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SANTEE COOPER
CROSS GENERATING STATION

Bottom Ash Pond Initial Hazard Potential Classification Assessment

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CROSS GENERATING STATION
BOTTOM ASH POND INITIAL HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

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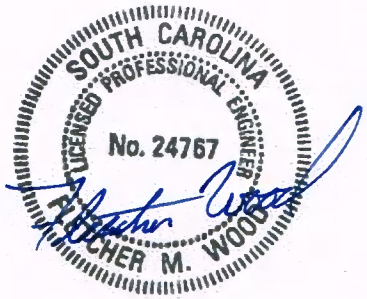

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1. INTRODUCTION

The United States Environmental Protection Agency (EPA) promulgated new regulations regarding Coal Combustion Residuals (CCRs). These regulations (40 CFR Part 257) were published in the Federal Register on April 17, 2015. One of the requirements of the new regulations (§257.73(a)(2)) is to conduct initial and periodic hazard potential classification assessments of the CCR unit. The unit must be classified as either a high hazard potential unit, a significant hazard potential unit, or a low hazard potential unit. The basis for these classifications is FEMA's Federal Guidelines for Dam Safety [Reference 4].

The preamble to the CCR rule defines each hazard potential classification as follows:

- High hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.
- Significant hazard potential CCR surface impoundment means 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 other concerns.
- Low hazard potential CCR surface impoundment means a diked surface impoundment where failure or mis-operation results in no probable loss of life and low economic or environmental losses. Losses are principally limited to the surface impoundment owner's property.

This report presents the initial hazard potential assessment of the Bottom Ash Pond at the Cross Generating Station in Pineville, South Carolina. Subsequent periodic assessments are to be completed every five years.

2. DISCUSSION

The Bottom Ash Pond covers an area of approximately 84 acres, and has a volume of approximately 1,216 acre feet. The embankments around the pond are approximately 11 feet high and sloped at 3 horizontal to one vertical (3:1).

Based on a review of a map of the area surrounding Cross Generating Station (provided as Appendix A) prepared by using the Berkeley County GIS online mapping tool, the nearest residential area is approximately 0.4 miles east of the Bottom Ash Pond, and separated from the pond by a small unnamed tributary connected to Lake Moultrie. The low-lying area between the Bottom Ash Pond and this tributary is tree covered and contains some swampy areas. Based on topographic data [Ref. 3], the ground surface is slightly lower toward Lake Moultrie, but there is no significant topographic relief. The ground surface elevation is approximately 80 feet. There is an un-improved gravel road (Hall's Road) serving the residents along Lake Moultrie that would likely be impacted by a failure of the northeast pond dike. However, there are other gravel roads maintained by the Station that could be made available to provide an alternate means of egress for the residents along Lake Moultrie in the event that Hall's Road becomes impassible. The land surrounding the Bottom Ash Pond and extending to the Lake, including the residential areas, is owned by Santee Cooper, so any environmental impacts of significance would be contained within the owner's property.

Failure of the Bottom Ash Pond would result in no probable loss of life and low economic and environmental losses. Losses would be limited to property owned by Santee Cooper. Therefore, the Bottom Ash Pond at Cross Generating Station warrants a low hazard potential classification.

The Dam Assessment Report prepared by Dewberry & Davis, LLC in December 2011 for the EPA [Ref. 1] indicated that "failure would not likely cause loss of life but would cause some onsite environmental damage." Their assessment also concluded that the Bottom Ash Pond should have a low hazard potential classification.

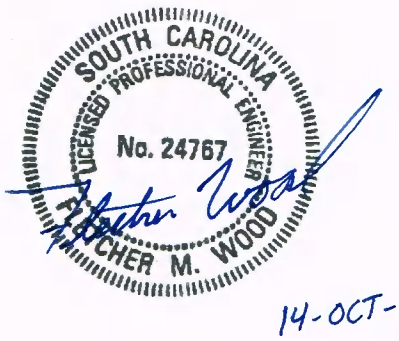
3. CONCLUSIONS

The Bottom Ash Pond at the Cross Generating Station warrants a low hazard potential classification. This classification is based on the following observations:

- The nearest resident is located approximately 0.4 miles from the ash pond; failure of the pond dikes would result in no probable loss of life.
- The ground surface around the pond is generally flat and covered with trees and swampy areas; transport of ash away from the pond to environmentally-sensitive areas outside the property (e.g. Lake Moultrie) is unlikely.
- The area around the ash pond is owned by Santee Cooper; environmental impacts would be limited to the owner's property.

4. CERTIFICATION

I, the undersigned Professional Engineer registered in good standing in the State of South Carolina, do hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I certify, for the above-referenced CCR impoundment, that the initial hazard potential classification as specified in Section 40 CFR §257.73(a)(2)(i) was conducted in accordance with the requirements of the section.



14-OCT-2016

Fletcher Wood
Printed Name of Professional Engineer

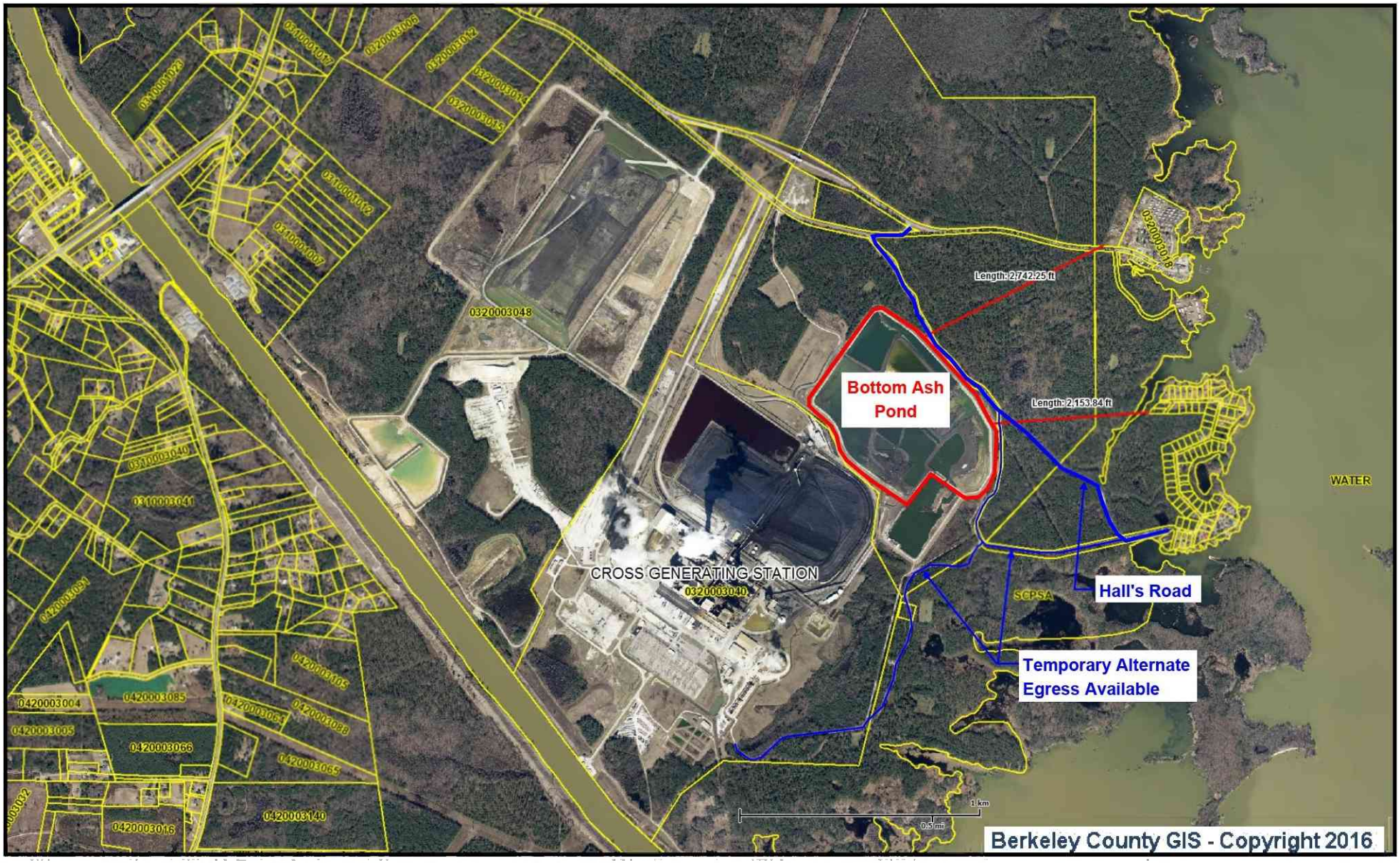
Signature of Professional Engineer

24767
South Carolina License #

5. REFERENCES

1. Dewberry & Davis, LLC, Coal Combustion Residue Impoundment Round 9 - Dam Assessment Report Cross Generating Station, December 2011.
2. BA-117-S0002, Rev. 0, Bottom Ash Pond Expansion Sections and Details, Gilbert/Commonwealth, Inc., February 4, 1994.
3. Stantec Consulting Services, Inc., Topographic Survey Cross Generating Plant, January 7, 2011.
4. U.S. Department of Homeland Security, Federal Emergency Management Agency, Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams, October 1998, reprinted January 2004.

Appendix A - Berkeley County GIS Map



BERKELEY COUNTY BCGIS GEOGRAPHIC INFORMATION SYSTEM

Berkeley County GIS Online Mapping

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Friday, February 5, 2016

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