



Coal Combustion Residuals Unit Initial Hazard Potential Classification Assessment Report

Virginia Electric and Power Company
Chesterfield Power Station
Upper (East) Pond
Chesterfield County, Virginia

GAI Project Number: C150035.00

October 2016



Dominion™

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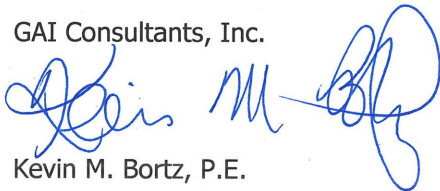
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Certification/Statement of Professional Opinion

The Coal Combustion Residuals Initial Hazard Potential Classification Assessment (Assessment) for the Chesterfield Power Station Upper (East) Pond was prepared by GAI Consultants, Inc. (GAI). The Assessment was based on certain information that, other than for information GAI originally prepared, GAI has relied on, but not independently verified. This Certification/Statement of Professional Opinion is therefore limited to the information available to GAI at the time the Assessment was written. 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 the Assessment 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 Assessment was prepared consistent with the requirements of § 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 Subpart D).

The use of the words "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.

GAI Consultants, Inc.



Kevin M. Bortz, P.E.

Assistant Engineering Manager

Date 10/13/2016



Acronyms

Assessment	CCR Initial Hazard Potential Classification Assessment Report
CCR	Coal Combustion Residuals
CCR Rule	"Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" 40 CFR 257 Subpart D (2015)
CFR	Code of Federal Regulations
Dominion	Virginia Electric and Power Company d/b/a Dominion
DCR	Virginia Department of Conservation and Recreation
EPA	United States Environmental Protection Agency
GAI	GAI Consultants, Inc.
Station	Dominion Chesterfield Power Station
UEP	Upper (East) Pond
VAC	Virginia Administrative Code

1.0 Introduction

The Chesterfield Power Station (Station) is owned by Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) and is located in Chesterfield, VA. The station includes the Upper (East) Pond (UEP) impoundment, which is used for the long term storage of coal combustion residuals (CCR).

The UEP is located on Dominion property at the Chesterfield Power Station in Chesterfield County, Virginia (coordinates 37° 22' 15.2" North and 77° 22' 8.3" West) and is bounded by the Old Channel of the James River on the south, Henricus Historical Park on the east, and Aiken Swamp on the north.

The UEP is regulated as an existing CCR surface impoundment under the United States Environmental Protection Agency's (EPA's) "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" [40 CFR 257 Subpart D] published in the Federal Register on April 17, 2015 with an effective date of October 19, 2015 (CCR Rule). The UEP is also regulated as a dam by the Virginia Department of Conservation and Recreation (DCR) with Inventory Number 04145 (DCR Dam Permit).

2.0 Purpose

This CCR Initial Hazard Potential Classification Assessment (Assessment) is prepared pursuant to the requirements in Section 257.73(a)(2) of the CCR Rule [40 CFR § 257.73(a)(2)].

3.0 Hazard Classification

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

- Low hazard, which means that "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, 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."
- High hazard, where "failure or mis-operation will probably cause loss of human life."

The initial hazard classification of the UEP, pursuant to the CCR rule, is assigned a "significant hazard potential CCR surface impoundment" [40 CFR § 257.53, 40 CFR § 257.73(a)(2)].

4.0 Basis for Classification

The references listed in Section 5.0 of this Assessment were used as the basis to make this initial "significant hazard" classification. The following items are noted:

1. - The UEP is located within close proximity of the James River, Henricus Historical Park, a public roadway used to access the park, and a walking trail utilized by park patrons.
2. - *Dam Break Inundation Zone Mapping, Chesterfield Power Station, Upper Ash Pond Dam*, January, 2010 (prepared by Golder Associates) illustrated the predicted inundation in the UEP 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)(3), the dam associated with the UEP currently has a Low Hazard Potential classification, which means the failure of the dam would result in no expected loss of life.

In GAI's opinion, there is a potential for environmental damage and economic loss due to release of CCR material through a breach. Additionally, the current low dam hazard classification indicates that failure of the dam is not expected to cause a loss of human life. These criteria correspond to a Significant Hazard Potential designation per the CCR Rule [40 CFR § 257.53]. The UEP is being classified as a significant hazard potential classification in this Assessment.

5.0 References

4 VAC-50-20-40. *Impounding Structure Regulations*. 2012.

Golder Associates. 2010. *Dam Break Inundation Zone Mapping, Chesterfield Power Station, Upper Ash Pond Dam*.

O'Brien & Gere (for the EPA). 2010. *Dam Safety Assessment of CCW Impoundments, Chesterfield Power Station*. June 10, 2010. Found at <http://fliphtml5.com/ihys/fuxi>.

Virginia DCR Dam Permit. Inventory No. 04145.