Coal Combustion Residuals Initial Hazard Potential Classification Assessment

Virginia Electric and Power Company
Possum Point Power Station
Surface Impoundment D
Dumfries, Virginia

GAI Project Number: C150132.00

October 2016

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Certification/Statement of Professional Opinion

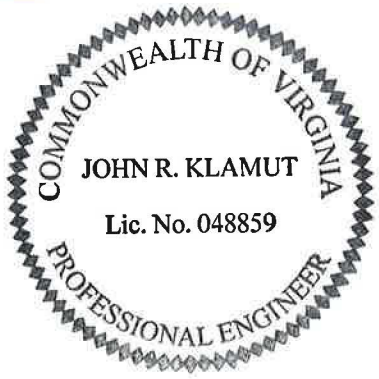
The Coal Combustion Residuals Initial Hazard Potential Classification Assessment (Assessment) for the Possum Point Power Station Surface Impoundment D was prepared by GAI Consultants, Inc. (GAI). The Assessment was based on certain information that, other than for information GAI originally prepared, 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 section 257.73 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 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.

John R. Klamut, P.E.
Engineering Manager

Date 10/13/2016



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Acronyms

Assessment	CCR Initial Hazard Potential Classification Assessment
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 Possum Point Power Station
VAC	Virginia Administrative Code

1.0 Introduction

The Possum Point Power Station (Station) is owned by Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) and is located in Prince William County, Virginia (VA). The Station includes Surface Impoundment D, which will be used for the long-term storage of coal combustion residuals.

Surface Impoundment D is located on Dominion property at the Possum Point Power Station in Prince William County, VA (coordinates 38° 32' 05" North and 77° 16' 57" West).

Surface Impoundment D is regulated as an existing CCR Surface Impoundment under the Environmental Protection Agency's "Standards for 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). Surface Impoundment D is also regulated as a dam by the Virginia Department of Conservation and Recreation (DCR) with Inventory No. 15320.

2.0 Purpose

This CCR Initial Hazard Potential Classification Assessment (Assessment) is prepared pursuant to the requirements in the United States Environmental Protection Agency's "Standards for 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 (CCR Rule), § 257.73(a)(2) [40 CFR § 257.73(a)(2)].

3.0 Hazard Classification

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

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

The initial hazard classification for Surface Impoundment D, 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. - Surface Impoundment D is located within close proximity of Quantico Creek, the Potomac River, and Possum Point Road, which is a state-maintained secondary road.

2. - *Inundation Study, Possum Point Power Station, Ash Pond 'D' Dam* (Golder Associates, 2012) illustrated the predicted inundation from Surface Impoundment D 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).

The inundation map is included in Appendix A.

3. - Pursuant to 4VAC50-20-40(B)(2), the dam associated with Surface Impoundment D has a Significant Hazard Potential classification, which means the failure of the dam "may cause loss of life" (meaning that "impacts will occur that could cause a loss of human life, including but not limited to impacts to facilities that are frequently utilized by humans other than residences, businesses, or other occupied structures, or to secondary roadways") or appreciable economic damage. However, loss of life or serious economic damage is not probable as described for a High Hazard Potential Classification.

In GAI's opinion, there is a potential for environmental damage and economic loss due to the release of CCR material through a breach, but loss of human life is not probable. These criteria correspond to a Significant Hazard Potential designated per the CCR Rule [40 CFR § 257.73]. Surface Impoundment D is being classified as a significant hazard potential classification in this Assessment.

5.0 References

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

Golder Associates Inc., 2012. *Inundation Study, Possum Point Power Station, Ash Pond 'D' Dam, DCR Inventory #15320;* December 14.

Virginia Department of Conservation and Recreation (DCR), Soil and Water Conservation Board. 2016. Dam Safety Alteration Permit 15320. Effective April 30, 2016; Expires April 30, 2018. May 3.

APPENDIX A
Dam Break Inundation Zone Mapping
December 2012

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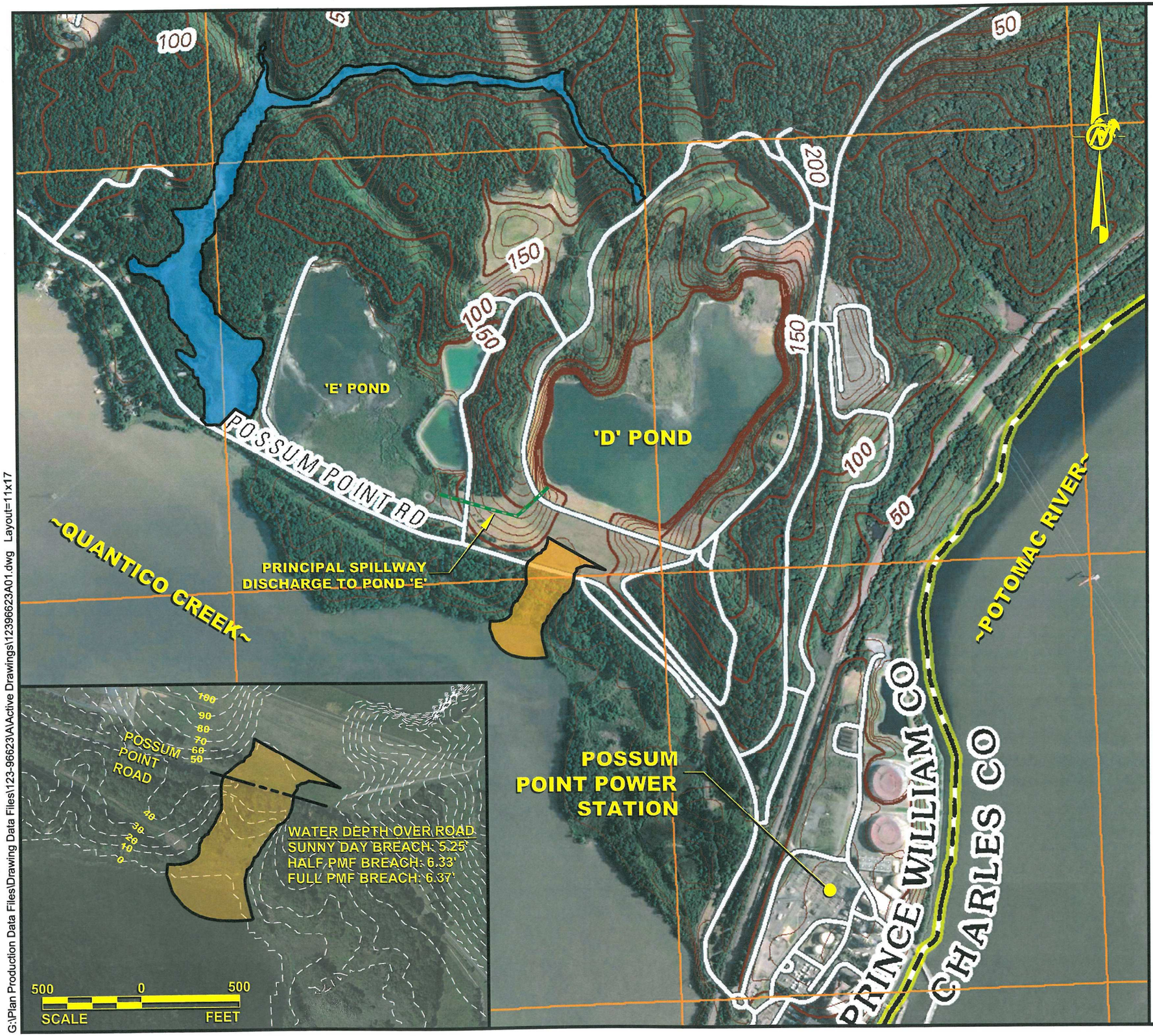

LEGEND

100 — EXISTING TOPOGRAPHIC CONTOUR (50' INTERVAL)

70 — EXISTING TOPOGRAPHIC CONTOUR (10' INTERVAL)

PEAK WATER SURFACE ELEVATION WITH THE:

WATER SURFACE ELEVATIONS (WSE) DURING SUNNY DAY BREACH, HALF PMF, AND FULL PMF BREACH

EMERGENCY SPILLWAY WSE DURING PMF EVENT

750 0 750

SCALE: 1" = 750' FEET

NOTES

1. MAPPING OF FLOODED AREAS AND FLOOD WAVE TRAVEL TIMES ARE APPROXIMATE. TIMING AND EXTENT OF ACTUAL INUNDATION MAY DIFFER FROM INFORMATION PRESENTED ON THIS MAP.
2. AERIAL IMAGE SOURCE: USGS 7.5-MINUTE QUADRANGLE MAP TITLED "QUANTICO, VA-MD" DATED 2011.
3. TOPOGRAPHY SOURCE: DEM FILE FOR USGS QUADRANGLE "QUANTICO, VA-MD" DATED 9/19/01. (10 METER GROUND RESOLUTION)

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PROJECT
DOMINION
POSSUM POINT POWER STATION
ASH POND 'D' DCR INVENTORY #15320
PRINCE WILLIAM COUNTY, VIRGINIA

TITLE
POND FAILURE DURING FULL PMF, ON A SUNNY DAY, AND SPILLWAY DESIGN FLOOD

PROJECT No. 123-96623		
FILE No. 123-96623A01		
REV. 0	SCALE AS SHOWN	
DESIGN	DPM	12/14/12
CADD	ATN	12/14/12
CHECK	DPM	12/14/12
REVIEW	JRO	12/14/12

DRAWING 1

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