Prepared for

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HAZARD POTENTIAL CLASSIFICATION ASSESSMENT ASH POND A

WINYAH GENERATING STATION

Prepared by

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INTRODUCTION

Winyah Generating Station (WGS or the Site) is a 1,260-megawatt coal-fired electric generating facility owned and operated by South Carolina Public Service Authority (Santee Cooper). The Site is situated between Pennyroyal and Turkey Creeks and is located in Georgetown, South Carolina. Historically, coal combustion residuals (CCR) generated at WGS have been managed in existing CCR surface impoundments.

In response to the CCR Rule (40 Code of Federal Regulations (CFR) Part 257 Subpart D), Santee Cooper retained Geosyntec Consultants, Inc. (Geosyntec) to prepare documentation for existing surface impoundments at WGS. Pursuant to Section 257.73(a)(2) of the CCR Rule, Geosyntec prepared this Hazard Potential Classification Assessment for Ash Pond A at WGS. Under the CCR Rule, Ash Pond A is an "existing surface impoundment" and its hazard potential must be assessed by a Qualified Professional Engineer.

The CCR Rule categorizes and defines hazard potential as follows:

- *High Hazard Potential—a diked surface impoundment where failure or mis-operation will probably cause loss of human life.*
- *Significant Hazard Potential—a diked surface impoundment where failure or mis-operation results in no probable loss of human life, but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact to other concerns.*
- *Low Hazard Potential—a diked surface impoundment where failure or mis-operation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the surface impoundment owner's property.*

The Federal Guidelines for Dam Safety: Hazard Potential Classification Systems for Dams, developed by the Federal Emergency Management Agency (FEMA) and used by the United States Environmental Protection Agency (USEPA) as a guidance document, states the following:

> *"...The classification assigned should be based on the worst-case probable scenario of failure or mis-operation of the dam, i.e., the assigned classification should be based*

on failure consequences that will result in the assignment of the highest hazard potential classification of all probable failure and mis-operation scenarios…"

Moreover, the FEMA document also states the following:

"In most situations, the investigation of the impact of failure or mis-operation of a dam on downstream human life, property damage, lifeline disruption, and environmental concerns is sufficient to determine the appropriate hazard potential classification. However, if failure or mis-operation of a dam contributes to failure of a downstream dam(s), the hazard potential classification of the dam should be at least as high as the classification of the downstream dam(s) and should consider the adverse incremental consequences of the domino failures."

ASH POND A

Ash Pond A, encompassing approximately 26.3 acres, is located southeast of the power block. Ash Pond A is bounded by Landfill Area 2 to the north, the Cooling Pond to the east, Ash Pond B to the south, and the Discharge Canal to the west. Ash Pond A is separated from Ash Pond B by a divider dike, which traverses from west to east from the Discharge Canal to the Cooling Pond. Ash Pond A is bounded by perimeter dikes which are approximately 20 feet (ft) to 24.5 ft in height to the east and 12 ft to 15 ft in height to the north.

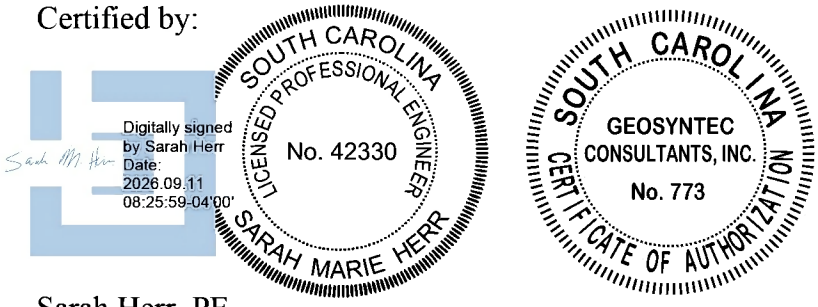
A failure or mis-operation of Ash Pond A could potentially release water and/or CCR into the Cooling Pond, which is located within the property boundary of WGS. The Cooling Pond is a diked pond bounded primarily by forested area to the southwest, south, and east and bounded by a small residential community and Turkey Creek to the north. However, given the size of the Cooling Pond, a failure of Ash Pond A will provoke a minimal rise in the level of the Cooling Pond. This rise in water level will not cause the Cooling Pond to fail.

A failure or mis-operation of Ash Pond A resulting in the discharge or displacement of water and/or CCR would likely result in environmental damage but would likely be limited to Santee Cooper's property. However, no probable loss of human life is expected. Moreover, the release of water and/or CCR will likely not disrupt the facility's long-term ability to operate, would not result in lifeline losses, and would not affect critical habitats. Based on these considerations, Ash Pond A was assigned a "Low Hazard Potential" classification.

CERTIFICATION

This Hazard Potential Classification Assessment meets the requirements of Section 257.73(a)(2) of the CCR Rule and was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of civil engineering. No other warranty is provided in connection therewith. The contents of this report are based solely on the observations of the conditions observed by Geosyntec and information provided to Geosyntec by Santee Cooper. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others. Although we were not able to independently verify such data, we did evaluate it to determine whether it was consistent with other information that we developed in the course of our performance of the scope of services.

Certified by:



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