ANNUAL CCR UNIT INSPECTION REPORT
2021

CHESWICK ASH DISPOSAL SITE
INDIANA TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA

Prepared For:

GENON POWER MIDWEST LP
CHESWICK GENERATING STATION
384 LEFEVER HILL ROAD
CHESWICK, PENNSYLVANIA 15024

Prepared By:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
333 BALDWIN ROAD
PITTSBURGH, PA 15205

CEC Project 313-015.0002

INSPECTION DATE: 12/28/2021
REPORT DATE: 1/14/2022

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

On behalf of GenOn Power Midwest, LP, Civil & Environmental Consultants, Inc. (CEC) has prepared the 2021 Annual Inspection Report for the Cheswick Ash Disposal Site in accordance with the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 CFR 257.84 (§257.84) dated April 17, 2015, as amended July 2, 2015.

Title 40 Code of Federal Regulations (CFR) Part 257 addresses, in part, the management of Coal Combustion Residuals (CCR Rule, or Rule) in regulated units, including landfills. Specific to §257.84(b) of the Rule, existing and new CCR landfills must be inspected on an annual basis by a qualified professional engineer. For the For the Cheswick Generating Station (operated by GenOn Power Midwest LP), this inspection requirement applies to the existing Cheswick Ash Disposal Site (Ash Disposal Site). In support of this obligation, Mr. Duane Lanoue (a qualified professional engineer with Civil & Environmental Consultants, Inc. [CEC]) conducted an on-site inspection of the Ash Landfill on December 28, 2021. The findings from this annual inspection are summarized in the remaining sections of this correspondence.

As required, this report will be placed in the Cheswick facility's operating record per §257.105(g)(9), notice provided to the State Director per §257.106(g)(7), and posted to the publicly accessible internet site per §257.107(g)(7). Placement of the prior annual inspection report into the facility's operating record was accomplished on January 16, 2021. Per §257.84(b)(4), the date that the annual inspection report must be entered into the facility's operating record is based on the previous inspection report, therefore, the current report will be entered into the facility's operating record no later than January 15, 2022.

2.0 BACKGROUND

The Ash Disposal Site is a captive landfill used for the disposal of CCR materials and other residual wastes generated at the Cheswick Station, and is operated/maintained in accordance with Pennsylvania Department of Environmental Protection (PADEP) Solid Waste Permit No. 300720. Active operations are ongoing in the South Valley (Phase I; 51 acres), while the North Valley (Phase II; 31 acres) remains as an unpermitted potential future phase within the Solid Waste Permit boundary. If ever constructed, the North Valley would be considered a new CCR Landfill per the Rule.

Construction of the South Valley commenced in 1980 and disposal of CCR materials began in 1982. When ultimate development conditions are reached, the final upper surface elevation of South Valley will be at approximately 1,200 feet mean sea level (ft. MSL).

The active fill area is generally level, with minor sloping to facilitate drainage. It is estimated that approximately two feet of CCR have been placed across the active fill area since the previous annual inspection. The active fill area is currently estimated to have an approximate average elevation of 1,113 ft. MSL, based on visual observation.

With respect to the Ash Disposal Site, CEC's evaluation has focused on the following items as outlined in §257.84(b)(1)(i-ii):

- *A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record; and*
- *A visual inspection of the CCR unit to identify signs of distress or malfunction.*

Specific to CEC's preparation of the annual inspection report, and per §257.84(b)(2)(i-iv), the following aspects have been addressed:

- *Any changes in geometry of the structure since the previous annual inspection;*
- *The approximate volume of CCR contained in the unit at the time of the inspection;*
- *Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and*
- *Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.*

3.0 OPERATING RECORDS REVIEW

Principal items reviewed as part of this year's inspection included, but were not limited to: Design Drawings, 2021 Weekly and Periodic Landfill Inspection Reports that have been completed since the 2020 Inspection, 2020 Annual Landfill Operations Report, and Solid Waste Permit No. 300720. During the site inspection, Mr. Lanoue interviewed facility personnel (Mr. Bill McGraw) to verify the information contained within the operating record.

3.1 ENVIRONMENTAL CONTROL SYSTEM OVERVIEW

3.1.1 Leachate Collection System

The South Valley disposal area has a gravity underdrain system. This system consists of a below-grade piping network that drains to a 13,000 gallon Leachate Wet Well where leachate is pumped for treatment to the Monarch Mine Dewatering Plant (MMDP). Treated effluent from the MMDP is discharged to Little Deer Creek via Outfall 002 in accordance with the Cheswick Station's National Pollutant Discharge Elimination System (NPDES) Permit.

3.1.2 Stormwater Management

"Non-contact" stormwater from the South Valley disposal area is routed (via NPDES-permitted perimeter drainage channels) to the sedimentation pond located at the base of the landfill.

"Contact" stormwater from within the active disposal area is collected in the leachate underdrain system and routed for treatment in the MMDP as described above.

3.1.3 Cover System

The eastern slope and portions of the northern and southern slopes of South Valley have final cover (24-inch thick soil cover) and established vegetation. The final cover system on the slopes includes benches to dissipate energy build-up and reduce erosion from stormwater run-off.

3.2 SUMMARY OF LANDFILL OPERATIONS

It is estimated that approximately two feet of CCR have been placed across the active fill area since the previous annual inspection. The active fill area is currently estimated to have an approximate average elevation of 1,113 ft. MSL. Exterior slopes have a final cover in place along

with well-established and properly maintained vegetation. Contact water and non-contact stormwater risers were extended prior to the inspection to support future disposal lifts.

3.3 REVIEW OF PRIOR INSPECTIONS

3.3.1 Weekly Inspections

A review of weekly inspections has concluded that no significant deficiencies occurred at the facility that required remedial actions.

3.3.2 Annual Inspections

A review of the previous annual inspection report has determined that there were no deficiencies or releases, actual or potential structural weaknesses, or concern to the stability of the landfill. All environmental control systems were in good operating condition and functioning as intended.

3.4 CCR DISPOSAL

Based on review of the 2020 Annual Landfill Operations Report and disposal quantities provided by Station personnel, the total in-place disposal quantity of CCR materials is estimated at approximately 3,514,208 tons prior to 2020. Approximately 182,136 tons of CCR were disposed in 2021, resulting in a total disposed quantity of 3,696,344 tons of CCR through December 2021.

4.0 SITE INSPECTION

The site inspection was performed on December 28, 2021 by Mr. Lanoue, during which time efforts were focused on identification of standard geotechnical signs of distress or malfunction. Specific aspects such as slumping at the toe of slope, tensile cracking, abnormal or excessive erosion on the side slopes, slope bulging, and groundwater/surface water seepage or ponding were assessed. If present, these readily visible signs are potential indicators of structural weakness of the CCR Landfill unit. Photographs were taken during the site inspection to document findings. A photograph location map is included in Appendix A and the photographs are included in Appendix B.

4.1 VISUAL SIGNS OF DISTRESS OR MALFUNCTION

No visual signs of distress or malfunction were observed during the inspection. Stormwater drainage features, slope appearance and stability, leachate conveyance mechanisms, and overall site conditions were assessed. Closed portions of the South Valley exhibited well established vegetative cover.

4.2 REVIEW OF ENVIRONMENTAL CONTROL SYSTEMS

With no evidence to the contrary, the environmental control systems at South Valley are believed to be in good operating condition and functioning as intended. At the time of the inspection, leachate and stormwater conveyance systems were operating as designed.

4.3 REVIEW OF PREVIOUSLY RECOMMENDED ACTIONS

No corrective actions were required based on the findings of the 2020 Annual Inspection. Recommendations were limited to the continued operation and maintenance of the facility and maintaining access to closed portions of the landfill for inspection purposes. These recommendations were found to have been followed, based on site conditions and the review of weekly inspection logs.

5.0 CONCLUSIONS

5.1 CHANGES IN GEOMETRY

CCR material placement has progressed in the active disposal area throughout this year. As of the date of the inspection, fill elevations in the active disposal area were at approximately 1,113 ft. MSL. Changes in geometry are limited to the elevation increase of the active disposal area.

5.2 IN-PLACE CCR DISPOSAL QUANTITIES

Approximately 3,514,208 tons of CCR had been disposed in the landfill through December 2020. Approximately 182,136 tons of CCR were disposed in 2021, resulting in a total disposed quantity of 3,696,344 tons of CCR.

5.3 APPEARANCES OF AN ACTUAL OR POTENTIAL STRUCTURAL WEAKNESS OF CCR UNIT

At the time of inspection, there were no signs of distress or malfunction that would indicate actual or potential structural weakness at South Valley.

5.4 CHANGES THAT MAY AFFECT THE STABILITY OR OPERATION OF THE CCR UNIT

There have been no changes to the South Valley area that pose a threat or concern to the stability of the landfill.

6.0 RECOMMENDATIONS

1. Continue operation and maintenance in the active areas as currently performed.

2. Ensure adequate access to the closed portions of the landfill to maintain the ability to perform weekly visual site structural inspections.

There were no deficiencies or releases identified during the annual inspection that required the owner or operator to perform corrective actions per §257.84(b)(5).

7.0 PROFESSIONAL ENGINEER'S CERTIFICATION

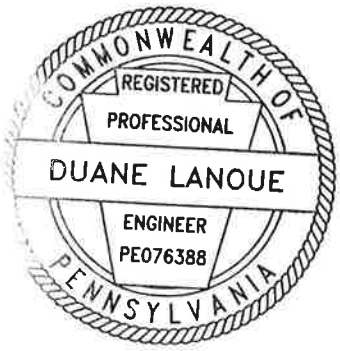
In accordance with §257.84(b) of the Rule, I hereby certify based on a review of available information within the facility's operating records and observations from my personal on-site inspection (including the photographs contained in Appendix B), that the Cheswick Ash Disposal Site does not exhibit any appearances of actual/potential structural weakness that would be disruptive to the normal operations of the CCR Unit. The unit is being operated and maintained consistent with recognized and generally accepted good engineering standards and practices

Duane R. Lanoue, P.E.
Printed Name of Professional Engineer

Signature

PE076388	Pennsylvania	1/14/22
Registration No.	Registration State	Date

Stamp/Seal:



8.0 REFERENCES

1. Solid Waste Permit No. 300720
2. 2020 New Cheswick Generating Station Annual Landfill Operations Report
3. Landfill Periodic Inspection Reports, December 2020 – December 2021.
4. 40 Code of Federal Regulations, Part 257.

APPENDIX A

PHOTOGRAPH LOCATION MAP

LEGEND

2021 ANNUAL INSPECTION PHOTOGRAPH
(ARROW DENOTES DIRECTION OF VIEW)

REFERENCE

ESRI WORLD IMAGERY / ARCGIS MAP SERVICE
ACCESSED 1/7/2022, IMAGERY DATE: 2021

SCALE IN FEET

0 225 450

Civil & Environmental Consultants, Inc.
333 Baldwin Road - Pittsburgh, PA 15205-9072
412-429-2324 · 800-365-2324
www.cecinc.com

CHESWICK GENERATING STATION
SPRINGDALE, PENNSYLVANIA

PHOTOGRAPH LOCATION MAP

DRAWN BY:	CLC	CHECKED BY:	AAW	APPROVED BY:	* Hand signature on file DRL*	FIGURE NO:	1
DATE:	JAN 2021	SCALE:	1 " = 225 '	PROJECT NO:	313-015.0002		

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APPENDIX B

PHOTOGRAPHS

Photograph 1: Non-contact stormwater junction box riser installed in 2020 located northwest of landfill.

Photograph 2: Eastern view of active area. Material is graded and compacted.

Photograph 3: Non-contact stormwater junction box riser located southwest of landfill.

Photograph 4: Eastern view of active area and non-contact stormwater risers.

Photograph 5: South view of active area outside west slope. Contact water (leachate) drains to leachate collection layer.

Photograph 6: North view of active area outside west slope. Contact water (leachate) drains to leachate collection layer.

Photograph 7: View of contact water (leachate) riser located in southwest corner of landfill.

Photograph 8: Southwest view of active area. Material is graded and compacted.

Photograph 9: South view of upper bench and non-contact stormwater inlet on east landfill slope. Vegetation is established with no indications of stability issues.

Photograph 10: View of revetment matt lined stormwater channel installed in 2020 at south end of upper bench on east landfill slope.

Photograph 11: Eastern view of north revetment matt lined stormwater channel on east landfill slope.

Photograph 12: Eastern view of south revetment matt lined stormwater channel on east landfill slope.

Photograph 13: North view of upper east landfill slope. Vegetation is established. Benches have been mowed. Woody vegetation has been cut. No indications of stability issues.

Photograph 14: Eastern view of south concrete lined stormwater channel on east landfill slope.

Photograph 15: South view of mid-slope bench and non-contact stormwater inlet on east landfill slope. Vegetation is established with no indications of stability issues.

Photograph 16: View of northeast non-contact stormwater inlet to Sedimentation Pond. Some leaves and debris are present, which is regularly removed as needed. Stormwater is flowing freely and is not impeded by the leaves and debris.

Photograph 17: West view of east landfill slope from Sedimentation Pond spillway.

Photograph 18: View of southeast non-contact stormwater inlet to Sedimentation Pond.

Photograph 19: View of Sedimentation Pond emergency spillway inlet.

Photograph 20: View of Sedimentation Pond emergency spillway outlet.

Photograph 21: View of Sedimentation Pond emergency spillway outlet, non-contact stormwater outlet pipes, and capped contact stormwater (leachate) pipe. Contact stormwater drains to pump station.

Photograph 22: View of leachate pump station.