



Submitted to:  
Virginia Electric and Power Company d/b/a  
Dominion Energy Virginia  
120 Tredegar Street  
Richmond, VA 23219

Submitted by:  
AECOM  
4840 Cox Road  
Glen Allen, VA 23060

# **Coal Combustion Residuals Closure Plan**

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



November 22, 2021 Rev. 1

# Table of Contents

- 1 Introduction..... 1-1**
- 1.1 Regulatory Background..... 1-1
- 1.2 Description of Lower Ash Pond ..... 1-1
- 2 Closure Implementation..... 2-1**
- 2.1 Closure Plan Description ..... 2-1
- 2.1.1 Overview of Closure Approach..... 2-1
- 2.1.2 Inventory and Area Estimates ..... 2-2
- 2.1.3 Closure Schedule..... 2-2
- 2.2 Amendment to Initial or any Subsequent Written Closure Plan ..... 2-3
- 3 Certification..... 3-1**
- 4 Limitations ..... Error! Bookmark not defined.**

## Tables

**Table 2-1      Projected LAP Closure Timeline**

# 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 Lower Ash Pond (LAP). A separate Closure Plan is being submitted for the other CCR surface impoundment, the Upper Ash Pond (UAP). 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 LAP. 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 closure by removal (CbR) methodology for closure of the LAP pursuant to Virginia Code §10.1-1402.03.

## 1.2 Description of Lower Ash Pond

The LAP is a surface impoundment that was previously used by the Station to settle and manage low-volume wastewaters, including CCR material. The LAP is approximately 111 acres in size. The estimated volume of CCR material in the LAP is approximately 2.8 million cubic yards (MCY). The LAP is constructed of earthen dikes, at approximate elevation of 18.5 feet above mean sea level (MSL). The maximum bottom elevation of CCR material in the LAP is estimated to be approximately minus 10 feet below MSL. The estimated area of disturbance to complete the LAP closure activities is approximately 116 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 Lower 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 LAP 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 LAP 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 15 feet above MSL around the perimeter, and then graded at 0.5% minimum upwards towards the center of the pond to approximate elevation 22 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 LAP 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 LAP, the area will be visually inspected to verify the CCR removal and over-excavation has been achieved. In addition, the LAP 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 LAP 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 LAP 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 LAP is 2,800,000 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 LAP for disposal in the FFCP Management Facility or an offsite permitted landfill, or for beneficial reuse offsite. It is anticipated that the LAP 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 LAP Closure Timeline	
Milestone	Schedule
Commencement of CCR Removal/Closure Activities - LAP	2 <sup>nd</sup> Quarter 2021
Completion of Closure - LAP	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 LAP 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

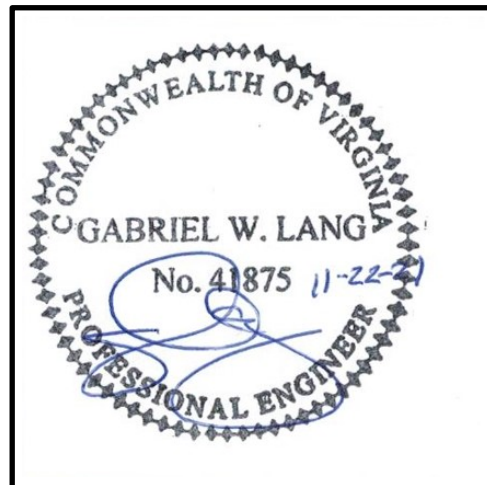
This Certification Statement documents that the Lower Ash Pond at the Chesterfield Power Station meets the Written Closure Plan requirements specified in 40 CFR §257.102 (b) and the closure by removal requirements as specified in 40 CFR §257.102 (c). The CCR Rule requires that the Initial Written Closure 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; Lower 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, Lower (West) Pond*. 2016.