OPERATING PLAN

PLANT MCINTOSH EXISTING COAL COMBUSTION RESIDUALS (CCR) LANDFILL NO. 4
EFFINGHAM COUNTY, GEORGIA

FOR

Georgia Power

September 2022

GEORGIA REGISTERED No. PE041928 PROFESSIONAL ENGINEER JOHN MATHEW TRAS 9/30/2022

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Approved

Solid Waste Management Program

Approved By: Keith Stevens Digitally signed by Keith Stevens Date: 2023.02.13 12:11:59 -05'00'

GEI Consultants

TABLE OF CONTENTS

1. OPERATING PLAN

In accordance with Rule 391-3-4-.10(9)(c)3.(ii) and 391-3-4-.10(5), the application for an existing CCR landfills shall include a description of how the existing CCR landfill's operating criteria requirements in 40 CFR 257.80 (Air Criteria), 40 CFR 257.81 (Run-on and Run-off Controls), and 40 CFR 257.84 (Inspection Requirements) are met. The following section includes a description of the Operations Plan for Landfill No. 4. This Operations Plan may be amended at any time, provided the revised plan is placed in the operating record of the facility as required by 40 CFR 257.80(b)(6) and 40 CFR 257.81(c)(2). Georgia Power Company may ammend the Operations Plan whenever there is a change in conditions that would substantially affect the plan in effect.

1.1 Description of Waste

The facility will receive solid waste produced from the generation of electricity from coal (CCRs) as defined in Rule 391-3-4-.01, and materials in contact with or used to contain or absorb CCR (truck liners, truck wash sediments containing ash, etc.) generated by Georgia Power Company. Allowable wastes include:

1. CCR (fly ash, bottom ash, flue gas desulfurization materials, and boiler slag);
2. Materials that have come in contact with CCR, or used to collect or absorb CCR, that were generated by Georgia Power;
3. Other waste generated from milling coal in preparation for the combustion process; and,
4. CCR water treatment filter cake materials (after evaluation)

As required by the Rules, CCRs do not include putrescible or hazardous materials regulated under Subtitle C of the Resource Conservation Recovery Act (RCRA).

1.2 Exclusion of Prohibited Wastes

No hazardous, putrescible wastes or other non-approved wastes will be deposited at this site. To ensure the exclusion of prohibited wastes, the supervisor and/or operator regularly performs random inspections of the CCR material placement operations. The results of each inspection are recorded and maintained as part of the facility's operating record. Facility personnel receive training to recognize prohibited wastes.

If prohibited wastes are detected at any time, Georgia Power will remove such waste and ensure it is transported to a properly permitted solid waste handling facility. Any incident of prohibited waste will be described in a report and placed in the facility's operating record.

1.3 Buffers

The disposal site is located entirely on GPC property. The site boundary for the landfill is bounded on the west by private property. A 200-foot buffer zone is provided between the waste disposal area and the private property boundary to the west. The remaining boundaries to the north, east, and south are a minimum of several hundred feet from GPC property lines, buffered by wooded areas. A 200-foot undisturbed buffer is provided between the waste disposal area and the permit boundary.

1.4 Dust Control

The purpose of this fugitive dust control plan is to demonstrate compliance with the fugitive dust requirements in CCR Rule 391-3-4-.10(5)(a).

This fugitive dust control plan identifies and describes the CCR fugitive dust control measures that Georgia Power Plant McIntosh uses to minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management and material handling activities

CCR Rule 391-3-4-.10(2)(a), by reference to 40 CFR 257.53, defines "CCR fugitive dust" as "solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than through a stack, or chimney". Fugitive dust originating from Cells 1, 2 and 3 is controlled using water suppression and compaction.

The fugitive dust control measures identified and described in this plan were adopted and implemented based upon an evaluation of site-specific conditions and are determined to be applicable and appropriate for the McIntosh CCR Landfill. Evaluation included assessing the effectiveness of the fugitive dust control measures for the facility, taking into consideration various factors such as site conditions, weather conditions, and operating conditions.

CCR that is transported via truck is conditioned to appropriate moisture content to reduce the potential for fugitive dust. Water suppression is used as needed to control fugitive dust on facility roads used to transport CCR and other CCR management areas. Speed limits are also utilized to reduce the potential for fugitive dust. Trucks used to transport CCR are filled to or under capacity to reduce the potential for material spillage.

Plant personnel assess the effectiveness of the control measures by performing visual observations of all CCR units and surrounding areas and implementing appropriate corrective actions for fugitive dust, as necessary. Logs are used to record the utilization of water-spray equipment.

When a complaint is received from a citizen regarding a CCR fugitive dust event at the facility, the complaint is documented and investigated. Appropriate steps are taken if needed, including any corrective action.

The current version of the Fugitive Dust Control Plan (dated December 18, 2020) is posted to the Georgia Power CCR Compliance website and provided in Part B, Section 4. This Plan is required by the rules to be updated every 5 years.

1.5 Waste Unloading

The CCR will be unloaded from dump trucks at the active working face in the disposal cell. The designated unloading area may change based on the current weather conditions to prevent fugitive dust generation, as outlined in the dust control plan. The CCR will be moisture conditioned prior to unloading to further limit dusting. CCR will be unloaded in a manner such that it can be easily placed in nominal 1-foot lifts and compacted.

1.6 Spreading and Compaction

The CCR will be moisture conditioned before spreading and compaction. Moisture conditioned CCR will be spread in 1-foot lifts (nominal loose lifts) and compacted with a minimum of four passes of a dozer,

smooth drum roller, or equivalent construction equipment to achieve a minimum 90 percent of the standard proctor (ASTM D 698) maximum dry density. The surface should be smooth drum rolled, or equivalent, to seal the surface, reduce infiltration, and prevent ponding of precipitation. During the initial filling operations, a minimum of three field density tests shall be performed on a compacted ash lift to verify the minimum number of equipment passes required to achieve compaction. Moisture contents shall be adjusted appropriately by wetting or drying methods to maintain compaction moisture. Ash shall be spread and compacted along a maximum 100-foot-wide area along the toe of the previous working face. The intermediate slopes should be maintained at 3.0H:1V or flatter. Daily cover and disease vector controls are not required for the CCR because it is not putrescible. Likewise, intermediate cover is not required other than to control dusting.

1.7 Daily and Intermediate Cover

Landfill No. 4 is not a municipal solid waste landfill unit, and the waste is not putrescible. Therefore, daily cover is not required to control disease vectors, fires, odors, blowing litter, and scavenging. Intermediate soil cover may be used as an option to control dusting. Intermediate cover should consist of a uniform compacted layer of clean earth. Intermediate cover may be placed in areas where the CCR fill lift is completed. Intermediate cover should be vegetated if it is to remain for more than 3 months.

1.8 Disease Vector Control

Owners and operators of all landfills must prevent or control on-site populations of disease vectors. Disease vector controls are not required for this facility, because the CCR is not putrescible, and no putrescible wastes are permitted.

1.9 Explosive Gases Control

Methane gas will not be generated at the landfill, because the CCR is an inorganic by-product of the coal combustion process. Therefore, methane gas controls and monitoring are not required.

1.10 Run-On/Run-Off Control

Rules 391-3-4-.10(9)(c)3.(ii) requires that existing CCR landfills comply with the requirements of 40 CFR 257.81 Run-on and run-off controls for CCR landfills. The rule requires the that the owner of an existing CCR landfills must design, construct, operate, and maintain a run-on control system to prevent flow onto the active portion of the CCR unit during the peak discharge from a 24-hour, 25-year storm; and a run-off control system from the active portion of the CCR unit to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

Landfill No. 4 as currently constructed is approximately 20.2 acres. Cell 1 is approximately 8.4-acres and closed. Cell 2A is approximately 11.8 acres and active. Cell 2B, Cell 3, and Cell 4 are not currently constructed. The landfill cells and stormwater detention system are constructed in an upland area that does not receive stormwater flows directed towards the landfill. In addition, the landfill cells and stormwater detention system are constructed with perimeter berms that further prevent any potential run-on from the surrounding area. Storm water drainage is directed away from the landfill following the existing site drainage patterns.

Cell 1 of the landfill is closed, so there is no potential for stormwater run-on. All stormwater run-off is controlled by drainage berms and ditches to direct stormwater to the detention system that is designed to accommodate the anticipated storm flow from a 24-hour, 25-year storm event.

Cell 2A is active. All precipitation that falls onto the active landfill area and contacts CCR is handled by the leachate collection and removal system. A geomembrane rain flap was installed over a significant portion of the sand drainage layer in Cell 2A. Stormwater that is collected on top of the rain flap, which has not contacted CCR or leachate is clean, and can be discharged to the stormwater detention system rather than treating the water as leachate. As filling progresses in Cell 2A, the rain flap will be removed as necessary to facilitate filling. Eventually the entire rain flap will be removed when it is no longer practical to separate leachate and stormwater. When the entire rain flap is removed, all precipitation that falls within the Cell 2A will be managed as leachate.

All precipitation that falls outside the limits of waste of Cell 2A is directed away from the active landfill to the stormwater detention system. The stormwater detention system is designed to accommodate the anticipated stormwater flow from a 24-hour, 25-year storm event.

Cell 2B, Cell 3, and Cell 4 are not currently constructed so there is no potential for stormwater run-on. All stormwater run-off is controlled by ditches to direct stormwater to the detention system that is designed to accommodate the anticipated storm flow from a 24-hour, 25-year storm event.

Engineering calculations supporting the stormwater detention system design were submitted as part of the permit modification, dated March 10, 2015. The current version of the Run-On/Run-Off Control Plan (amended October 2021) is posted to the CCR Compliance website and provided in Part B, Section 4. This Plan is required by the rules to be updated every 5 years.

1.11 Surface Water Requirements

The only discharge from the site will be from the sedimentation ponds. During active operation, the clear pools will be monitored under an Industrial Storm Water Permit.

1.12 Continuity of Operation

All-weather access roads shall be provided to the working face of the disposal operation and provisions shall be made for prompt equipment repair or replacement when needed.

1.13 Environmental Protection

The landfill shall be operated in such a manner as to prevent air, land, or water pollution, and public health hazards.

1.14 Supervision

The disposal operations will be under the supervision of an operator, who will be present at all times during operation and is properly trained in the operation of landfills and the implementation of Design and Operations Plans. Supervision will be provided by GPC personnel. A copy of the Engineering Report, Operations Plan, and Construction Quality Control/Quality Assurance Plan will be made available during operation.

1.15 Limited Access

Landfill No. 4 is located entirely within the plant property boundary and is dedicated to GPC use only. Access to the site is limited by wooded surroundings and Lockner Creek. Access to the site is controlled by gates that are closed and locked when the site is not in use.

1.16 Temporary Access Roads

Temporary access roads to the landfill filling area are constructed using bottom ash or gravel. Final access roads will be constructed using gravel or paved to provide continued access for maintenance to the site.

1.17 Litter Control

Landfill No. 4 is dedicated for disposal of CCR materials only and does not accept paper or municipal solid waste that can become windblown. Any litter and/or windblown waste, if any, will be removed and disposed of properly.

1.18 Fire Protection

The open burning of solid waste at the landfill is prohibited. CCR placed in the landfill is not combustible. However, potential borrow areas are located immediately adjacent to the landfill that could be used as fill soil for fire suppression, if necessary.

1.19 Erosion and Sedimentation Control

A temporary containment berm is maintained down gradient of the CCR filling area and covered with 30-mil geomembrane rain flap material. The purpose of the containment berm is to limit excessive stormwater runoff from entering the leachate collection system and to limit erosion of the base liner protection layer. Run-off from the disposal areas is routed to the sediment basin designed to handle the 24-hour, 25-year storm event. The plans and details of permanent erosion and sediment control structures are included in the Permit Drawings, Sheets 27-34.

Erosion control details for Landfill No. 4 follow guidance in Chapter 6 of the *Georgia Manual for Erosion and Sediment Control*. Erosion and sedimentation control measures and facilities are employed prior to and concurrent with clearing, grading, overburden removal, access, or other land disturbing activities for preparation of the site for landfilling. Before each new cell development takes place, any necessary erosion and sediment control measures will be constructed and put into place and any required diversion berms, ditches, and other stormwater management structures will be constructed.

1.20 Information Posted

Landfill No. 4 is located entirely within the plant property and is not accessible to the public. Identification signs are posted at the entrance to Landfill No. 4.

1.21 Prohibited Acts

The landfill shall be operated and maintained to prevent open burning, scavenging, and the open dumping of wastes.

1.22 Recordkeeping, Notification, and Publicly Accessible Internet Site Requirements

The Plant McIntosh Landfill No. 4 complies and will continue to comply with the recordkeeping, notification, and publicly accessible internet site requirements set forth in Georgia CCR Rule 391-3-4-.10(9)(c)3.(v) and 391-3-4-.10(8). The Plant McIntosh Landfill No. 4 publicly accessible website is found at:

https://www.georgiapower.com/CCRRuleCompliance

Georgia Power maintains and will continue to maintain the facility operating record during the life of the facility, including the closure and post closure period. The facility operating record is maintained by plant personnel and is located at Plant McIntosh. The following records are maintained as part of the operating record of the facility:

1. A copy of the permit and any operating conditions including location restrictions;

2. Inspection records, training procedures, and notification procedures required by this Plan and by Rule 391-3-4-.10(5) and (8);

3. Any demonstration, certification, finding, monitoring, testing, or analytical data pertaining to groundwater monitoring and as required by rule 391-3- 4 -.10(6);

4. Closure and post closure care plans and any monitoring, testing, or analytical data required by those Plans and Rules 391-3-4.10(7);

5. Any cost estimates and financial assurance documentation;

6. A copy of the permitted Design and Operations Plan for the facility;

7. A copy of the Groundwater and Surface Water Monitoring Plan for the facility;

8. A copy of the Construction Quality Assurance Plan, construction certifications, closure certifications, and post closure certifications.

All information contained in the facility operating record will be furnished to the Georgia EPD or be made available at all reasonable times for inspection by Georgia EPD staff.

Unless otherwise specified by the Rules, Georgia Power will notify Georgia EPD within 30 days of placing documents in the operating record. The notifications will be sent before the close of business on or before the day the notification is required to be completed. Notifications to Georgia EPD will be postmarked or sent by electronic mail. If a notification deadline falls on a weekend or federal holiday, the notification deadline will be extended to the next business day. Georgia Power will state in the notification to Georgia EPD if the relevant information was also placed on the Georgia Power CCR Compliance Website.

1.23 Groundwater and Surface Water Monitoring

Water quality monitoring will be performed in accordance with the schedule and requirements indicated in the Plant McIntosh Landfill No. 4 Coal Combustion By-Product Disposal Facility Groundwater Monitoring Plan. The plan meets the requirements of Georgia CCR Rule 391-3-4-.10(6).

1.24 Survey Control

Survey control is provided through use of permanent, accessible benchmarks, survey control stakes, and/or boundary markers which designate and/or delineate all permitted areas. Survey control shall be as indicated on the design and Operations Plan. Where necessary for construction or operational purposes, vertical as well as horizontal survey control will be established and maintained to delineate fill boundaries, buffers, and property boundaries.

1.25 Seven Day Inspections

Landfill No. 4 will be inspected at intervals not exceeding seven days by a qualified person and annually by a professional engineer to comply with the State of Georgia Solid Waste Management Rule 391-3-4-.10 for Coal Combustion Residuals and 40 CFR 257.84(a). The qualified person will have been trained to recognize specific appearances of structural weakness and other conditions that are disrupting or have the potential to disrupt the operation or safety of the CCR landfill by visual observation. The weekly inspections should document the following:

1. Any visual indication of differential settling in the CCR materials or perimeter berms
2. Erosion of the CCR materials or perimeter berms
3. Confirmation that run-on/run-off controls are preventing run-on of surface water into the landfill and the runoff of ash contact water out of the landfill and the release of CCR materials
4. A check that the leachate collection system, if present, is operating and that leachate is not accumulating to unacceptable head on the liner system

The documentation of the weekly inspection and the findings of the qualified person's inspection will be recorded on a self-generated form which will be placed in the facility's operating record after each inspection.

If a deficiency or release is identified during the weekly inspection, GPC will remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken. GPC will place the documentation into the facility's operating record.

1.26 Annual Inspections

In accordance with Rule 391-3-4-.10(5) and 40 CFR 257.84(b), a qualified professional engineer must conduct annual inspections to ensure that the design, construction, operation, and maintenance of Landfill No. 4 is consistent with recognized and generally accepted good engineering standards.

The annual inspection will include, at a minimum:

1. A visual inspection of the CCR disposal facility to identify signs of distress or malfunction of the CCR disposal facility.
2. A review of available information regarding the status and condition of the CCR disposal facility, including, but not limited to, files available in the facility operating record such as:
    - The results of weekly inspections and the results of previous annual inspections,

- Files available in the operating record and other conditions which have disrupted or have the potential to disrupt the operation or safety of the CCR disposal facility

1.27 Annual Reporting

A qualified professional engineer will complete an annual report containing the following:

1. Any changes in geometry of the disposal facility components since the previous annual inspection;
2. The approximate volume of CCR contained in the unit at the time of the inspection;
3. Any appearances of an actual or potential structural weakness of the CCR within the disposal facility, or any existing conditions that are disrupting or have the potential to disrupt the operation and stability of the CCR disposal facility; and
4. Any other change(s) which may have affected the stability or operation of the CCR disposal facility since the previous annual inspection.

If a deficiency or release is identified during the inspection, GPC will remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken. GPC will place the documentation into the facility's operation record. Plant McIntosh is responsible for and must conduct the required annual inspection within 1 year from the previous inspection. The annual inspection is considered complete once the completed inspection report is placed in the facility's operating record as required in 40 CFR 257.84(g)(9).

1.28 Site Equipment

Equipment used during operation of the site includes at a minimum:

1. CAT D5H-5S dozer, or equivalent
2. Excavators
3. Smooth drum roller
4. Water truck with spray attachment
5. Off-road haul trucks
6. Other equipment as needed

Equipment will be leased or subcontracted on an as-needed basis.

1.29 Tire Wash

A tire wash system will be primarily used to clean the undercarriage and wheels of service vehicles and haul trucks exiting the disposal area. The system includes a wheel wash make-up reservoir and a wheel wash run-off pond, incorporated into Leachate Pond 1. The wheel wash run-off pond will be cleaned out periodically as needed, and the solids placed in the active area within the landfill.

1.30 Final Grading

The final slopes were designed to ensure stability, to control erosion, to allow placement, compaction, and seeding of the cover material, to minimize percolation into the final cover, and to provide diversion of surface run-off from the disposal area. The final slopes will be between 3 percent and 33 percent (3H:1V). Final grading plans and final cover system details are provided in the permit drawings.

1.31 Vegetation

All vegetated areas of the landfill and ponds will be maintained throughout the life of the disposal facility. The recommended species, planting dates, and fertilization requirements can be found in the latest edition of the Manual for Erosion and Sediment Control on Georgia.

1.32 Ponds with Leak Protection Systems

The leachate, wheel wash, and wheel wash make-up water ponds at Landfill No. 4 are double lined and have leak detection sumps. Georgia Power will maintain pumps in the leak detection sumps of the double – lined ponds and will operate them as needed to maintain liquids in the leak detection system lower than 1-foot of head on the liner.

1.33 Recovered Material Processing Operations

Although ash may be recovered for removal from the site for construction, manufacturing, or other beneficial uses, no waste recovery processing operations will be performed at this facility.

1.34 Solid Waste Processing Operations

Georgia Power does not operate a solid waste processing operation in Landfill No. 4.

1.35 Waste Requiring Special Handling

Landfill No. 4 is only permitted for the disposal of CCRs which do not require any special waste handling provisions.

1.36 Communications

Communications will be by two-way radio with Plant McIntosh. Telephone communications are maintained at the plant.

1.37 First Aid

First aid supplies will be available at the site and at the plant.

1.38 Employee Facilities

Employee restroom facilities will be maintained at the plant.