation Program. Georgia Power submitted a certification of ash removal from AP-1 as part of a site-wide Compliance Status Report to the EPD in 2018. The EPD provided concurrence with the compliance status report in June 2020. | | | | |
|  | **Closure by Removal** | **Closure in Place** | **IPCC** | **PCC** |
| **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 the EPD in November 2019. In January 2020, the EPD acknowledged completion of CCR removal activities in AP-1. Site restoration activities were completed in 2020. A final CCR permit was issued for AP-1 on June 18, 2021. On July 1, 2021 a modified NPDES permit became effective following EPD acknowledgment of the completion of dewatering activities. AP-1 is in PCC. | | | | |
| **Yates AP-1** | ● |  | ● |  |
| * Ash was removed from the 23-acre ash pond and consolidated in R6, an on-site permitted landfill, as well as consolidated in AP-B' and AP-3. Site restoration is continuing; however, a certification of ash removal was submitted to the EPD in 2019. In 2020, the EPD acknowledged that CCR removal activities in AP-1 have been completed. | | | | |
| **Construction Underway or Significantly Completed** | | | | |
| **Bowen AP-1** |  | ● |  |  |
| Construction mobilization began in the first quarter of 2021 and closure construction is ongoing on the 254-acre ash pond. Dewatering is ongoing, consistent with the EPD-approved Dewatering Plan. | | | | |
| **Hammond AP-1, AP-2** | ● |  |  |  |
| Dewatering commenced in the first quarter of 2021. Closure construction mobilization began third quarter of 2021. Work is continuing with the removal of ash from AP-2 to Huffaker Road, the Company-owned off-site permitted landfill. | | | | |
| **McDonough**  **AP-1** |  | ● |  |  |
| * Closure construction is ongoing on the 25-acre ash pond. The closure includes installation of a geosynthetic cap cover system which is substantially complete. Consistent with the closure plans at this site, design for a barrier wall is underway with restoration activities expected to be complete in 2024. | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Closure by Removal** | **Closure in Place** | **IPCC** | **PCC** |
| **McDonough AP-2** | ● |  |  |  |
| * Ash was removed from the 7-acre ash pond and consolidated in AP-1, AP-3, and AP-4. A certification of ash removal was submitted to the EPD in March 2020. In October 2020, the EPD acknowledged that CCR removal activities in AP-2 have been completed. Site restoration is underway. | | | | |
| **McDonough**  **AP-3 & AP-4** |  | ● |  |  |
| * Consolidation of ash from a combined ash pond area of 79-acres to a smaller footprint continues and dewatering is ongoing. A cap cover system that includes a geomembrane is being installed to cover the closure-in-place footprint. Consistent with the closure plans, closure construction includes an underslope drainage system and the continued interim use of dewatering wells.   2 | | | | |
| **McIntosh AP-1** | ● |  | ● |  |
| * Ash was removed from the 22-acre ash pond and placed in Landfill No. 4, an onsite permitted landfill. Closure construction began in early 2020. Ash removal was complete in August 2021. Dewatering and restoration activities are expected to be completed in 2022. A final certification of ash removal was submitted to EPD in the third quarter of 2021. AP-1 is in IPCC. | | | | |
| **Mitchell AP-1, AP-2, AP-A** | ● |  |  |  |
| * Ash removal began in the second quarter of 2020 from the combined ash pond area of 104-acres and is being transported off site for beneficial use. Dewatering commenced in the first quarter of 2021 and is ongoing. | | | | |
| **Yates AP-A** | ● |  |  |  |
| * Ash has been removed from the 24-acre ash pond and consolidated within the AP-3 and AP-B’ footprint, which is being closed in place. Restoration activities at AP-A are ongoing. A certification of ash removal was submitted to the EPD in October 2020. In March 2021, EPD acknowledged that CCR removal activities in AP-A have been completed. | | | | |
| **Yates AP-B** | ● |  |  |  |
| * Ash has been removed from the 6-acre ash pond and consolidated within the AP-3 and AP-B’ footprint, which is being closed in place. A certification of ash removal is currently scheduled to be completed and submitted in 2021. | | | | |
|  | **Closure by Removal** | **Closure in Place** | **IPCC** | **PCC** |
| **Yates AP-2** | ● |  |  |  |
| * Ash is being removed from the 60-acre ash pond and consolidated within the AP-3 and AP-B’ footprint, which is being closed in place. Dewatering is ongoing, and all ash contact water from AP-2 and the other ponds is managed as required by the EPD approved dewatering plan. | | | | |
| **Yates AP-3, AP-B’** |  | ● |  |  |
| * Ash from other ponds at Plant Yates is being consolidated within the footprint of the combined AP-3 and AP-B’ pond. Installation of a cap cover system that includes a geomembrane is underway and will ultimately cover the entire consolidated footprint of 88.5-acres upon completion. A certification of removal report was submitted to the EPD in October 2020 for the perimeter road and other areas inside this combined CCR unit. In March 2021, EPD acknowledged that CCR removal activities within these areas have been completed. Consistent with the closure plans, a subsurface hydraulic conveyance system has been incorporated into the closure construction activities. | | | | |
| **Yates AP-C** |  | ● |  |  |
| * The former ash pond was previously incorporated into the on-site permitted landfill, R6, and is being closed in place in accordance with the current landfill permit requirements. | | | | |

Final construction certifications have been filed with EPD for Branch AP-A, Hammond AP-3, and Kraft AP-1. Additionally, certification of ash removal documents for Yates AP-1, McManus AP-1, McDonough AP-2, and Yates AP-A have been submitted to the EPD. The EPD issued CCR removal acknowledgement letters for McManus AP-1, Yates AP-1, Yates AP-A, and McDonough AP-2. The Company will continue to work to meet all regulatory compliance requirements for these CCR units.

**Pre-Construction Activities**

A summary of progress for the remaining 7 ash ponds is listed in Table 4 below. The Company has made significant progress with ongoing work including engineering studies, design, closure evaluations, constructability reviews, and other early site work and pre-construction activities for these sites. The ongoing pre-construction activities help ensure the closure activities can be completed effectively, taking into account site-specific conditions and regulatory closure requirements. In addition, the Company is making necessary preparations and taking 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 design, permitting, contracting, or early site preparatory work.

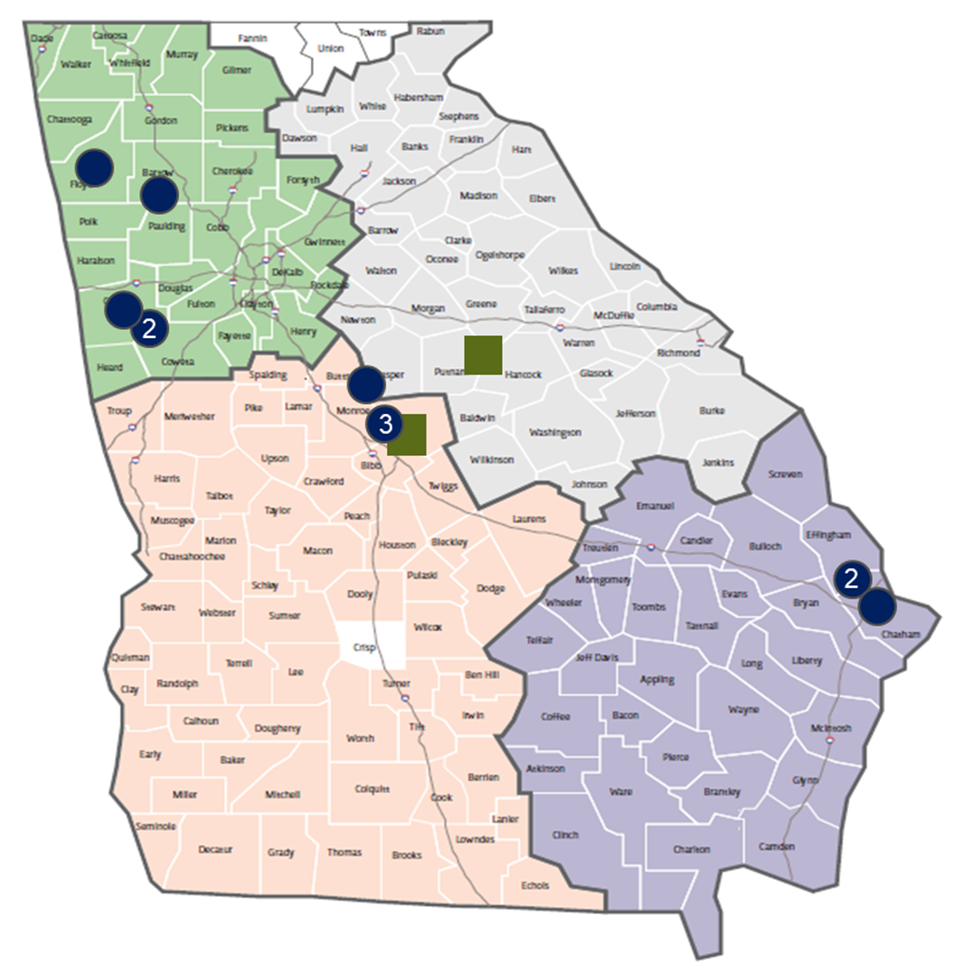
Table . Ash Pond Pre-Construction Activities

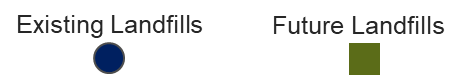
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Detailed Design** | **Active Dewatering** | **Bid Process** | **Early Site Preparation\*** |
| **Branch AP-B, AP-C, AP-D, AP-E** | Design at 90% | ● | Underway | ● |
| * Dewatering consistent with the approved Dewatering Plan is ongoing. Early site preparation activities are underway, such as construction of stormwater diversion features and further site development to support dewatering. Permitting is underway for a new landfill to accept CCR from the ash pond closures. The letter of Site Acceptability for the new landfill was received from the EPD in June 2020. The permit design for the new landfill in support of the CCR permit application was submitted to the EPD in May 2021 and is currently under review. | | | | |
| **Hammond AP-4** | In progress | ● |  |  |
| * Dewatering commenced in the first quarter of 2021. The Company is progressing the detailed design package. AP-4 will be closed by removal to a Company-owned off-site permitted landfill (Huffaker Road) or another off-site permitted landfill. Site restoration will be completed following the CCR removal. Upon finalizing a detailed design, a request for proposal is planned to be initiated for the prime contractor. | | | | |
| **Scherer AP-1** | Design at 90% |  | Underway | ● |
| * Design is being finalized and constructability reviews continue. Early site preparation work began in 2021 and dewatering is expected to commence in 2022. Consistent with the closure plans, the closure construction includes consolidation of the current footprint and closure of the pond with extension of the final cover system over non-CCR containing areas to minimize stormwater infiltration. | | | | |
| **Wansley AP-1** | Design at 90% |  |  | ● |
| * The closure design has progressed, and a constructability review of the closure design is ongoing. Early site preparation work activities began in the second quarter of 2021 with mobilization, installation of erosion control measures, and clearing. Dewatering is expected to commence in 2022. Consistent with the closure plans, design for a deep soil mix (“DSM”) containment structure with a concrete façade will be incorporated into the closure. | | | | |

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

Landfill Locations

Georgia Power has 12 existing landfills and 2 future landfills planned which will be permitted to support closures into the future.



****

**Landfill Estimated Closure Timeframes**

The time of landfill closure differs by location and depends on various factors. These factors include status of plant operations, unit capacity factors, available landfill capacity, and whether the landfill is designated to support ash pond closure activities. Landfill closure dates at coal generating plants are significantly influenced by generation output and how much operational ash is sold for beneficial use and not disposed of in the on-site landfill. The Company will continue to update landfill closure timeframes as appropriate based on the factors described above.

Table . Landfill Estimated Closure Timeframes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Existing CCR Landfills** | **Future, New Permitted Landfills** | **Total** | **Estimated Closure Construction Completion\*** |
| **Arkwright** | 3 | 1 | **4** | **2030** |
| **Bowen** | 1 |  | **1** | **2043** |
| **Branch** |  | 1 | **1** | **2037** |
| **Hammond** | 1 |  | **1** | **2031** |
| **Kraft** | 1 |  | **1** | **2020** |
| **McIntosh** | 2 |  | **2** | **2022** |
| **Scherer** | 1 |  | **1** | **2043** |
| **Wansley** | 1 |  | **1** | **2051\*\*** |
| **Yates** | 2 |  | **2** | **2022** |
|  | 12 | 2 | **14** |  |

*\*For those sites with multiple landfills or cells, the date above reflects the last cell closure date.*

*\*\*The estimated closure construction completion date and associated cash flows for the Wansley landfill are subject to adjustments based on the Company’s 2022 IRP filing and subsequent PSC order.*

**Landfill Activities**

Georgia Power is complying with federal and state requirements at its 12 existing CCR landfills. Five of the 12 landfills either support current plant operations or ash pond closure projects and are actively operated under existing Solid Waste Permits. The remaining seven landfills are closed or undergoing closure under their existing Solid Waste Permits. All landfill permits are in the process of being updated in compliance with the Georgia CCR Rule to include additional regulatory requirements.

* **Arkwright:** 3 CCR units closed in 2010 under Solid Waste Regulations applicable at the time of closure. Under the new Georgia CCR Rule, the CCR units will be closed by removal and consolidated into a future permitted on-site landfill. Site restoration will be completed following CCR removal.
* **Bowen:** CCR landfill is to remain active 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:** CCR landfill is to be closed following placement of CCR from certain ash ponds at Hammond.
* **Kraft Grumman Road:** CCR landfill is closed and in IPCC. A final construction certification report was submitted to the EPD in 2019. The Company completed additional restoration activities in 2020 and is conducting additional groundwater studies to support the ACM process and remedy selection.
* **McIntosh:** CCR landfill 3 is closed and in PCC. Additionally, CCR landfill 4 is currently being closed following completion of the ash pond closure activities. A cell within landfill 4 is currently in IPCC.
* **Scherer:** CCR landfill to remain active 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:** CCRlandfill to remain active as part of ongoing plant operations, subject to any adjustments based off the Company’s 2022 IRP filing and subsequent PSC order. The landfill will undergo closure when permitted capacity is reached or when CCR disposal is no longer needed.
* **Yates:** The Gypsum landfill has been removed and is currently in IPCC. A final construction certification report was submitted to the EPD in January 2017. In October 2020, the EPD acknowledged that CCR removal activities have been completed. Additionally, the CCR landfill, R6, is currently being closed.

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

* + **Arkwright:** Future landfill will receive CCR from other on-site landfills. Permitting activities are ongoing.
  + **Branch:** Future landfill will receive CCR from the removal of on-site ash ponds. Permitting activities are ongoing. The letter of Site Acceptability for the new landfill was received from the EPD in June 2020.

Final construction certification documents for the Yates Gypsum Landfill and the Kraft Grumman Road Landfill have been filed with the EPD. The EPD sent a CCR removal acknowledgement letter for Plant Yates Gypsum Landfill in October 2020.

1. BENEFICIAL USE

Georgia Power’s ECS describes the Company’s efforts related to the beneficial use 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. The Ash Beneficial Use Center (“ABUC”), at Plant Bowen will strive to develop additional beneficial uses and progress technologies to process ash for beneficial use with an aim to reduce future costs to the CCR closure projects.

The core capability of the center is pre-processing ponded ash for use in technology demonstrations. Pre-processing includes drying, classifying, storing, and delivering the ash. Construction of the center was complete in March 2021 and full commissioning and acceptance testing were completed in July 2021. The first project currently planned, which involves the processing and characterization of different ponded ashes from multiple ponds, is under development. This project will provide baseline information about the performance and energy requirements of the center components, as well as providing a comparison of the relative beneficiation potential of the different ashes. Additionally, the first round of emerging technologies for development and demonstration is under evaluation, and projects involving the production of lightweight aggregate from ash and the extraction of valuable minerals are being considered.

EPRI is also pursuing external funding opportunities through grant proposals submitted to the Department of Energy (“DOE”). The Company will continue to be engaged in these various efforts as appropriate.

Additionally, Georgia Power and Southern Company are involved as participants with several DOE-supported projects, which are working to evaluate coal ash as a domestic source for rare earth elements and critical minerals. One project supported and managed by the National Energy Technology Laboratory aims to develop a framework and conceptual design for a facility that would extract rare earth elements and critical minerals from coal ash at a commercial scale, taking advantage of coal ash stored throughout the southeastern United States. Georgia Power is also participating through Southern Company on two project teams as part of the DOE’s Carbon Ore, Rare Earths and Critical Minerals (CORE-CM) initiative with the goal of driving regional economic development to establish a domestic supply chain, using coal ash as an important resource.

Georgia Power is also seeking to identify opportunities and maximize the value for the beneficial use of stored coal ash at its active and retired plants across the state. The net benefits from beneficial use of stored coal ash at these sites will be applied to mitigate CCR ARO costs for the benefit of customers. Relevant updates are included below.

Facility Level Updates

**Plant Mitchell**

The Company is continuing with plans at Plant Mitchell to remove the stored coal ash at its three ash ponds for beneficial use. Over the next several years, up to 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 reduce the amount of ash required to be removed to an off-site landfill and ultimately serve to produce a valuable product. Through July 2021, approximately 93,100 tons of ash have been removed from the site for this purpose. Progress through 2021 has been moderated by the ability of end users to receive and process the ash for beneficial use. Challenges encountered include establishing long-term secure contracts with the end users and disruptions from COVID-19 to the supply chain and transportation sector. The Company is continuing to work with the on-site contractor to pursue additional end users of the ash.

Request for Proposals

In December 2019, Georgia Power announced a request for proposals (“RFP”) for the beneficial use of stored coal ash at Georgia Power facilities. Interested bidders were asked to submit information and complete pre-qualification questionnaires in January 2020. In July 2020, a pre-bid meeting was held with the pre-qualified bidders with submissions of initial proposals being completed in the fourth quarter of 2020. Bidders were allowed to provide additional information in early 2021. In the third quarter of 2021, the Company progressed into negotiations with the top bidders for proposals that indicated the ability to beneficially use ash and provide value to customers.

Georgia Power will continue negotiations with remaining vendors and expects to complete the RFP process in late 2021 or early 2022. Georgia Power is seeking to identify opportunities from the proposals that bring value to the CCR program, can be incorporated into the CCR strategy, and ultimately allow for more ash to be beneficially used from ash ponds and landfills. The Company will continue to collaborate and work with this Commission on providing timely updates and key insights throughout the process.

1. FINANCIAL SUMMARY – FACILITY LEVEL

During the third quarter of 2021, Georgia Power reviewed its estimates to close the CCR units in compliance with the Federal and Georgia CCR Rules at all of its active and retired generating plants. Cost estimates were refined and revised to reflect updates to the timing of future cash outlays and other project factors.

The current forecasted spend is the best estimate Georgia Power has, at this time, for this long-term compliance program spanning over 60-years into the future. As further discussed in Section V, the Company’s long term 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 will continue to update its cost estimates and ARO liabilities periodically as additional information related to these assumptions becomes available including, but not limited to, regulatory and legislative changes, permitting requirements, design completion, construction bids and progress, contract finalization, post-closure requirements, and/or other factors.

As it relates to near-term cash flows, updated assumptions as of the third quarter of 2021 have resulted in a decrease in the Company’s forecasted cash flows in years 2021 and 2022 since the previous CCR ARO semi-annual progress report, which represented activities through December 31, 2020 and was filed with the PSC on March 31, 2021. Activities have been re-forecasted to future periods as appropriate.

Year-to-date 2021 actual cash flows for the portfolio are also below the level previously contemplated in the 2021 compliance filing submitted to the PSC in Docket No. 42516 on October 1, 2020 and which were aligned with the Company’s October 2020 CCR ARO semi-annual progress report. This actual variance is primarily due to activity at five sites as described in Table 9 below. Activities associated with the 2021 year-to-date variance have been re-forecasted into future periods as appropriate.

In summary, the primary trends impacting the lower 2021 and 2022 cash flows compared to the previously submitted reports are:

* Competitive bid processes and recent contracting trends have delivered favorable results to the overall program costs.
* Slower ramp up in the start of closure work at Bowen AP-1 and Hammond Phase 1 (AP-1, AP-2, and Huffaker A/B) as the site-specific contracting activities were being finalized.
* A shift in cash flows related to the completion of closure work at Plant McDonough out of 2021 and into 2022.
* Delayed ash sales for beneficial use due to market conditions at Plant Mitchell.
* An increased front-end planning and permitting timeline at Plant Wansley as the design and constructability review at the site is ongoing.
* Weather delays during the summer of 2021 at Plant Yates has impacted schedule and production. Additionally, through the continued assessment of schedule risk, estimate uncertainty, and risk events for the project, estimated contingency has been reduced as the Yates projects near completion.

Tables 6, 7, and 8 below contain the latest projected estimates for Georgia Power’s CCR ARO ash pond closure and landfill projects. These estimates incorporate the assumptions discussed in the preceding paragraphs, as well as in Section V of this report.

By October 1, 2021, Georgia Power expects to file its 2022 Compliance filing to set base rates for 2022 as ordered by the Commission in Docket No. 42516, which will include Environmental Compliance Cost Recovery (“ECCR”) tariff revenue requirements related to CCR ARO compliance costs. As part of the settlement agreement approved by the Commission in Docket No. 42516, the contingency amounts from the projected CCR ARO compliance costs are excluded from the annual recovery in base rates until the costs are actually incurred. Table 10 below provides the contingency forecast dollars for the remainder of 2021 and 2022 which are excluded from the annual recovery in the 2022 Compliance filing.

Table . Current Cost Estimates for CCR ARO Ash Pond Closure Projects

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Ash Ponds** | ($ in Millions) | | | | | |  |
| **Facility** | **Project to Date Actuals Through July 2021\*** | **August through December 2021 Forecast** | **2022**  **Forecast** | **2023-2025 Forecast** | **2026-2028 Forecast** | **2029-2083 Forecast** | **Total** |
| **Bowen** | **$ 119.4** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Branch** | **$ 77.2** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Hammond** | **$ 76.0** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Kraft** | **$ 8.4** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **McDonough** | **$ 100.2** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **McIntosh** | **$ 13.0** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **McManus** | **$ 102.6** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Mitchell** | **$ 55.5** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Scherer** | **$ 5.4** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Wansley** | **$ 14.9** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Yates** | **$ 201.8** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Ash Pond Subtotal** | **$ 774.5** | **$ 114.1** | **$ 308.3** | **$ 1,040.7** | **$ 1,364.0** | **$ 3,498.0** | **$ 7,099.6** |
| *Escalation included in Forecast above\*\** | *N/A* | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | *$ 1,522.7* |

***Retail Cost Estimates***

*\*Project-to-Date Actuals represent costs incurred from January 1, 2003 through July 31, 2021.*

*\*\** *Forecasted escalation is applied based on ARO accounting standards under ASC 410.*

*Note: Details may not add to totals due to rounding.*

Table . Current Cost Estimates for CCR ARO Landfill Projects

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Landfills** | ($ in Millions) | | | | | |  |
| **Facility** | **Project to Date Actuals Through July 2021\*** | **August through December 2021 Forecast** | **2022**  **Forecast** | **2023-2025 Forecast** | **2026-2028 Forecast** | **2029-2083 Forecast** | **Total** |
| **Arkwright** | **$ 27.5** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Bowen** | **$ 0.0** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Branch** | **$ 0.0** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Hammond** | **$ 0.5** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Kraft** | **$ 13.5** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **McIntosh** | **$ 7.8** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Scherer** | **$ 0.0** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Wansley** | **$ 0.0** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Yates** | **$ 32.2** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** |
| **Landfill Subtotal** | **$ 81.6** | **$ 11.3** | **$ 26.9** | **$ 203.8** | **$ 267.2** | **$ 1,269.6** | **$ 1,860.3** |
| *Escalation included in Forecast above\*\** | *N/A* | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | *$ 805.0* |

***Retail Cost Estimates***

*\*Project-to-Date Actuals represent costs incurred from January 1, 2003 through July 31, 2021.*

*\*\** *Forecasted escalation is applied based on ARO accounting standards under ASC 410.*

*Note: Details may not add to totals due to rounding.*

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Facility** | **Project to Date Actuals Through July 2021\*** | **August through December 2021 Forecast** | **2022**  **Forecast** | **2023-2025 Forecast** | **2026-2028 Forecast** | **2029-2083 Forecast** | **Total** |
| **Ash Pond Subtotal** | **$ 774.5** | **$ 114.1** | **$ 308.3** | **$ 1,040.7** | **$ 1,364.0** | **$ 3,498.0** | **$ 7,099.6** |
| **Landfill Subtotal** | **$ 81.6** | **$ 11.3** | **$ 26.9** | **$ 203.8** | **$ 267.2** | **$ 1,269.6** | **$ 1,860.3** |
| **Total** | **$ 856.1** | **$ 125.4** | **$ 335.2** | **$ 1,244.5** | **$ 1,631.2** | **$ 4,767.6** | **$ 8,960.0** |
| *Escalation included in Forecast above\*\** | *N/A* | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | **REDACTED** | *$ 2,327.8* |

***Retail Cost Estimates***

*\*Project-to-Date Actuals represent costs incurred from January 1, 2003 through July 31, 2021.*

*\*\** *Forecasted escalation is applied based on ARO accounting standards under ASC 410.*

*Note: Details may not add to totals due to rounding.*

Table . 2021 Year-to-Date Actual versus Budget Comparison

|  |  |  |  |
| --- | --- | --- | --- |
|  | **January - July 2021 Actuals** | **January - July 2021 Budget\*** | **January - July 2021 Variance** |
| **Arkwright** | **$ 3.0** | **REDACTED** | **REDACTED** |
| **Bowen** | **$ 22.8** | **REDACTED** | **REDACTED** |
| **Branch** | **$ 16.3** | **REDACTED** | **REDACTED** |
| **Hammond** | **$ 10.4** | **REDACTED** | **REDACTED** |
| **Kraft** | **$ 0.7** | **REDACTED** | **REDACTED** |
| **McDonough** | **$ 11.7** | **REDACTED** | **REDACTED** |
| **McIntosh** | **$ 4.8** | **REDACTED** | **REDACTED** |
| **McManus** | **$ 3.6** | **REDACTED** | **REDACTED** |
| **Mitchell** | **$ 14.2** | **REDACTED** | **REDACTED** |
| **Scherer** | **$ 1.7** | **REDACTED** | **REDACTED** |
| **Wansley** | **$ 4.4** | **REDACTED** | **REDACTED** |
| **Yates** | **$ 21.9** | **REDACTED** | **REDACTED** |
| **Total** | **$ 115.4** | **$ 181.3** | **$ (65.9)** |

***Retail Cost Estimates***

*\*Budget associated with the 2021 compliance filing submitted to the PSC in Docket No. 42516 on October 1, 2020.*

*Note: Details may not add to totals due to rounding.*

**2021 Year-to-Date Actual versus Budget Summary**

Table 9 summarizes 2021 year-to-date actual costs for CCR ARO activities at all sites compared to the budget associated with the 2021 compliance filing for the same time period. The variance to the forecast for the portfolio is primarily driven by the following five sites:

* Bowen: **REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED** have been incorporated into the Company’s updated forecast and **REDACTED** near term cash flows for the site. Additionally, the ramp up in closure activity for the Bowen ash pond has been moderated while contracting terms with the prime contractor were finalized during the early part of 2021 and the sequencing of water management and future ash excavation activities were updated. Lastly, forecasted contingency dollars have been shifted to future years to align with the updated schedule and risk assumptions for the project.
* Hammond: **REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED REDACTED** have been incorporated into the Company’s updated forecast and **REDACTED** near term cash flows for the site. The transition to the prime contractor for the Phase 1 work also resulted in under-runs compared to the previous forecast as the competitive bid process was finalized and prime contract awarded.
* McDonough: The variance to forecast is primarily associated with the timing of cash flows associated with McDonough AP-3 and AP-4 cap and cover work based on weather impacts at the site and a resequencing of closure activities.
* Mitchell: The site has realized delays in ash sales associated with its beneficial use forecast. Market factors such as the projected availability of supply, infrastructure and outage impacts at the kilns, trucker availability, and rail shipment delays in early 2021 have resulted in lower demand for the material from the Portland cement kilns than previously expected. Plant Mitchell’s projected dollars have been shifted to future years to align with the anticipated future increase in closure activity.
* Yates: The project has experienced weather delays during the summer of 2021 which has impacted schedule and production. Through the re-sequencing of remaining work activities, the Company expects to complete closure in 2022 but has shifted cashflow to align with the updated work sequence. As the site nears its expected completion, a reduction in risk-associated dollars has been appropriately incorporated into the forecast.

Table . 2021 Contingency Forecast

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ($ in Millions) | | | | | | |
| **August - December 2021 Forecast** | **August – December 2021 Contingency Forecast\*** | **August – December 2021 Forecast** (without contingency) |  | **2022 Forecast** | **2022 Contingency Forecast \*** | **2022 Forecast** (without contingency) |
|
| $125.4 | **REDACTED** | **REDACTED** |  | $335.2 | **REDACTED** | **REDACTED** |

***Retail Cost Estimates***

*\* Contingency forecast excluded for the annual recovery in the 2022 Compliance filing*

1. FINANCIAL AND SCHEDULE SUMMARY – CCR UNIT LEVEL

The Company maintains cost and schedule information for each of its CCR units. Site-specific cost and schedule information for each of its CCR units is detailed further below.

The Company, with input from third-party experts, has developed forecasts for these long term projects, some of which span more than 60-years, based on a combination of factors including, but not limited to, regulatory considerations, engineering studies, detailed closure design, constructability reviews, construction progress, water treatment considerations, operational needs, and post-closure requirements for its sites.

The Company is actively managing these long-term projects and will continue to make updates to reflect upward and downward pressures on cost and schedules for each project. There are several activities or factors in the near term that will be closely monitored as the portfolio of projects mature which could impact costs and schedule including the completion of detailed design for all sites, active construction progress, completion of competitive bids and contracting for pending projects, approval and implementation of remaining dewatering plans, the potential to take advantage of beneficial use opportunities during closure, actions pertaining to ongoing ACMs, and additional environmental regulatory actions and requirements. Similarly, there are factors that could impact the projects in the long-term as construction activities are completed and sites enter post-closure. These factors include the development of future beneficial use opportunities as the ash market matures, refinement of labor assumptions, optimization of groundwater monitoring networks, advancement of water treatment technologies, refinement of long term maintenance assumptions for grass and closure turf, and realization of the overall impact of emerging technologies on the program.

The third quarter 2021 review reflects the Company’s latest information and, in addition to near term cash flow trends discussed in Section IV of this report, includes upward and downward pressures on the program’s total EAC. For example, **REDACTED REDACTED REDACTED REDACTED** and other closure cost updates were incorporated into the estimates at Bowen and Hammond, updated closure cost assumptions were incorporated into the forecast at Scherer based on updated constructability and engineering reviews, contingency was analyzed as part of the program’s ongoing analysis of risk, schedules were updated based on site-specific factors, a thorough review of post-closure costs was performed resulting in non-material changes for the portfolio, and additional funding was available for the program’s management reserve to align with industry standard. The culmination of these factors resulted in no change in the program’s total nominal EAC compared to the March 31, 2021 report. While the nominal estimate at completion is unchanged for the program, ARO accounting standards require total project cost to reflect market conditions, which includes an assessment of escalation driven by the timing of cash flows and more importantly current inflation rates. The market has seen a record setting increase in inflation rates which has impacted the projected total future cost of the project. The increase in inflation rates is primarily driven by the economy's response to the COVID-19 pandemic with increased demand for goods and a strained supply chain.

As design, engineering, and contracting activities advance, sites will continue to update cost estimates and cash flow projections. Currently, the Company expects new estimates at some sites to be realized by the end of 2021. Estimating and forecasting activities, as well as contracting activities for future work, are also expected to be performed during future years of the program.

The Company continues to focus on continuous improvement of project controls, enhancement and documentation of work practices to improve the consistency, accuracy, and visibility of progress across the program, and multitude of site-specific CCR projects.

Financial Summary- CCR Unit Level

The cost summaries include project-to-date actuals through July 31, 2021, and current estimated cost forecasts for each site, including each ash pond and landfill. Additionally, costs by activity are grouped into the categories listed below.

* **Previous Closure Costs**: Actual costs incurred prior to January 1, 2014.
* **Program Management**: Compliance activities including, but not limited to, permitting, groundwater monitoring, corrective action, and program oversight, as well as management reserve which is cash flowed in years 2026 and beyond.
* **Front End Planning**: Activities including design to 90-percent, third-party constructability reviews, and other technical and engineering costs.
* **Detailed Engineering Costs**: Activities associated with the detailed engineering design and engineering support during construction.
* **Construction**: Construction activities for the CCR unit-specific closure plans. Construction activities include, but are not limited to, procurement, water treatment, site preparation, transportation improvements, site maintenance, beneficial use costs and credits during closure, stability and performance monitoring, ash excavation, ash transport, ash consolidation and placement, installation of a cover system, installation of engineering controls, site restoration, and landfill development to support ash pond closures. Construction activities also include construction indirect costs such as temporary facilities, project and construction management, quality assurance, quality control, and temporary facilities.
* **Post-Closure Costs**: The time period after principal construction during which requirements to conduct monitoring, manage water, and conduct maintenance exist. This category represents both the actual and/or estimated IPCC and PCC costs for the site. This category encompasses both post-closure for a closure in place project and post-removal for a closure by removal project.

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Schedule Summary- CCR Unit Level

The following Gannt charts include schedule summaries for each site, with activities for each ash pond and landfill grouped into the categories listed below:

* **Ash Ponds:**
  + **Name of the Unit**: Includes the overall duration of closure activities.
  + **Site Regulatory**: For scheduling purposes, assumed to begin with the effective date of the Federal CCR Rule. Includes permitting activities, permit renewals, dewatering plan development and associated compliance documentation, and other required compliance activities.
  + **Front-End Planning/Engineering/Procurement**: Project planning and construction preparations including engineering design, third-party constructability reviews, contracting milestones for dewatering, quality assurance, and construction contracts, and other technical and engineering activities.
  + **Construction/Water Management**: Includes prime contractor mobilization and milestones for closure and restoration along with water management, dewatering, and water treatment milestones.
  + **Interim Post-Closure Care (IPCC)**: Includes activities that extend beyond construction, including groundwater monitoring, water management, general site maintenance, and other compliance activities in the interim of PCC.
  + **Post-Closure Care (PCC):** Includes activities that extend beyond construction, including groundwater monitoring, water management, general site maintenance, and other compliance activities following IPCC. This category encompasses both post-closure for a closure in place project and post-removal for a closure by removal project.
* **Landfills:** 
  + **Name of the Unit and Landfill Cell:** Includes the overall duration of activities.
  + **Active Landfill:** Includes timeframe the landfill cell was or projected to be active and receiving CCR.
  + **Cell Closure/ Capping/Closure Construction/Water Management:** Includes closure construction milestones, water management activities, and compliance activities related to the final closure.
  + **Interim Post-Closure Care (IPCC)**: Includes activities that extend beyond construction, including groundwater monitoring, water management, general site maintenance, and other compliance activities in the interim of PCC.
  + **Post-Closure Care (PCC):** Includes activities that extend beyond construction, including groundwater monitoring, water management, general site maintenance, and other compliance activities following IPCC. This category encompasses both post-closure for a closure in place project and post-removal for a closure by removal project.

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1. Appendix A

**Abbreviations and Terminology**

|  |  |
| --- | --- |
| **ABUC** | **Ash Beneficial Use Center** |
|  |  |
| **ACM** | **Assessment of Corrective Measures** |
|  |  |
| **AP** | **Ash Pond** |
|  |  |
| **ARO** | **Asset Retirement Obligation** |
|  |  |
| **ASC** | **Accounting Standards Codification** |
|  |  |
| **CORE-CM** | **Carbon Ore, Rare Earths and Critical Minerals** |
|  |  |
| **CCR** | **Coal Combustion Residual** |
|  |  |
| **DSM** | **Deep Soil Mix** |
|  |  |
| **DOE** | **Department of Energy** |
|  |  |
| **EAC** | **Estimate at Completion** |
|  |  |
| **ECS** | **Environmental Compliance Strategy** |
|  |  |
| **EPD** | **Environmental Protection Division** |
|  |  |
| **EPRI** | **Electric Power Research Institute** |
|  |  |
| **GPC** | **Georgia Power Company** |
|  |  |
| **IPCC** | **Interim Post-Closure Care** |
|  |  |
| **IRP** | **Integrated Resource Plan** |
|  |  |
| **LF** | **Landfill** |
|  |  |
| **PCC** | **Post-Closure Care** |
|  |  |
| **PSC** | **Georgia Public Service Commission** |
|  |  |
| **RFP** | **Request for Proposal** |