

# CLOSURE PLAN

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**PLANT KRAFT  
INACTIVE CCR LANDFILL  
GRUMMAN ROAD ASH LANDFILL  
CHATHAM COUNTY, GEORGIA**

**FOR**



**Georgia  
Power**

**NOVEMBER 2018**



**ACC**  
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## **1. GENERAL**

The Plant Kraft Grumman Road Ash Landfill Industrial Solid Waste Landfill is on 33.2 acres and is composed of four parcels (cells); Parcels A, B1, B2, and B3. Parcel A was closed and is permitted under the Solid Waste Handling Permit # 025-034D(L)(I). Parcels B1, B2 and B3, have all been closed and are permitted under the Solid Waste Handling Permit # 025-061D(L)(I), issued December, 1986. These permits have been amended by several minor modifications since the first issuance.

The certification of the final closure of the Grumman Road Ash Landfill, Parcels A and B1 can be found in the report named "Cells A & B1 Certification for Closure". The closure construction for Parcels A and B1 was completed on July 30, 2004.

The certification of the final closure of the Grumman Road Ash Landfill, Parcels B2 and B3 can be found in the "Construction Certification Report Grumman Road Ash Landfill Parcels B2 & B3 Closure Final Cover Construction". Closure and final cover installation on parcels B2 and B3 of the Grumman Road Ash Landfill commenced on March 13, 2017, and was completed on October 31, 2017.

Parcel A was previously closed but ash was discovered in the 25 foot buffer along the property line. Due to this ash being placed in the buffer, approximately 10,049 cubic yards of ash must be relocated to within the Parcel A permitted waste footprint. A new final cover system will then be installed meeting the requirements of Solid Waste Rule 391-3.4-.10(7). Georgia Power will close Parcel A of this CCR landfill in a manner that minimizes the need for further maintenance and minimizes the potential of post-closure releases of contaminants to the ground or surface waters.

## **2. NOTIFICATION**

Georgia Power notified EPD of its intent to close the Grumman Road Ash Landfill, Solid Waste Handling Permit 0258-061D (LI), in a letter dated November 4, 2015 shortly after receiving its last load of waste on October 15, 2015.

## **3. PROPERTY BOUNDARY AND LEGAL DESCRIPTION**

A survey drawing and legal description of the permit boundary, prepared by a Registered Professional Surveyor, are included in the Closure Plan Drawings of this permit package. The final limit of CCR and final cover system are defined on the drawings for the Grumman Road Ash Landfill. Upon completion of the closure, the actual final limit of CCR will be confirmed and documented in the closure report discussed subsequently in this Plan.

## **4. CLOSURE PROCEDURES**

### **A. FUGITIVE DUST CONTROL PLAN**

This fugitive dust control plan identifies and describes the CCR fugitive dust control measures that Georgia Power will use to minimize CCR from becoming airborne at the facility, including CCR fugitive dust originating from roads, and material handling activities. GA EPD State CCR Rule 391-3-4-.10(2)(a) (incorporating 40 CFR § 257.53 by

reference) defines “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 the closure activities will be controlled using water suppression or polymer tackifiers.

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 Grumman Road Ash Landfill closure. 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 a moisture content appropriate to reduce the potential for fugitive dust.

Water suppression or polymer tackifiers will be used as needed to control fugitive dust on facility roads used to transport CCR and other CCR management areas. Speed limits will be utilized to reduce the potential for fugitive dust. Trucks used to transport CCR will be filled to or under capacity to reduce the potential for material spillage.

Georgia Power and construction personnel will assess the effectiveness of the control measures by performing visual observations of the areas and implementing appropriate corrective actions for fugitive dust, as necessary. Logs will be used to record the utilization of water-spray equipment.

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

## **B. STORMWATER AND CONTACT WATER MANAGEMENT**

During closure activities, run-on stormwater and run-off contact water (e.g. stormwater that has come into contact with CCR) will be controlled with best management practices such as channels, diversion berms, and pumps and managed in accordance with the NPDES Construction Storm Water and Industrial Storm Water permit(s) if applicable. Georgia Power will prepare a phased erosion and sediment control plan that will be followed for closure construction activities, as needed.

Stormwater, or non-contact water runoff is routed around the excavation and is conveyed to the existing surface water management system (ditches, channels and drop inlets). Berms and rain tarps may be utilized between the final restoration areas (e.g., areas with CCR and 6” foundation soil excavated and/or with restoration grades completed) and active excavation areas to reduce potential for generating contact water.

**5. EROSION AND SEDIMENTATION CONTROL**

Upon closure, all ditches, diversion berms, culverts, rip-rap, and other drainage structures serving disturbed areas, but not already built, will be constructed and placed. All run-off from the disposal facility area shall be directed to the sediment basins. All disposal areas are confined within perimeter berms which divert all potential run-on around and away from the disposal site.

During closure activities, all necessary erosion control measures will be kept cleaned out, repaired and/or replaced as necessary.

**6. REMOVAL OF CCR**

If Georgia Power chooses to remove CCR or CCR residues from this facility, then Georgia Power will submit a request and receive written approval from EPD prior to conducting any such activity.

**7. FINAL COVER**

Upon closure, all CCR at the Grumman Road Ash Landfill will be placed and covered in accordance with the approved Closure Plans. The final cover system for the remaining area to be closed will consist of a Geosynthetic Clay Liner covered by a minimum 18-inch protective soil cover and a 6-inch minimum surface layer of top soil capable of supporting vegetation growth.

The final cover and site will be graded so as to prevent erosion by diverting run-on around the landfill and by directing run-off into the onsite sediment basin. The final slopes will not be steeper than 3 horizontal to 1 vertical. The minimum slope will be 3%.

The final cap system shall meet the following standards:

- a. Control, minimize or eliminate, to the maximum extent feasible, post-closure infiltration of liquids into the waste and releases of CCR, leachate, or contaminated run-off to the ground or surface waters or to the atmosphere;
- b. Preclude the probability of future impoundment of water, sediment, or slurry;
- c. Include measures that provide for major slope stability to prevent the sloughing or movement of the final cover system during the closure and post-closure care period;
- d. Minimize the need for further maintenance of the CCR unit; and
- e. Be completed in the shortest amount of time consistent with recognized and generally accepted good engineering practices.

## **8. VEGETATIVE PLAN**

All disturbed areas shall be grassed and maintained in accordance with the following schedules. A vegetative cover shall be established as soon as practical after final cover placement. Permanent covers which are slow to establish shall receive temporary seeding. The fertilizer requirements are suggested. If necessary, Georgia Power will submit soil samples to the County Extension Agent for analysis and determination of proper soil conditioners including lime. This analysis will become part of the operational records. Planting dates, fertilizer rates, and seeding rates shall meet the requirements in the Manual for Erosion and Sediment Control in Georgia.

BROADCAST													
Species	Rates	Planting Dates											
		J	F	M	A	M	J	J	A	S	O	N	D
Sericea Lespedeza (unscarified)	75 lbs/ac	x	x	p	p	p	p	p	p	x	x	x	x
Pensacola Bahia	30 lbs/ac	p	p	x	x	x	p	p	p	p	p	p	p
Common Bermuda Unhulled	6 lbs/ac	x										x	x

Lespedeza, Bahia and Bermuda may be mixed with tall fescue. x – Optimum dates  
p – Permissible, but marginal dates

FERTILIZATION (Warm Season Grasses)			
Year	N-P-K	Rate	N Top Dressing Rate
First	75 lbs/ac	1500 lbs/ac	50-100 lbs/ac
Second	30 lbs/ac	800 lbs/ac	50-100 lbs/ac
Maintenance	6 lbs/ac	400 lbs/ac	30 lbs/ac

**NOTES:**

1. All seeding rates are pure live seed rates.
2. All seeding shall be mulched with clean dry hay at the rate of 2.5 tons per acre. Mulch shall be anchored by pressing the mulch into the soil immediately after the mulch is spread using a packer disk or disk harrow or equivalent piece of equipment.
3. Temporary seeding should also complement permanent seeding to produce a suitable cover while the permanent grasses germinate.
4. Disturbed slopes greater than 3%, including soil stockpiles, are to be mulched immediately.
5. D.O.T. or County Extension seed type, seed rates, fertilizer requirements, etc. may also be used in lieu of the table above.

Fertilizer Requirements				
Type of Species	Year	Analysis or Equivalent N-P-K	Rate	N Top Dressing Rate
1. Cool Season Grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	10-100 lbs.ac.(1)(2) - 30
2. Cool Season Grasses and Legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	0-50 lbs./ac/(1) - -
3. Ground Covers	First Second Maintenance	10-10-10 10-10-10 10-10-10	1300 lbs./ac.(3) 1300 lbs./ac.(3) 1100 lbs./ac.	- - -
4. Pine Seedlings	First	20-10-5	One 21-gram pellet/seeding placed in closed hole	-
5. Shrub Lespedeza	First Maintenance	0-10-10 0-10-10	700 lbs./ac. 700 lbs./ac.(4)	- -
6. Temporary Cover Crops Seeded Alone	First	10-10-10	500 lbs./ac.	30 lbs./ac.(5)
7. Warm Season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 800 lbs./ac 400 lbs./ac.	50-100 lbs./ac.(2)(6) 50-100 lbs./ac.(2) 30 lbs./ac.
8. Warm Season Grasses and Legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac 400 lbs./ac.	50 lbs./ac.(6) - -

- (1) Apply in spring following seeding.  
(2) Apply in split applications when high rates are used.  
(3) Apply in 3 split applications.  
(4) Apply when plants are pruned.  
(5) Apply to grass species only.  
(6) Apply when plants grow to height of 2"-4".



## **9. SITE EQUIPMENT NEEDED**

Georgia Power will make adequate equipment available to ensure that closure requirements are executed correctly and efficiently. Should said equipment not be available, back up equipment may be obtained from rental companies.

## **10. ESTIMATE OF CCR QUANTITY**

The estimated volumes of CCR in the Grumman Road Ash Landfill is presented in Table 1 below.

Table 1. Estimated CCR Quantity

	Quantity of CCR (cubic yards)
In Closed Areas	80,520 <sup>1</sup>
To be Closed	10,049 <sup>2</sup>
Total	90,569

1. Design and Operations Plan Permit #025-061D (LI).

2. Engineers estimate for the Grumman Road Ash Landfill Parcels A, B2 & B3 Closure Project.

## **11. CERTIFICATION OF CLOSURE**

Upon completion of closure activities, a professional engineer registered in Georgia will prepare a closure report. Georgia Power will submit the closure report to the Director. The closure report will be completed on forms provided by the Division. Should the facility close prior to reaching final permitted elevations, the closure report shall include an as-built plan of the grades at the time of closure.

Within 30 days of completion of closure, Georgia Power will prepare a notification which shall include certification from a qualified professional engineer registered in Georgia verifying that closure has been completed in accordance with this Closure Plan. Georgia Power has completed the notification when it has been placed in the facility's operating record.

## **12. AMENDMENTS OF THE CLOSURE PLAN**

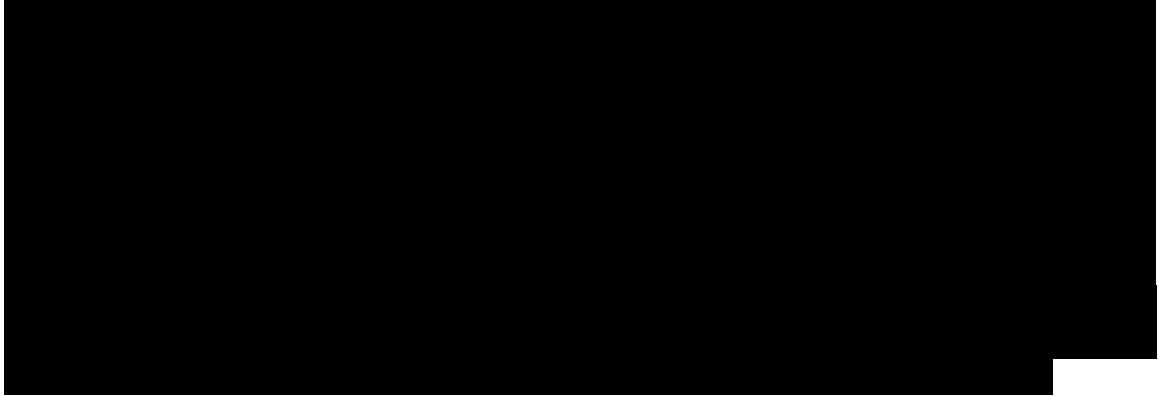
The owner or operator must amend the written Closure Plan whenever:

- There is a change in the operation of the CCR unit that would substantially affect the written closure plan in effect; or
- Before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan.

The owner or operator must amend the closure plan at least 60 days prior to a planned change in the operation of the facility or CCR unit, or no later than 60 days after an unanticipated event requires the need to revise an existing written closure plan. If a written closure plan is revised after closure activities have commenced, the owner or operator must amend the current closure plan no later than 30 days following the triggering event.

The owner or operator of the CCR unit must obtain a written certification from a qualified professional engineer that the amendment of the written closure plan meets the requirements of Amendment of a written Closure Plan.

**13. COST OF CLOSURE AND FINANCIAL ASSURANCE**



**14. CLOSURE SCHEDULE**

The following schedule shall be followed in regard to the remaining closure activities:

- Install and maintain erosion and sediment control systems serving disturbed areas;
- Excavate ash from the buffer area and place adjacent to Parcel A;
- Backfill buffer area with clean soil and grade to provide positive drainage;
- Install final cover system on Parcel A;
- Initiate vegetative plan;
- Prepare final topographic as-built survey;
- Prepare accurate legal description of final CCR limit of waste boundary;
- Provide the Closure Report to the Director. The report shall be prepared by a professional engineer registered in Georgia. On all deeds of real property which has been used for landfilling, include notice of landfill operations, the date the landfill operation commenced and terminated, an accurate legal description of the actual location of the CCR landfill, and a description of the type of CCR which have been deposited in the landfill; and
- Submit to the Director confirmation that the notation on the property deed has been recorded.

**15. RECORDKEEPING/NOTIFICATION/INTERNET REQUIREMENTS**

Georgia Power shall comply with all recordkeeping and notification requirements of 391-3-4-.10(8).

**16. LEGAL DESCRIPTION**

The legal description below was taken from a drawing titled "Boundary Information"

a. Property Line:

Said parcel contains 1,446,192 sq.ft. or 33.2 acres, more or less.

b. CCR Management Boundary:

Sheet 2 of the Grumman Road Ash Landfill Closure Plans

## APPENDIX

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[REDACTED]