



**GENON WESTLAND ASH STORAGE SITE
DICKERSON, MARYLAND
2021 ANNUAL CCR LANDFILL INSPECTION REPORT**

To: Jay Spence, GenOn MD Ash Management LLC (GenOn)
From: Tom White, P.E., AECOM Technical Services, Inc. (AECOM)
Date: January 11, 2022
RE: Annual Coal Combustion Residuals (CCR) Landfill Inspection Report
Westland Ash Storage Site Operating Cell B

1.0 Introduction

As of October 19, 2015, the Westland Ash Storage Site (Westland site) has been regulated by the Code of Federal Regulations (CFR) under 40 CFR §257 Subpart D – Standards for Disposal of Coal Combustion Residuals (CCR) in Landfills and Surface Impoundments. Section §257.84 of this regulation requires operators of existing CCR units to conduct an annual inspection by a qualified professional engineer to ensure the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering practices.

The initial Annual CCR Inspection Report for the Westland Cell B site was completed and placed in the Westland Operating Record on January 18, 2016, as required by Section §257.84.b(3). The regulations require that subsequent to completion of the initial Annual CCR Inspection Report, the owner/operator conduct inspections on an annual basis, with the completion date of the Annual Inspection Report being based on the completion date of the previous Annual Inspection Report.

The annual inspection for the Cell B operational area for the Westland site was conducted on November 17, 2021 and will be placed in the Westland operating record by January 18, 2022.

2.0 Site Background

The Westland site is located on Martinsburg Road in Dickerson, Maryland. The facility and access road connecting the facility to the Dickerson Generating Station were initially designed by D'Appolonia for Potomac Electric Power Co. in 1977. The facility design received regulatory authorization and construction began in 1979. The site is comprised of three disposal cells, Cells A, B and C, with Cell B being the only operating cell at the site. These three cells are described below.

- **Cell B** is the current operational cell at the site. It encompasses approximately 64.4 acres, which includes:
 - Approximately 24.0 acres of Cell B along the northern, western, and southern perimeter slopes are currently complete and closed with an engineered geosynthetic closure cap that was completed in October 2017. Maryland Department of Environment (MDE) conducted a final walkthrough of the completed closure cap on April 11, 2018, and issued a letter to GenOn on June 21, 2019 approving the closure cap.
 - Approximately 13.7 acres of Cell B in the central section of the disposal area is inactive (i.e. no active ash disposal or mining) with existing soil cover and vegetative stabilization over the completed ash placement.

- Cell B1-A in the southeast portion of Cell B is approximately 7.0 acres and is the active ash disposal area. Cell B1-A has an engineered geosynthetic base liner system.
- Cell B1-B in the southeast portion of Cell B is approximately 6.8 acres. Its engineered geosynthetic base liner system has been constructed, but there has been no ash placement in Cell B1-B, so runoff from this area is managed by the site's stormwater management system.
- Approximately 8.4 acres of the northeast section of Cell B is currently an ash mining area for offsite beneficial use. All contact water / leachate generated from the ash mining area is directed to the existing leachate collection system.
- Approximately 4.5 acres of the Cell B plateau above the existing cap has been stripped of cover soil in advance of Phases 2 thru 5 of the Cell B deconstruction (mining) plan.
- **Cell C** encompasses approximately 18.5 acres, and is located at the northwest corner of the site, separated from Cell B by a 250-foot wide transmission line right-of-way which runs along the eastern boundary of Cell C. Cell C has been closed for many years, and was closure capped with a MDE-approved engineered geosynthetic closure capping system in 2016. MDE conducted a final walkthrough on the Cell C closure cap on April 11, 2018, and issued a letter to GenOn on June 21, 2019 approving the closure cap.
- **Cell A** is the largest planned area at the Westland site (approximately 96.6 acres). It is situated directly east of Cell B and is divided from Cell B by an approximately 400-foot wide strip of land denoted as "Preservation Area D". There are no current plans to develop Cell A.

3.0 Cell B Operational Areas Inspection Results

On November 15, 2021, Tom White, a Maryland Registered Professional Engineer employed by AECOM Technical Services, Inc. (AECOM), accompanied by Jay Spence, GenOn site superintendent for the Westland site, conducted an inspection of the operating portion of Cell B on behalf of GenOn. The results of the inspection are presented in the subsections below. The inspection form that was prepared during the inspection is attached to this report. GenOn's current onsite contractors are Bowling Brothers, Inc. for operations and maintenance (O&M) and Hetzer, Inc. for mining operations. Hetzer, Inc. is a subcontractor to MERG/PBCo, which has a contract with GenOn for mining of the ash.

3.1 Access Roads and Security

Incoming empty CCR mining trucks enter the site at the Dickerson Generating Station main entrance at 21200 Martinsburg Road and proceed on the internal plant roads through two (2) manual gates to the Westland site main entrance, which is further west along Martinsburg Road. The two (2) internal manual gates are operated by Bowling Brothers, GenOn's O&M contractor for the Westland site. At the Westland site entrance, drivers pass through a gate on the north side of Martinsburg Road and then through the main gate for the Westland site on the south side of Martinsburg Road. Both of the gates are opened by a key fob or mobile app that each driver possesses. Outgoing loaded CCR mining trucks use the same route on their exit from the site. No trucks are driven on the section of Martinsburg Road between the Westland site entrance and the Dickerson Generating Station main entrance at 21200 Martinsburg Road. Incoming loaded CCR disposal trucks and outgoing empty CCR disposal trucks, of which there were none in 2021, would use the same travel routes as the CCR mining trucks. All visitors must contact GenOn or Bowling Brothers site personnel to gain access to the Westland site from the main gate. The security measures to gain access into the Westland site appeared to be appropriate.

The access road from the Westland site entrance to the Cell B operating area / office site trailer area is asphalt-paved along the northern boundary of Cell B and has a crushed-aggregate surface

along the eastern boundary of Cell B. Both surfaces are in acceptable condition. Roadside stormwater drainage features are well kept and in acceptable condition. The interior access roads have a speed limit of 15 miles per hour and have the proper signage.

3.2 Cell B Operating Areas

The Westland site has historically received and stored CCR material produced at GenOn's Dickerson Generating Station, which was decommissioned on June 1, 2020. CCR transferred to the Westland site has been offloaded and stored in the currently operational area of Cell B. During the period from December 1, 2020 to December 1, 2021, no CCR material was disposed at the site. Since June 2019, GenOn has begun the "deconstruction phase" where the existing CCRs in the active and uncapped portion of Cell B are being excavated, loaded, and hauled from the Westland site to a cement plant in Union Bridge, Maryland for recycling / beneficial reuse of the material. All of the deconstruction work at the Westland site and hauling of the CCBs to the offsite cement plant is being undertaken by a third-party vendor to GenOn. Phase 1 of the Cell B Deconstruction Plan was approved by MDE and Montgomery County Department of Permitting Services (DPS) in 2019, and Phases 2 through 5 of the Cell B Deconstruction Plan were approved by MDE and DPS in 2021.

- CCR Disposal: During the period from December 1, 2020 to December 1, 2021, there was no ash disposal in Cell B.
- CCR Beneficial Reuse: During the period from December 1, 2020 to December 1, 2021, 154,644 tons of CCR material were mined from Cell B and transported to the cement plant in Union Bridge, MD for beneficial reuse.
- Cell B Geometry: The mining of CCR in the northeast section of Cell B has lowered the grades to clay base grades in the northern half of the mining area, including to perimeter road level along the northern Cell B boundary. The cover soil on the Cell B plateau above the existing geosynthetic cap has been stripped in advance of the next phase of Cell B deconstruction. The cover soil is being stockpiled in the northeast section of Cell B where ash has been completely removed to clay base grades. The geometry of the remainder of the site has remained unchanged.
- Estimated In-place CCR Volume: The 2020 inspection report estimated the in-place volume of CCR in Cell B as approximately 3.99 million cubic yards (MCY). The in-place volume has further been reduced by the mining of 154,644 tons of CCR mining during the period from December 1, 2020 to December 1, 2021 and by no ash disposal being recorded during this period as well.
- Exterior Side Slopes: The exterior slopes of Cell B are well stabilized with cover soil and vegetation, with no signs of erosion.
- Interior Side Slopes: The inactive (i.e. no active ash disposal or mining) interior slopes of Cell B are well stabilized with cover soil and vegetation, with no signs of erosion. The interior slope of the Cell B mining area on its western side is an exposed ash surface where minor erosion rills were observed, but where no major erosion or sloughing was observed. A northern-running diversion berm has been constructed at the top of the western slope to divert stormwater runoff from upgradient stabilized areas to the northern perimeter stormwater channel via a down slope pipe drain. The interior slope of the Cell B mining area on its eastern side is currently disturbed soil, and it is recommended that the slope be graded to a stable slope and stabilized with vegetation once mining activities are completed in that section of the mining area.
- Cell B1-A Floor: No ash disposal occurred in Cell B1-A during the report period. Per discussion with GenOn personnel, Bowling Brothers completed re-grading and compaction of the ash surface to remove erosion rills, and the re-graded surface with no erosion rills was observed by AECOM during the inspection.
- Cell B1-B Floor: As discussed above, Cell B1-B was constructed with a geosynthetic liner

system and a leachate collection aggregate layer, but no ash has been placed in Cell B1-B to date. Therefore, runoff from Cell B1-B is managed as stormwater. Stormwater runoff from Cell B1-B is collected at the southern low end of the cell and discharges through a high density polyethylene (HDPE) pipe to the perimeter stormwater channel. No signs of erosion of the leachate collection aggregate or Cell B1-B interior or exterior slopes were observed.

- Chimney Drains: There are six (6) active chimney drains in Cell B. Chimney Drains 1 and 2 in the Cell B mining area still appear to be functional, but it is recommended that they be further investigated by the site for potential sediment buildup and cleanout if necessary, as the area around Chimney Drain 2 appeared to be soft and muddy. Chimney Drain 2 will likely be decommissioned as the ash mining is nearing clay base grades in that area. Chimney Drains 3A, 3B, and 3C are in Cell B1-A and appear to be functioning properly. Chimney Drain 4 is in the low area of Cell B1-B and appears to be functioning properly as a stormwater drain for Cell B1-B connected to the HDPE discharge pipe that discharges to the perimeter stormwater channel.
- Gabion Diversion Structures: Gabion Diversions A, B and C are in place and appear to be in good condition. Diversion A increased the berm height and stormwater capacity of Cell B1-B. Diversion B increased the berm height and contact water capacity of Cell B1-A. Diversion C was constructed for Chimney Drain 2 at the northern upgradient boundary of Cell B1-A. Gabion Diversion D, which was installed for Chimney Drain 1, appears to have been removed for the ash mining operation in the northeast section of Cell B.
- Leachate Piping: Visible HDPE leachate piping downstream of the Cell B1-A and B1-B sumps that cross the perimeter drainage ditch appears to be in good condition. During 2018, these pipes were labeled “Contact Water” (pipe from Cell B1-A) and “Non-Contact Water” (pipe from Cell B1-B). The existing gate valves on the Cell B1-B leachate piping are in good condition and oriented properly. A gate valve was previously installed in the HDPE leachate pipe from the Cell B1-A leachate sump at the point where it crosses the perimeter drainage ditch. Closing this valve allows leachate to be detained in Cell B1-A to allow the leachate treatment plant to process excessive amounts of leachate from the site.
- Pond 3: Leachate from Cell B is conveyed by an HDPE gravity pipe to a tank adjacent to Pond 3. Leachate is pumped from the tank to the leachate treatment plant, and after treatment, the effluent is discharged to Pond 3. The treated effluent is periodically discharged from Pond 3 to the receiving stream by GenOn’s O&M contractor in accordance with the site’s industrial NPDES permit. Pond 3 appears to be in good condition with no signs of erosion or distress observed.
- Stockpiles: The cover soil on the Cell B plateau above the existing geosynthetic cap has been stripped in advance of the next phase of Cell B deconstruction. The cover soil is being stockpiled in the northeast section of Cell B where ash has been completely removed to clay base grades. GenOn site personnel indicated that the stockpile will be stabilized with vegetation after cover soil stripping is completed and the area is final graded for seeding. Silt fence has been installed downgradient of the stockpile along the northern and eastern side of Cell B prior to the perimeter stormwater channel.
- Cell B Plateau: The cover soil on the Cell B plateau above the existing geosynthetic cap has been stripped in advance of the next phase of Cell B deconstruction. A diversion berm with erosion control blanket and seeding has been constructed around the perimeter of the plateau to separate this future mining area from stabilized areas. The mining contractor is grading the plateau to the southeast towards a new channel / down slope drain that will convey contact water to the active leachate collection piping system in Cell B1-A. Stormwater features, such as the down slope pipe drains and stormwater inlet, have been removed and/or taken offline to prepare for the shifting of drainage from this future mining area to the leachate collection system.

3.3 Erosion and Sediment and Control Measures

- Satisfactory erosion and sediment control measures are being employed in the operating areas of Cell B, including:
 - Stabilized asphalt and crushed-aggregate road surfaces.
 - Use of the mobile water truck to minimize dust generation.
 - Use of the onsite wheel wash.
 - Stabilization of inactive areas of Cell B with cover soil and dense vegetation.
 - Installation of diversion berms and down slope pipe drains to divert stormwater runoff away from the active mining and disposal areas.
 - Installation of silt fence downgradient of disturbed areas for the mining operation and soil stockpiling.
 - Installation of the vegetated separation berm around the Phase 2A active area to separate the active CCR area from inactive stabilized areas of Phase 2.
 - Stabilized bench channels, interior channels, and perimeter channels are in place to convey stormwater runoff off the landfill.

3.4 Storm Drainage Features

- Perimeter Drainage Channels: Drainage channels along the Cell B perimeter road are well stabilized with vegetation or hard armoring with no signs of erosion.
- Interior Drainage Channels: Interior drainage channels are well stabilized with vegetation or hard armoring with no signs of erosion.
- Bench Drainage Channels: Bench channels on the geosynthetic cap area are well stabilized with vegetation, with no signs of erosion or ponding along the drainage pathways.
- Run-on Control: GenOn has installed and maintained a number of features to prevent run-on into the Cell B operating areas to minimize leachate generation and divert stormwater away from the Cell B operating areas, including, perimeter, bench, and interior stormwater channels, diversion berms, down slope pipe drains, and perimeter berms to separate Cell B hydraulically from the surrounding topography.

3.5 Recordkeeping

- Daily operations and maintenance inspection reports and weekly CCR inspection reports are kept in a binder in the onsite GenOn MD Ash office trailer. These reports are organized and maintained by Bowling Brothers, GenOn's onsite O&M contractor.

4.0 Westland Cell B Operational Area Overview

During the period from December 1, 2020 to December 1, 2021, no CCR material was disposed at the Westland site; however, 154,644 tons of CCR material were mined from Cell B and transported to the cement plant in Union Bridge, MD for beneficial reuse. The mining of CCR has lowered the grades in the northeast section of Cell B, including a portion of the area that has been excavated to the clay base grades. The geometry of the remainder of the site has remained unchanged.

The operating portion of Cell B is well maintained by GenOn's O&M and mining contractors, and drainage and erosion control features appear to be functioning properly. There did not appear to be any areas in Cell B that represent actual or potential areas of structural weakness of the CCR unit. There are no existing conditions that are disrupting or have the potential to disrupt the operation or safety of the CCR unit. The following

recommendations are made:

- Final grade the interior slope of the Cell B mining area on its eastern side to a stable slope and stabilize with vegetation once mining activities are completed in that section of the mining area.
- Investigate Chimney Drains 1 and 2 for potential sediment buildup and cleanout if necessary.
- After the plateau cover soil stripping is completed, final grade the stockpile and adjacent disturbed area and stabilize with vegetation.

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Date: 01/11/2022

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ANNUAL CCR STORAGE SITE INSPECTION CHECKLIST

Facility Name: Westland Ash Storage Site			
Address: 20831 Martinsburg Road, Dickerson, MD 20842			
Date: 11/17/2021	Time: 9 AM - 11:15 AM		
Weather: Mostly cloudy, 50° F			
Inspection Representatives			
GenOn: Jay Spence			
AECOM: Tom White	MD PE License #: 32921		
Other:			
Site Data			
Cell ID: Cell B	Acreage: 64.4 acres		
Operational Area of Cell: 40.4 acres	Closed Area of Cell: 24 acres		
Operational Criteria			
	Acceptable	Needs Improvement	Comments
1. Security/Entrance Gate	√		Appears to be in good condition.
2. Condition of Access Road	√		
3. Operating Cell	√		
3a. Condition of Exposed Ash	√		
3b. Condition of Periodic Cover Soils	√		
3c. Acceptable Dust Control Measures	√		
3d. General Integrity of Operating Cell/Signs of Distress	√		
3e. Condition of Chimney Drains	√		See recommendation below.
3f. Condition of Erosion Control Measures	√		Appears to be in good condition.
3g. Visual signs of Erosion or Washouts	√		None.
3h. General Condition of Leachate Piping, Cleanouts	√		Appears to be in good condition.
4. Stormwater Management	√		
4a. Condition of Ditches, Diversions, Letdowns	√		
4b. Condition of Run-Off Control System	√		
4c. Condition of Perimeter Areas (stable, unstable, erosion, etc.)	√		
Comments:			
<p>The operating portion of Phase 2 is well maintained with no areas of instability or potential weakness.</p> <p>There are no conditions at the present time that are disrupting or have the potential to disrupt the operation or safety of Phase 2.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> - Final grade the interior slope of the Cell B mining area on its eastern side to a stable slope and stabilize with vegetation once mining activities are completed in that section of the mining area. - Investigate Chimney Drains 1 and 2 for potential sediment buildup and cleanout if necessary. - After the plateau cover soil stripping is completed, final grade the stockpile and adjacent disturbed area and stabilize with vegetation. 			

Tom White		
Print Name of Engineer Completing Form	Signature	Date
		1/11/2022