



# Periodic Hazard Potential Classification Assessment

## *Chesterfield Power Station CCR Surface Impoundment: Upper Ash Pond*

Submitted to:



### **Chesterfield Power Station**

500 Coxendale Road  
Chester, VA 23836

Submitted by:

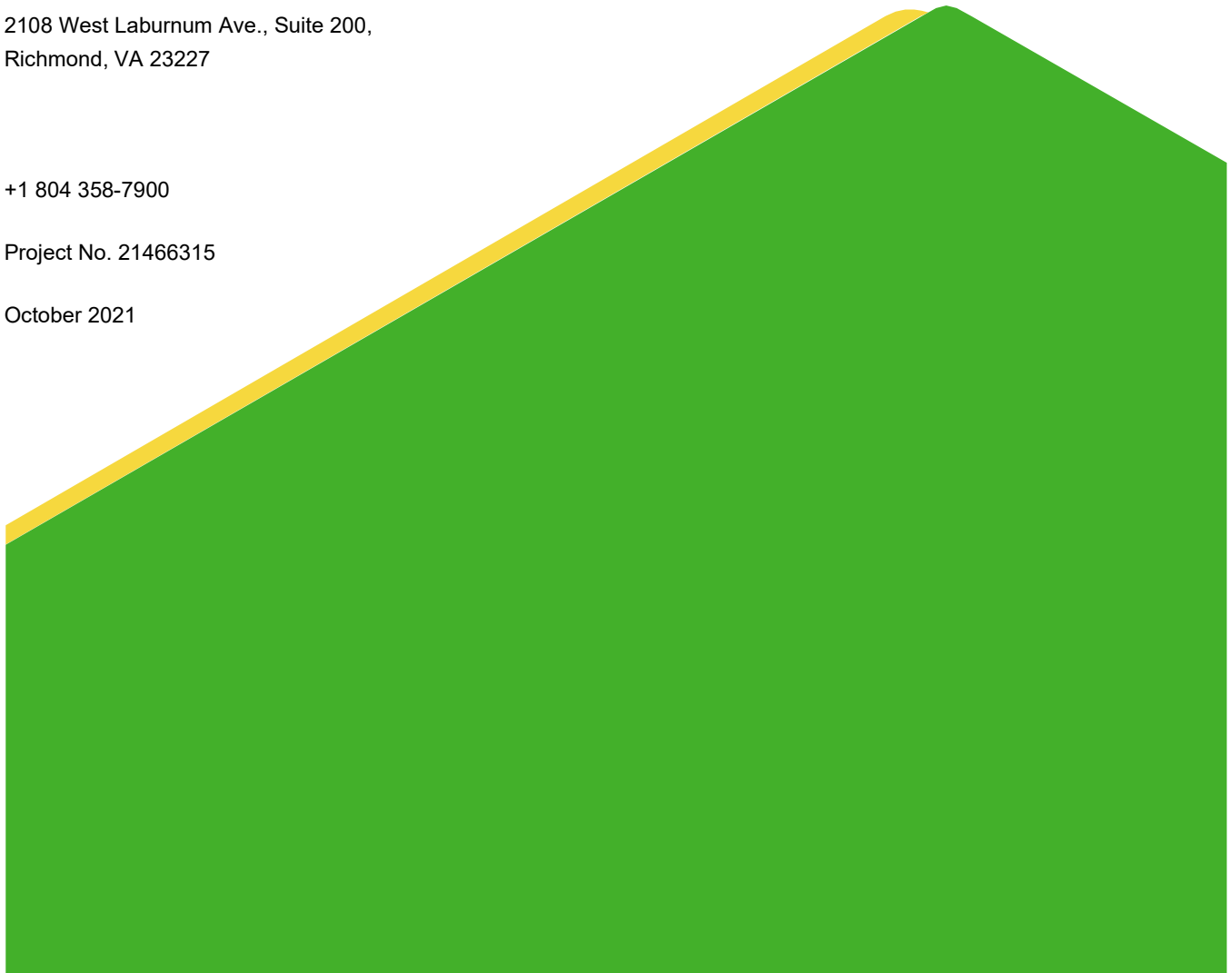
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## 1.0 CERTIFICATION

This Periodic Hazard Potential Classification Assessment for the Chesterfield Power Station's Upper Ash Pond was prepared by Golder Associates Inc. (Golder). The document and Certification/Statement of Professional Opinion are based on and limited to information that Golder has relied on from Dominion and others, but not independently verified, as well as work products 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)].

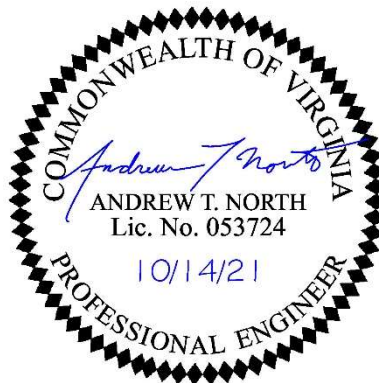
The use of the word "Certification" in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not be interpreted or construed as a guarantee, warranty, or legal opinion.

Andrew T. North, PE  
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Print Name

Senior Civil Engineer  
\_\_\_\_\_  
Title

  
\_\_\_\_\_  
Signature

10/14/2021  
\_\_\_\_\_  
Date



## 2.0 INTRODUCTION

This Periodic Hazard Potential Classification Assessment was prepared for the Chesterfield Power Station's (Station) existing Coal Combustion Residuals (CCR) surface impoundment known as the Upper Ash Pond (UAP). This Periodic Hazard Potential Classification Assessment (Assessment) was prepared in accordance with 40 CFR Part §257, Subpart D and is consistent with the requirements of 40 CFR §257.73(a)(2).

The Station, owned and operated by Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion), is located in Chesterfield County, Virginia, at 500 Coxendale Road, east of I-95 (Richmond-Petersburg Turnpike) and south of the James River. The Station includes an existing CCR surface impoundment, the UAP, as defined by the Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule (40 CFR §257; the CCR rule). The UAP is also regulated as a dam by the Virginia Department of Conservation and Recreation (DCR) with Inventory Number 041045 (DCR Dam Permit).

## 3.0 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 UAP at the Chesterfield Power Station. The initial hazard potential classification was completed on October 17, 2016. The Periodic Hazard Potential Classification Assessments are to be updated every five (5) years pursuant to 40 CFR §257.73(f)(3).

## 4.0 HAZARD POTENTIAL CLASSIFICATION

According to § 257.53 of the CCR Rule [40 CFR § 257.53], the hazard potential classifications are:

- Low hazard potential - "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."
- Significant hazard potential - "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."
- High hazard potential - "failure or mis-operation operation will probably cause loss of human life."

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

## 5.0 PERIODIC HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

The references listed in Section 6.0 of this Assessment were used as the basis to make this periodic "significant hazard" potential classification. The following items are noted:

1. The UAP is located within close proximity of the James River, the Dutch Gap Conservation Area, Henricus Historical Park, a walking trail, and a public roadway (Henricus Park Road).
2. Geosyntec's April 2021 Dam Breach Inundation Analysis for the Lower Ash Pond and Upper Ash Pond Embankments evaluated the predicted inundation from the UAP for the following scenarios:
  - "Sunny day" breach scenario;
  - Structure breach during Spillway Design Flood (SDF);

- Baseline outflow of the SDF with no structure breach; and
  - Structure breach with Probable Maximum Flood (PMF).
3. Pursuant to DCR regulations at 4VAC50-20-40(B)(2), the dam associated with the UAP is currently listed as a Significant Hazard Potential classification; however, Dominion maintains and operates the unit as a High Hazard structure.

Geosyntec's 201 analysis concluded that inundation from the UAP dam breach does not affect existing structures or roads.

There is a potential for environmental damage and economic loss due to release of CCR material through a breach into the James River, Farrar's Gut, and Henricus Historical Park walking trails, however, loss of human life is not probable. These criteria correspond to a Significant Hazard Potential designation per the CCR Rule [40 CFR § 257.53]. Therefore, reliance is made on the previous analysis and existing known site conditions to make a current determination of a significant hazard potential classification.

## 6.0 REFERENCES

Code of Virginia, 4VAC50-20-40. Hazard potential classifications of impounding structures; effective November 8, 2012.

GAI Consultants Inc. Coal Combustion Residuals Unit Initial Hazard Potential Classification Assessment Report Upper "East" Pond. October 2016.

Geosyntec Consultants. Dam Breach Inundation Analysis Lower Ash Pond and Upper Ash Pond Embankments. April 2021.

Virginia DCR Dam Permit, Inventory No. 041045.



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