

POST CLOSURE PLAN

CFR 257.104(D)

FGD Landfill
John E Amos Plant
Winfield, West Virginia

October 2016

Prepared for: Appalachian Power Company

John E Amos Plant

1530 Winfield Road

Winfield, West Virginia 25213

Prepared by: Geotechnical Engineering Services

American Electric Power Service Corporation

1 Riverside Plaza

Columbus, OH 43215



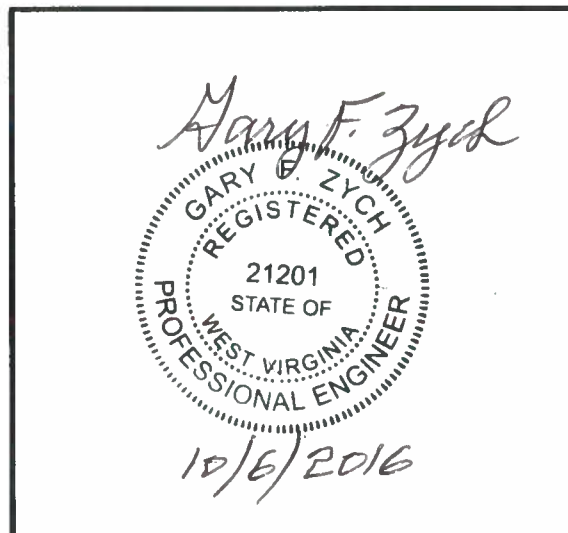
Document ID: GERS-16-119

POST CLOSURE PLAN
CFR 257.104(d)
FGD LANDFILL
JOHN E AMOS PLANT

PREPARED BY J.T. Massey Norton **DATE** 10/3/2016
John T. Massey Norton

REVIEWED BY Shahriyar S. Baig **DATE** 10-3-2016
Shahriyar S. Baig, P.E.

APPROVED BY Gary F. Zych **DATE** 10/6/2016
Gary F. Zych, P.E.
Manager - AEP Geotechnical Engineering



I certify to the best of my knowledge, information, and belief that the information contained in this post closure plan meets the requirements of 40 CFR § 257.104

TABLE OF CONTENTS

1.0 OBJECTIVE..... 1

2.0 DESCRIPTION OF THE CCR UNIT..... 1

3.0 DESCRIPTION OF POST CLOSURE PLAN 257.104(d)(1)(i)..... 1

 3.1 Section 257.104(b)(1)..... 1

 3.2 Section 257.104(b)(3)..... 2

4.0 POST-CLOSURE CONTACT 257.104 (d)(1)(ii)..... 3

5.0 POST-CLOSURE PLANNED USE 257.104 (d)(1)(iii) 3

Attachment A: Post Closure Plan

1.0 OBJECTIVE

This report was prepared by AEP- Geotechnical Engineering Services (GES) section to fulfill requirements of CFR 257.104(d) for Post Closure Plans of CCR units.

2.0 DESCRIPTION OF THE CCR UNIT

The FGD Landfill is located in Putnam County, West Virginia and is owned by Appalachian Power Co.

The landfill is permitted by the West Virginia Department of Environmental Protection, Permit No. WV0116254. The landfill consists of 10 cells that will encompass 211 acres for a permitted fill capacity of 38.6 million cubic yards.

3.0 DESCRIPTION OF POST CLOSURE PLAN 257.104(d)(1)(i)

[A description of the monitoring and maintenance activities required in paragraph (b) of this section for the CCR unit, and the frequency at which these activities will be performed.]

The FGD Landfill will be closed by closure in place. The post closure activities are further discussed in the WV-approved Closure Plan in Attachment A.

3.1 SECTION 257.104(B)(1)

[Maintaining the integrity and effectiveness of the final cover system including making repairs to the final cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the final cover.]

Inspections are performed for the items noted below. The inspection frequencies are scheduled to properly detect any issues so that repairs can be performed before significant harm occurs.

- **Embankment**: The entire waste embankment, including top surface and side-slopes, will be inspected for slides, settlement, subsidence, displacement, and cover condition (see below).
- **Soil Dike**: The soil dike will be inspected for slides, displacement, and erosion.
- **Cover**: The final cover will be inspected for erosion and for the condition of the vegetated cover, i.e., gaps in vegetation or presence of undesirable trees or brush. The integrity of the cover drainage system will also be inspected.
- **Final Cover Surface**: The Final Cover surface will be inspected for any ponding of water or flat areas.
- **Surface Drainage System**: The surface drainage system, including channels, culverts, slope drains, etc., will be inspected for erosion, integrity of channel lining, ponding, and accumulated sediment.
- **Leachate Collection Piping**: The discharge pipes of the Leachate Collection System at the Leachate Collection Pond will be inspected for clogging or damage. Other exposed portions of the Leachate Collection System including cleanouts will be inspected for damage. Similarly, the Leachate Collection Pond will be inspected for general damage to the pond and perimeter berms, and for accumulation of sediment in the pond.

Maintenance during the post-closure care period will be performed as discussed below, based upon the facility inspections described above.

- Security Control Devices: Any portions of the roadway barricades which might be damaged will be repaired or replaced as necessary.
- Erosion Damage Repair: Any areas exhibiting erosion will be repaired by replacing and compacting the material in-kind to design grade/specifications, and reseeding the area to the specifications. Applications of additional fertilizer, selective herbicides, rodent control measures, etc. will be implemented as necessary. In the selection of fertilizers and herbicides, ensure their use will not impact the groundwater negatively. Follow-up monitoring of the repaired area will be conducted to ascertain the integrity of the repair.
- Settlement, Subsidence, Displacement: Any areas at the closed site exhibiting evidence of settlement, subsidence, or displacement will be examined to determine the cause of the movement. If backfilling or placing additional fill material is needed to maintain the integrity of the closed structure, it will be performed in accordance with the site/closure specifications, including seeding. If the condition reoccurs or persists, or if the severity of the condition initially is judged to warrant it, a detailed investigation of the cause will be performed and remedial action will be performed. Similarly, any areas of the soil dike exhibiting sliding, displacement, or seepage will be investigated. Repairs will be made as necessary. Follow-up monitoring of the area will be performed to ascertain that the problem has been corrected.
- Closure Cap Surface: Any areas that show signs of ponding water or flat contours will be examined and rectified.
- Surface Water Drainage System: The channel linings are designed to withstand the design velocities. Maintenance of the surface water drainage system will consist of removing sediment and/or undesirable vegetation from the surface water runoff control system (channels and culverts) as required. Eroded areas will be repaired by back-filling and reseeding according to the specifications. Damage to culverts will be repaired; structure replacement will be performed if needed.
- Leachate Collection System: Maintenance of the leachate collection system, collection sump, and leachate pumps will consist of repairing and/or replacing in-kind any damaged or eroded portions of the system and pond, cleaning pipes, and removing leachate and sediment from the collection sump and the Leachate Collection Pond, as needed.

3.2 SECTION 257.104(B)(3)

[Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of §§257.90 through 257.98.]

The groundwater monitoring system will be inspected for the general integrity of the wells, well casings and well protective casings. Any damaged portions of the monitoring wells and/or their protective casings will be replaced in-kind.

Monitoring the groundwater will be in accordance with the groundwater monitoring plan for this facility and in accordance with the requirements of §§257.90 through 257.98.

4.0 POST-CLOSURE CONTACT 257.104 (d)(1)(ii)

[The name, address, telephone number and email address of the person or office to contact about the facility during the post-closure care period.]

The name, address, and telephone number of the person to contact about the Facility during the post-closure period shall be provided upon notice of closure.

5.0 POST-CLOSURE PLANNED USE 257.104 (d)(1)(iii)

[A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner(s), or any other component of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in this subpart...]

The post-closure use of the property will be undisturbed vacant land space. The only activities occurring on the closed CCR unit will be related to the Post-Closure care activities.

ATTACHMENT A
Post Closure Plan

Post-Closure Care (G.2)

Post closure care will take place for a period of 30 years after facility closure.

Repair to cover material will be made by over excavating the affected area, benching in 2 feet of new clay in 6-inch lifts, and reseeding the area.

Unauthorized disposal at the John E. Amos Landfill is not anticipated since the landfill is a captive landfill with restricted access. The area will be monitored monthly.

Erosion will be minimized by utilizing 3 percent final top surface slopes and benches located every 20 vertical feet on the 3H:1V sideslopes. Channels will be provided with lining material appropriate for the design velocities.

The frequency of inspection of closed areas will be on a monthly basis. In the event of vandalism or unauthorized dumping, the sheriff will be notified, and the areas will be repaired, or the debris will be removed to an acceptable landfill. Surface and groundwater will continue to be monitored as required in the landfill permit.

No further development plans are proposed for the closed site.

