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COAL COMBUSTION RESIDUAL CLASS III LANDFILL INSPECTION – WINYAH GENERATING STATION

Georgetown, South Carolina

santee cooper®

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Executive Summary

This assessment of the stability and functionality of the Winyah Generating Station (WGS) coal combustion residual (CCR) Class III Landfills Area 1 (within Slurry Pond 2) and Area 2 (within Ash Pond A) is based on a review of available documents and on-site assessment conducted by Santee Cooper engineering staff on September 4, 2025.

In summary, the WGS CCR Class III Landfills Area 1 and Area 2 were generally found in satisfactory condition. No recognized existing or potential management unit safety deficiencies were noted at the time of inspection within the parameters of design and operation.

Summary of Recommendations

1. Bare soil areas should be reseeded and continue to be monitored as part of routine maintenance.
2. Areas of thick vegetation on the perimeter slope near the toe should be cut.
3. Minor erosion on the east side slope of Area 1 near the toe should be repaired and reseeded.

This assessment of the Class III Landfills at Winyah Generating Station reported herein is based on field observations and review of readily available information provided to the inspection team of the subject CCR management unit(s). Qualified Santee Cooper engineering staff performed the field observations and review of pertinent information and made the assessment in conformance with the requirements of Section 257.84 of the Code of Federal Regulations and in accordance with reasonable and generally accepted engineering practices.

Coal Combustion Residual Class III Landfill Inspection – Winyah Generating Station

1.0 General Information and Introduction

1.1 Purpose and Scope

The purpose of this report is to fulfill the requirements of Section 257.84(b) of the Code of Federal Regulations regarding the safety and inspection of CCR storage units. Section 257.84(b) states that "Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards." The inspection must, at a minimum, include:

i. 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 (e.g., the results of inspections by a qualified person, and results of previous annual inspections)
ii. A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

The inspection report must also be written by a qualified professional engineer and must address the following:

i. Any changes in geometry of the structure since the previous annual inspection
    - **The Class III Landfill Area 1 was closed in 2024. Since then there have been no changes in the geometry of the landfill.**
    - **No changes noted in the geometry of the Class III Area 2 landfill besides normal filling operations.**

ii. The approximate volume of CCR contained in the unit at the time of the inspection
    - **The Class III Landfill Area 1 contains approximately 1,692,887 cubic yards**

of material (this volume survey was conducted after final placement of waste and prior to closure of the landfill unit), and the Class III Landfill Area 2 contains approximately 2,906,528 cubic yards of material.

iii. 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

- **Several maintenance items noted on Class III Landfills as discussed in the Executive Summary and Sections 4.3 and 5.3; however, the landfills are safe for continued operation.**

iv. Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection

- **No other changes noted on the Class III Landfills that impact the stability or operation of the landfill.**

2.0 Description of Coal Combustion Residual Management Units

2.1 Location and General Description

The Winyah Generating Station (WGS) is located on Penny Royal Road, Georgetown, South Carolina, near Penny Royal Creek.

WGS currently has two (2) operational Class III CCR landfills (Area 1 and Area 2), Area 1 entered operation at the end of 2018 and Area 2 started construction July 2021 and began operation early 2022. Table 2.1 below shows a summary of the size and general dimensions of the CCR management units at WGS as well as the current volume:

Table 2.1: Summary of Landfill Dimensions and Size

	Class III Landfill Area 1	Class III Landfill Area 2
Base Width (ft)	850	2,000
Base Length (ft)	1,600	1,500
Side Slopes H:V	3:1	3:1[1]
Approximate Current Storage Volume (cy)	1,692,887	2,906,528[2]

[1] 3:1 is the design slope; construction is still in progress for the Class III Area 2 Landfill.

[2] Survey performed by Santee Cooper's survey crew in June 2025.

2.2 Type of CCRs Currently Stored in Landfills

Landfill Area 1 started receiving material in November of 2018. It contains approximately 1,692,887 cy of material (this volume survey was conducted after final placement of waste and prior to closure of the landfill unit). This includes contact soil from the Grainger Generating Station (GGS) site and CCRs from the WGS Ponds. Landfill Area 2 started receiving material in March 2022 and has received approximately 2,906,528 cy of CCR materials from WGS ash ponds.

2.3 Principal Project Structures

The WGS Class III Landfill Area 1 is regulated under SCDES's Solid Waste Management regulations. It was permitted to operate in November 2018 and started receiving materials at that time. It has been closed and capped since the previous annual inspection. This work was completed on July 24, 2024, and a Notice of Closure was submitted on August 20, 2024. Landfill Area 1 is approximately 850 feet wide at its base and 1600 feet long. The side slopes are 3:1 (horizontal to vertical).

The WGS Class III Landfill Area 2 is regulated under SCDES's Solid Waste Management regulations. It was permitted at the same time with Landfill Area 1 and started accepting materials March 2022. It has an approximate width of 2,000 feet long and length of about 1,500 feet and has designed side slopes of 3:1 (horizontal to vertical).

3.0 Summary of Relevant Reports and Incidents

3.1 Summary of Reports on the Safety of CCR Units

Furnished reports of weekly inspections conducted by WGS personnel indicated no major structural or operational problems at the WGS Class III landfills Area 1 and Area 2. No significant deterioration was indicated in the documentation reviewed.

4.0 Field Observations

4.1 Project Overview and Significant Findings

Santee Cooper qualified engineering staff performed the inspection on September 4th, 2025. Weather conditions during the visit were sunny with temperatures of approximately 79 degrees Fahrenheit.

The overall condition of the CCR Class III Landfills was found to be in satisfactory condition with no significant findings noted.

4.2 Class III Landfill Area 1

4.2.1 Crest/Operating Area

The Class III landfill has now been permanently capped with artificial turf, therefore; there is no longer an active operating area. The crest has a specified minimum slope of 5% and was found to be in satisfactory condition upon inspection.

4.2.2 Outside Slopes

The outside slopes of the Class III Landfill are now covered with artificial turf and drainage terraces. All were generally found to be in satisfactory condition. The were areas of the slope towards the base of the landfill, on the outside of the perimeter road, with thick vegetation and a minor eroded area. No obvious signs of slumps, slides, bulges, tension cracks, seepage, or animal burrows were observed on the slope.

4.2.3 Stormwater Conveyance Structures

Stormwater is now routed to the permanently installed drainage system. The drainage system can handle the current stormwater flow without the use of pumps. The stormwater flow is routed to the Cooling Pond per the intended design. These structures were found to be in satisfactory condition.

4.2.4 Roads/Ramps/Other Infrastructure

All roads and ramps were found to be in satisfactory condition.

4.3 Class III Landfill Area 2

4.3.1 Crest/Operating Area

The operating areas of the Class III Landfill were found to be in satisfactory condition upon inspection.

4.3.2 Outside Slopes

The outside slopes of the Class III Landfill were generally found to be in satisfactory condition. No obvious signs of slumps, slides, bulges, tension cracks, seepage, or animal burrows were observed on the slope. Several areas on the slope have bare spots and need to be reseeded.

4.3.3 Stormwater Conveyance Structures

Stormwater is now routed to the partially installed drainage system. The drainage system can handle the current stormwater flow without the use of pumps. The stormwater flow is routed to the Cooling Pond per the intended design. These structures were found to be in satisfactory condition.

4.3.4 Roads/Ramps/Other Infrastructure

All roads and ramps were found to be in satisfactory condition, other than normal wear and tear due to everyday use.

4.4 Adequacy of Maintenance, Operating, and Surveillance Procedures

4.4.1 Adequacy of Maintenance Procedures

Overall, maintenance of the Class III CCR Landfills appear to be adequate. No major maintenance issues were noted during the field inspection or in the weekly inspection reports completed by WGS personnel and reviewed by the inspection team.

4.4.2 Adequacy of Operating Procedures

Based on field observations and discussions with WGS personnel, the operating procedures for the Class III CCR Landfills appear to be adequate.

4.4.3 Adequacy of Surveillance Procedures

WGS personnel complete daily informal inspections and weekly formal inspections on the Class III CCR Landfills in accordance with good engineering practice and Section 257.84 of the Code of Federal Regulations. These inspections are being properly documented and should continue as they are currently being conducted.

5.0 Conclusions and Recommendations

Conclusions are based on visual observations from a one-day site visit on September 4, 2025, and review of technical documentation provided to the inspector.

5.1 Conclusions Regarding the Structural Soundness of the Management Unit(s)

Based on a review of the engineering data provided and observations during the inspection, the WGS Class III Landfills appear to be structurally sound under static loading conditions.

5.2 Conclusions Regarding Field Observations

The Class III Landfills were found to be in satisfactory condition, with no apparent indications of unsafe conditions. Recommendations regarding minor maintenance issues are noted in Section 5.3.

5.3 Recommendations

5.3.1 Landfill Area 1

Maintenance and monitoring recommendations:

1. Bare soil areas should be reseeded and continue to be monitored as part of routine maintenance.
2. Areas of thick vegetation on the perimeter slope near the toe should be cut.
3. Minor erosion on the east side slope near the toe should be repaired and reseeded.

5.3.2 Landfill Area 2

Maintenance and monitoring recommendations:

1. Bare soil areas should be reseeded and continue to be monitored as part of routine maintenance.