Prepared for

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HAZARD POTENTIAL CLASSIFICATION ASSESSMENT SLURRY POND 3 AND 4

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 Slurry Pond 3 and 4 (Slurry Pond) at WGS. Under the CCR Rule, the Slurry Pond 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."

SLURRY POND

The Slurry Pond, encompassing approximately 107.2 acres, is situated near the northwest corner of the Site, directly adjacent to Pennyroyal Creek. The Slurry Pond is bounded by perimeter dikes which are approximately 30 feet (ft) in height to the north, 26 ft in height to the west, and 20 ft in height to the east. The Slurry Pond is separated from the West Ash Pond by a divider dike which forms the southern boundary of the Slurry Pond. Under the CCR Rule, the West Ash Pond is an inactive landfill. There is one residential property immediately to the north that is at approximately elevation 17 ft National Geodetic Vertical Datum of 1929 (NGVD 29) and approximately 250 ft away from the toe of the Slurry Pond.

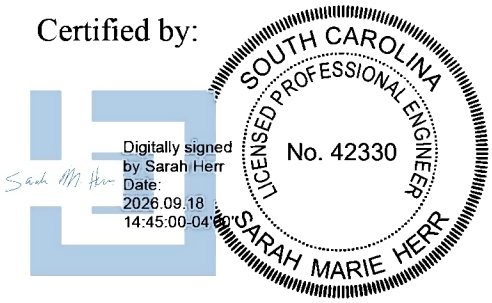
A failure or mis-operation of the Slurry Pond resulting in the discharge or displacement of water and/or CCR could result in measurable environmental damage, particularly to Pennyroyal Creek, and potential loss of life in the adjacent residential property. Based on these considerations, the Slurry Pond was assigned a "High 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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