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Coal Combustion Residuals Closure Plan

Virginia Electric and Power Company d/b/a Dominion Energy Virginia
Chesterfield Power Station
Upper Ash Pond
Chesterfield County, Virginia



November 22, 2021 Rev. 1

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1 Introduction

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion) owns and operates the Chesterfield Power Station (Station) located at 500 Coxendale Road in Chesterfield County, Virginia. The Station includes two Coal Combustion Residuals (CCR) surface impoundments, as well as a Fossil Fuel Combustion Products (FFCP) Management Facility operating under Virginia Department of Environmental Quality (VADEQ) Solid Waste Facility Permit No. 609, issued on June 29, 2016.

1.1 Regulatory Background

This Closure Plan was prepared for one of the Station's CCR surface impoundments, the Upper Ash Pond (UAP). A separate Closure Plan is being submitted for the other CCR surface impoundment, the Lower Ash Pond (LAP). The purpose of the Closure Plan is to document that the requirements specified in 40 Code of Federal Regulations (CFR) §257.102 have been met to support the certification required under each of the applicable regulatory provisions for the UAP. The CCR Rule requires that the Initial Written Closure Plan for a CCR surface impoundment be prepared by October 17, 2016. The Initial Closure Plan proposed a Closure-in-Place (CiP) methodology and was prepared in accordance with these requirements. This Closure Plan (Rev. 1) represents an update to the Initial Closure Plan for a closure by removal (CbR) methodology for closure of the UAP pursuant to Virginia Code §10.1-1402.03.

1.2 Description of Upper Ash Pond

The UAP is a surface impoundment that was used by the Station to store CCR material. The UAP is approximately 113 acres in size. The estimated volume of CCR material in the UAP is approximately 11.8 million cubic yards (MCY). The UAP is constructed of earthen dikes, with a 20-foot minimum crest width at approximate elevation of 40 feet above mean sea level (MSL). The maximum bottom elevation level of CCR material in the UAP is estimated to be minus 12 feet below MSL. The estimated area of disturbance to complete the UAP closure activities is 140 acres

2 Closure Implementation

2.1 Closure Plan Description

Regulatory Citation: 40 CFR §257.102 (b); Written closure plan—

- *(1) Content of the plan. The owner or operator of a CCR unit must prepare a written closure plan that describes the steps necessary to close the CCR unit at any point during the active life of the CCR unit consistent with recognized and generally accepted good engineering practices. The written closure plan must include, at a minimum, the information specified in paragraphs (b)(1)(i) through (vi) of this section.*

The Written Closure Plan for the Upper Ash Pond is described in this section.

2.1.1 Overview of Closure Approach

Regulatory Citation: 40 CFR §257.102 (b)(1);

- *(i) Narrative description of how the CCR unit will be closed in accordance with this section.*

Dominion is proposing to close the UAP via closure by removal (CbR) using a phased CCR excavation and removal approach for the purposes of managing stormwater and contact water. Once the CCR material has been removed, the UAP will be backfilled with soil, graded to promote stormwater drainage, and seeded to establish cover vegetation. The final closure grades will be established at an elevation between 10 and 23 feet above MSL around the perimeter, and then graded at 0.5% minimum upwards towards the northern portion of the pond to approximate elevation 23 feet above MSL. The closure area will consist of the following from top to bottom:

- 1-foot topsoil layer capable of supporting vegetative growth;
- 3-feet of low permeability fill soil ($k < 1 \times 10^{-5}$ cm/sec); and,
- Compacted fill soil.

After topsoil placement is completed, Dominion will apply seed, fertilizer, lime, and mulch, in accordance with the VADEQ Erosion & Sediment Control Handbook (VESCH), to achieve a permanent vegetative cover over the closure area.

Regulatory Citation: 40 CFR §257.102 (b)(1);

- *(ii) If closure of the CCR unit will be accomplished through removal of CCR from the CCR unit, a description of the procedures to remove the CCR and decontaminate the CCR unit in accordance with paragraph (c) of this section.*

The protocol for closure by removal of the UAP will involve removing accumulated CCR such that no residual materials remain visible, followed by over-excavating the removal footprint by a minimum of six (6) inches. Removed CCR material will be transferred to the FFCP Management Facility or an offsite permitted industrial waste landfill, or beneficially reused offsite. After removal of the CCR material and the 6-inch over-excavation material from the UAP, the area will be visually inspected to verify the CCR removal and over-excavation has been achieved. In addition, the UAP will be further inspected by targeted soil cores, dug by hand using a hand auger or similar tool, to a depth of at least six (6) inches at a frequency of at least one core per acre.

Verification surveys of the pond closure will be prepared by a Commonwealth of Virginia licensed Land Surveyor and will consist of a survey of the “visually clean” surface and a survey of the “over-excavation” surface to verify the minimum 6-inch removal. Certification of the closure by removal will be provided by a Commonwealth of Virginia licensed Professional Engineer.

To facilitate effective management of stormwater and contact water, closure by removal of areas within the UAP will be achieved in phases. The phased closures will be sequenced as necessary to support traffic patterns and other constraints, including the management of stormwater and contact water. A phased approach will also allow for documentation of certified clean areas within the excavation area that are approved for soil backfill. During this phased approach, temporary CCR excavation slopes will not exceed 5H:1V, and interim soil cover and vegetation (or approved equal) will be installed over excavation slopes. Water levels in the excavation area will be maintained at least 5-feet below the deepest excavation adjacent to the slope. After CCR removal and certification, the UAP will be graded to promote stormwater drainage to the site’s permitted stormwater outfalls. Vegetative stabilization will be established to prevent erosion, and the area will be maintained as a grassy open area.

In environmentally-sensitive areas outside of the defined CCR unit boundary, such as Resource Protection Areas (RPAs), groundwater monitoring well locations, or wetlands, a modified excavation protocol will be followed for removal of any identified CCR. The CCR will be removed to a visually clean condition using methods that minimize impact to surrounding soils. The 6-inch over-excavation will not be performed in these areas in order to limit the impact to subgrade soils. Following CCR removal, the area will be stabilized to prevent erosion with materials suitable for the area.

Groundwater monitoring will be conducted in accordance with the approved Groundwater Monitoring Plan to meet the closure by removal standard set forth in 40 CFR 257.102(c).

Regulatory Citation: 40 CFR §257.102 (b)(1);

- *(iii) If closure of the CCR Unit will be accomplished by leaving CCR in place, a description of the final cover system and methods and procedures used to install the final cover.*

Not applicable.

2.1.2 Inventory and Area Estimates

Regulatory Citation: 40 CFR §257.102 (b);

- *(iv) An estimate of the maximum inventory of CCR ever on-site over the active life of the CCR unit.*

An estimate of the maximum inventory of CCR ever on-site over the active life of the UAP is 11,800,000 cubic yards.

Regulatory Citation: 40 CFR §257.102 (b);

- *(v) An estimate of the largest area of the CCR unit ever requiring a final cover as required by paragraph (d) of this section at any time during the CCR unit’s active life.*

Not applicable due to the Closure by Removal approach.

2.1.3 Closure Schedule

Regulatory Citation: 40 CFR §257.102 (b)(1);

- (vi) *Schedule for completing all activities necessary to satisfy the closure criteria in this section, including an estimate of the year in which all closure activities for the CCR unit will be completed.*

Dominion will excavate and remove all CCR material from the UAP for disposal in the FFCP Management Facility or an offsite permitted landfill, or for beneficial reuse offsite. It is anticipated that the UAP closure activities may take approximately 13 years to complete once started.

The projected timeframes for closure activities are provided in Table 2-1 below.

Table 2-1 – Projected UAP Closure Timeline	
Milestone	Schedule
Commencement of CCR Removal/Closure Activities - UAP	2 nd Quarter 2021
Completion of Closure - UAP	April 2034

Closure is considered complete when the elements of this Closure Plan specified above have been performed as certified by a Professional Engineer licensed in the Commonwealth of Virginia. This certification will be included as part of a closure certification report. In accordance with 40 CFR 257.102(h), Dominion will prepare a notification of closure of the UAP within 30 days of completion of closure and will place the notification in the operating record.

2.2 Amendment to Initial or any Subsequent Written Closure Plan

The Initial Written Closure Plan dated October 2016 is hereby being amended by this Written Closure Plan (Rev. 1) on November 22, 2021 as required by §257.102 (b)(3).

3 Certification

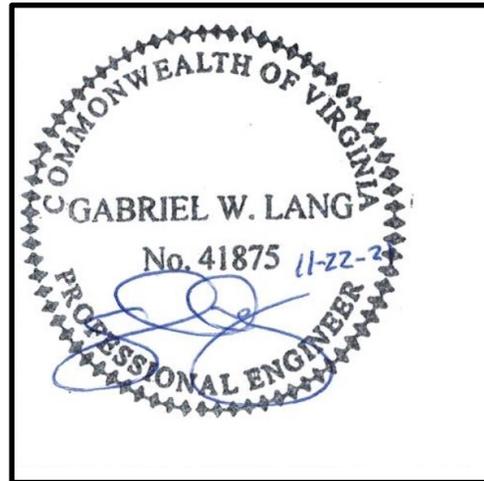
This Certification Statement documents that the Upper Ash Pond at the Chesterfield Power Station meets the Written Closure Plan requirements specified in 40 CFR §257.102 (b) and the closure by removal requirements as specified in 40 CFR §257.102 (c). The CCR Rule requires that the Initial Written Closure Plan be prepared by October 17, 2016. An amendment to the Initial Written Closure Plan is provided herein, dated November 22, 2021.

CCR Unit: Virginia Electric and Power Company d/b/a Dominion Energy Virginia; Chesterfield Power Station; Upper Ash Pond

I, Gabriel Lang, being a Registered Professional Engineer in good standing in the Commonwealth of Virginia, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the above referenced CCR Unit, that the amended Written Closure Plan dated November 22, 2021 meets the requirements of 40 CFR § 257.102.

Gabriel Lang
Printed Name

November 22, 2021
Date



4 References

40 CFR 257, Subpart D – *Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments*. 2015.

Virginia Department of Environmental Quality. *Application for Solid Waste Permit Number 619*. 2021

GAI Consultants. *Coal Combustion Residuals Closure Plan – Chesterfield Power Station, Upper (East) Pond*. 2016.