SOUTH CAROLINA ELECTRIC & GAS

DESIGN CRITERIA EXEMPTIONS

FOR THE

WATEREE STATION ASH POND

RICHLAND COUNTY, SOUTH CAROLINA

SEPTEMBER 2016

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MEMO

To: Joe Todd, Gene Delk, Lee Newman; F/H

Cc: Gary Williams, April Kelly; Wateree Station
Darrell Shier, Jean-Claude Younan, Mike Moore, Rocky Archer; CESD

From: Tim Miller

Date: August 24, 2016

Subject: Wateree Station – CCR Periodic Structural Stability Assessment Exemption for Wateree Station Coal Ash Basin #1

Background:

The land where Wateree Station is located included at least one open pit. Indications are that river gravel and sand were quarried there using open pit mining techniques. The open pit was modified for use as ash storage by excavating two ponds from the pit. Based upon historical records, the current ponds encompass all of the former open pit mine operation. The northern-most pond is currently designated as Coal Ash Basin #1 and to the south is the NPDES Wastewater Pond. Coal Ash Basin #1 was used for coal ash settling and the NPDES Wastewater Pond was used as a polishing pond. Their previous designations were Ash Pond #1 and Ash Pond #2, respectively.

Description:

Coal Ash Basin #1 is an 81 acre, incised pond constructed in 1970 with a volume of 1,458 acre-ft. It is bounded by the Wateree River Bluff on the east side, a natural strip of ground between Coal Ash Basin #1 and the NPDES Wastewater Pond to the south and natural ground on the western and northern boundary. Based upon available historic information and data from our most recent investigation (June 2010), Coal Ash Basin #1 is below natural grade (incised) in all three of these segments of the pond containment system and contains no constructed berms, dikes, or dams. The containment system for Coal Ash Basin #1 is characterized as naturally occurring

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geologic deposits; and, its physical properties including structural and hydraulic conductivity are consistent with adjoining undisturbed soils.

Structural integrity assessments/evaluations were performed for the ponds in 1994. Subsequent to the assessment/evaluations, Parsons Main, Inc., prepared a plan that included placement of soil fill along the inner slope of the Coal Ash Basin #1 dike to provide additional buffer between the pond and the nearby river and to enhance stability. In 2010 SCE&G commissioned a geotechnical investigation of subsurface soils on the eastern side (River Bluff) of Coal Ash Basin #1 and a structural stability analysis of Coal Ash Basin #1 and the NPDES Wastewater Pond. Both ponds were found to exceed all minimum factors of safety for design static loading and for the assumed seismic event loading condition. SCE&G is not aware of any other structural integrity assessments/evaluations performed for the ponds beyond those discussed above.

Findings:

The Wateree Station Coal Ash Basin #1 is an incised pond, ie., the height of the dike is 0 feet. According to subsection 257.73 (b), *The requirements of paragraphs (c) through (e) of this section (257.73) apply to an owner or operator of an existing CCR surface impoundment that either: (1) has a height of five (5) feet or more and a storage volume of 20 acre-feet or more; or (2) has a height of 20 feet or more.* According to Section 257.73 (b)(1), the Wateree Coal Ash Basin #1 is exempt from the periodic structural stability assessment requirement of subsection 257.73 (d).

References:

1. Wateree Station Ash Pond Containment Structure Subsurface Investigation and Structural Stability Report, F&ME Consultants, June 22, 2010
2. 40 CFR Part 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, Federal Register, Vol. 80 No. 74, April 17, 2015

19 Sep 2016

Tim Miller, Jr., P.E. Date
SCE&G Chief Dam Safety Engineer