DOMINION ENERGY

PERIODIC HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

CHESAPEAKE ENERGY CENTER INACTIVE CCR SURFACE IMPOUNDMENT: BOTTOM ASH POND

APRIL 2023

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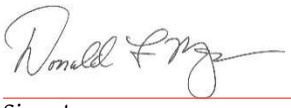
1 CERTIFICATION

This periodic Hazard Potential Classification Assessment for the Chesapeake Energy Center's Bottom Ash Pond was prepared by WSP USA Inc. (WSP; formerly d/b/a Golder Associates USA Inc.). The document and Certification/Statement of Professional Opinion are based on and limited to information that WSP has relied on from Dominion Energy and others, but not independently verified, as well as work products previously produced by Golder.

On the basis of and subject to the foregoing, it is my professional opinion as a Professional Engineer licensed in the Commonwealth of Virginia that this document has been prepared in accordance with good and accepted engineering practices as exercised by other engineers practicing in the same discipline(s), under similar circumstances, at the same time, and in the same locale. It is my professional opinion that the document was prepared consistent with the requirements in §257. 73(a)(2) of the United States Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," published in the Federal Register on April 17, 2015, with an effective date of October 19, 2015 (40 CFR §257. 73(a)(2)), as well as with the requirements in §257.100 resulting from the EPA's "Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Extension of Compliance Deadlines for Certain Inactive Surface Impoundments; Response to Partial Vacatur" published in the Federal Register on August 5, 2016 with an effective date of October 4, 2016 (40 CFR §257.100).

The use of the word "certification" and/or "certify" in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not be interpreted or construed as a guarantee, warranty, or legal opinion.

Donald Mayer, PE	Vice President
Print Name	Title
	4/12/2023
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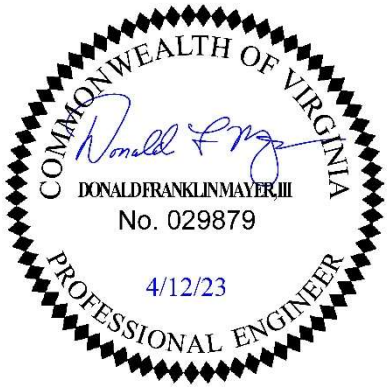

2 INTRODUCTION

This Periodic Hazard Potential Classification Assessment was prepared for the Chesapeake Energy Center's (CEC) inactive Coal Combustion Residuals (CCR) surface impoundment known as the Bottom Ash Pond (BAP). This Assessment was prepared in accordance with 40 CFR Part §257, Subpart D Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments (CCR Rule) and is consistent with the requirements of 40 CFR §257.73(a)(2) of the CCR Rule.

CEC, owned and operated by Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy), is located in the City of Chesapeake, Virginia, at 2701 Vepco Street.

This Assessment serves as the current version of the hazard potential classification. The April 2018 analysis contained within the Initial Hazard Potential Classification Assessment (Golder, 2018) was reviewed for ongoing applicability. In 2021, an emergency spillway was constructed on the western side of the Sediment Pond, which is an adjoining structure to the BAP. Otherwise, no changes having occurred to the site footprint, operation, or location of the BAP since the initial Assessment.

3 PURPOSE

This certification and assessment is required under 40 CFR §257.73(a)(2), Periodic Hazard Potential Classification Assessments, regarding the hazard potential classification assessment of the BAP at the Chesapeake Energy Center. The initial hazard potential classification was completed in April 2018 and is required to be updated every five (5) years pursuant to 40 CFR §257.73(f)(3).

4 HAZARD POTENTIAL CLASSIFICATION

As defined in 40 CFR §257.53 of the CCR rule [40 CFR §257.53], the hazard potential classifications are:

1) *High hazard potential CCR surface impoundment* means a diked surface impoundment where failure or mis-operation will probably cause loss of human life.

2) *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.

3) *Low hazard potential CCR surface impoundment* means 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 BAP was assigned an initial hazard potential classification of "significant hazard potential" [40 CFR §257.53, 40 CFR §257.73(a)(2)]. The BAP is assigned a hazard potential rating of "significant hazard potential" [40 CFR §257.53, 40 CFR §257.73(a)(2)] in this periodic Assessment.

5 PERIODIC HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

5.1 DESCRIPTION OF THE IMPOUNDING STRUCTURE

The CEC BAP is located on a peninsula of land bounded on the east side by the Southern Branch of the Elizabeth River, on the west side by CEC's discharge canal, and on the south by low lying wetland areas. The BAP embankment is approximately 25 feet wide at the top and has a top elevation of approximately 20 feet above mean sea level (AMSL). The BAP typically does not retain water and has been without a permanent pool of water since CEC ceased coal-fired operations in 2014. The upstream slopes vary from 3:1 to 2:1 and downstream slopes vary from 2.5:1 to 2:1. The downstream toe is approximately at elevation 1 foot AMSL, giving an effective embankment height of 19 feet. The toe of the eastern slope is reinforced with a sheet pile retaining wall.

Existing topography of the BAP remains consistent with the topography described in the initial hazard potential classification (Golder, 2018). The primary outlet structure is a 30-inch diameter Corrugated High Density Polyethylene (CHPDE) pipe that drains to the adjacent sediment basin. No auxiliary spillway is present at the BAP.

5.2 ASSESSMENT

The analyses conducted within the initial hazard potential classification were reviewed for consistency and applicability based on the current site conditions at the BAP. Additionally, the following sources of data used in the initial hazard potential classification were accessed for confirmation of use of current information.

- Federal Emergency Management Agency (FEMA). Flood Insurance Rate Map (FIRM) Community Panel #5100340024D, dated 12/16/2014. (https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html). Accessed February 17, 2023.
- National Oceanic and Atmospheric Administration (NOAA). Precipitation Frequency Data Server. (https://hdsc.nws.noaa.gov/hdsc/pfds/). Accessed February 3, 2023.

5.3 HAZARD POTENTIAL CLASSFICIATION DETERMINATION

Based on the hazard classification definitions, review of the site and surroundings, and review of the prior hazard potential classification analysis, WSP recommends that the BAP remain classified as a Significant Hazard Potential CCR surface impoundment. This recommended designation is based on the following:

- The potential inundation zone downstream of the BAP dam embankment does not contain occupied structures, nor is the embankment regularly occupied by plant personnel, resulting in no probable loss of human life.
- Due to the BAP's proximity to the Elizabeth River, downstream areas to the west, south, and east directions of the BAP are subject to flooding. A failure or mis-operation event would be likely to cause environmental damage.

6 CONCLUSIONS

The review conducted for the hazard potential of CEC's BAP shows that a failure or mis-operation of the BAP would have no impact to manmade structures and would be unlikely to result in a loss of human life, but it would likely cause environmental damage. Therefore, the BAP in its current condition is assigned a hazard potential rating of "significant" as defined under 40 CFR §257.53.

REFERENCES

— Federal Emergency Management Agency (FEMA). Flood Insurance Rate Map (FIRM) Community Panel #5100340024D, December 16, 2014. Available online: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html. Accessed February 17, 2023.

— Golder Associates. Initial Hazard Potential Classification Assessment, Chesapeake Energy Center CCR Surface Impoundment: Bottom Ash Pond. March 2018.

— National Oceanic and Atmospheric Administration's National Weather Service. Precipitation Frequency Data Server. 2017. Available online: https://hdsc.nws.noaa.gov/hdsc/pfds/. Accessed February 3, 2023.