NOTICE OF INTENT

NOTICE OF INTENT TO CLOSE INACTIVE CCR SURFACE IMPOUNDMENTS

Bremo Power Station

Dominion

Submitted To: Bremo Power Station
1038 Bremo Bluff Road
Bremo Bluff, VA 23022

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1.0 INTRODUCTION

The Bremo Power Station (Station) is located in Fluvanna County, Virginia at 1038 Bremo Bluff Road, Bremo Bluff, Virginia. The Station contains three Inactive Coal Combustion Residuals (CCR) Surface Impoundments as defined by the Federal Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule (40 C.F.R. §257; the CCR rule): the North Ash Pond, East Ash Pond, and West Ash Pond. Dominion intends to initiate closure of these inactive surface impoundments under the requirements of §257.100(b) of the CCR rule. This Notice of Intent to Close Inactive Surface Impoundments (NOI) has been prepared pursuant to §257.100(c)(1) of the CCR rule.

The West Ash Pond is currently completing closure by removal of CCR in accordance with §257.100(b)(5) of the CCR rule, which will be accomplished by April 17, 2018. The North and East Ash Ponds will achieve closure in accordance with §257.100(b)(1) through (4) of the CCR rule by leaving CCR in place, removing free liquids, and installing an engineered final cover system, which will also be completed by April 17, 2018.

2.0 SITE DESCRIPTION

The Bremo Power Station, owned and operated by Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion), is located in Fluvanna County at 1038 Bremo Road, east of Route 15 (James Madison Highway) and north of the James River. The Station converted from a coal-fired power plant to a natural gas-fired power plant in 2014. CCR from past operations is stored in the three on-site CCR surface impoundments (North Ash Pond, West Ash Pond, and East Ash Pond). The site consists of wooded, open, and developed land just north of the James River. The Station's northern, eastern, and western boundaries are bordered by primarily undeveloped parcels, and the Station is bordered to the south by a CSX rail line and the James River.

3.0 SURFACE IMPOUNDMENT CLOSURE

The North, East, and West Ash Ponds will be closed as inactive CCR surface impoundments pursuant to §257.100(b) of the CCR rule.

The West Ash Pond will be closed through the removal of CCR from the impoundment pursuant to §257.100(b)(5) of the CCR rule. After completing removal of the CCR from the West Ash Pond, the eastern portion of the impoundment will be re-purposed as a treatment pond to manage the Station's process wastewaters. The remaining western portion of the West Ash Pond will be graded and stabilized.

The North and East Ash Ponds will be closed in place with a final cover system in accordance with §257.100(b)(1) through (4) of the CCR rule. Closure of the North and East Ash Ponds will involve preparing a suitable subgrade to support the final cover system. After completing the subgrade, the final cover system and drainage structures will be constructed, and disturbed areas will be seeded and mulched.

Specific aspects of the inactive surface impoundment closures are described in the following sections.

3.1 Material Removal (West Ash Pond)

Prior to October 19, 2015, Dominion hydraulically dredged CCR from the West Ash Pond to the North Ash Pond Station's in accordance with the Station's Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0004138. CCR remaining in West Ash Pond after October 19, 2015 will be excavated and properly disposed off-site. After removal of all CCR from the West Ash Pond, a registered professional engineer will visually examine the bottom of the impoundment for the purpose of verifying that all CCR in has been effectively removed per regulatory requirements.

3.2 Stabilization (North and East Ash Ponds)

The North and East Ash Ponds will be decanted and dewatered to remove free liquids prior to installing the engineered final cover system [40 C.F.R. §257.100(b)(2)(i)]. The CCR material will be re-graded and compacted prior to placing the final cover system to promote drainage and prevent the future impounding of water after closure [40 C.F.R. §257.100(b)(2)(ii)].

3.3 Final Cover (North and East Ash Ponds)

The final cover systems for the North and East Ash Ponds are designed in accordance with the CCR rule [§257.100(b)(3)(ii)], including the use of a geomembrane liner to minimize the infiltration of liquids into the CCR. The final cover systems are designed to prevent the future impoundment of water, and include measures to prevent sloughing, minimize erosion, and prevent excessive hydraulic head [40 C.F.R. §257.100(b)(1)(i) through (iii)].

The final cover systems are designed to minimize the need for maintenance after closure [40 C.F.R. §257.100(b)(1)(iv)]. The engineered final cover system design consists of the following minimum components, listed from top to bottom, and described below.

- 6-inch vegetative support layer
- 18-inch protective cover layer
- 250-mil geocomposite drainage layer
- 40-mil geomembrane liner
- Liner subgrade

3.3.1 Liner Subgrade

Stabilization of CCR in the North and East Ash Ponds will commence with decanting and dewatering of the upper layers of CCR [40 C.F.R. §257.100(b)(2)(i)]. After dewatering, the subgrade will be graded and compacted to create a suitable liner base [40 C.F.R. §257.100(b)(2)(ii)].

The liner subgrade consists of the top 6 inches of material underlying the geomembrane liner, and will contain no particles with a particle size of > ½ inch. The liner subgrade will consist of the dewatered and compacted CCR contained in each impoundment. No deleterious material will be allowed in the liner subgrade.

Liner subgrade fill will be placed in lifts no greater than 9 inches (compacted depth), and will be wetted or dried as necessary to reach acceptable moisture content. The subgrade fill will be compacted to at least 90% of its maximum dry density, and smooth-rolled for additional compaction.

3.3.2 Geomembrane Liner

The primary barrier component of the final cover system (infiltration layer) is the geomembrane liner [40 C.F.R. §257.100(b)(3)(ii); §257.100(b)(3)(i)(A)]. The geomembrane liner will consist of 40-mil, dual-textured, High Density Polyethylene (HDPE) geomembrane, or equivalent, with a maximum hydraulic conductivity of $1x10^{-12}$ centimeter per second (cm/s).

The geomembrane liner will be placed directly on the prepared CCR subgrade, and will generally be placed parallel to the slope. The liner will be secured over the CCR subgrade with a perimeter anchor trench, and will be seamed using heat-fusion and extrusion welding techniques.

3.3.3 Drainage Layer

A minimum 8-oz/yd^3, 250-mil geocomposite drainage layer, or equivalent, will be placed on top of the 40-mil geomembrane liner to prevent excessive hydraulic head on the liner [40 C.F.R. §257.100(b)(3)(ii); §257.100(b)(3)(i)(B)]. The geonet portions of each geocomposite panel will be attached to one another by approved fasteners spaced at a maximum of 5-foot intervals along downslope overlaps and 2-foot

intervals on cross-slope overlaps. The upper geotextile layers of adjacent geocomposite panels will be either heat-fused or sewn to adjacent panels.

3.3.4 Cap Drainage

A drainage system will be installed over the geocomposite to remove excessive hydraulic head accumulation on the liner [40 C.F.R. §257.100(b)(1)(i)]. The drainage system will be comprised of 6-inch SDR-17 perforated HDPE pipes surrounded by VDOT #57 stone. The pipes will be placed directly on the geocomposite in drainage ditches and cross slopes. The surrounding stone will be covered with a nonwoven geotextile heat-fused to the top layer of the geocomposite. The maximum cap drain spacing was calculated to be approximately 440 feet on the flatter sloped areas; the design provides a cap drain spacing of approximately 250 feet, which is intended to prevent flatter areas from becoming overly saturated. The geocomposite is sufficient to maintain final cover soil drainage on the steeper slopes.

3.3.5 Protective Cover Layer

An 18-inch protective cover soil layer (erosion layer) will be placed over the geocomposite drainage layer [40 C.F.R. §257.100(b)(3)(ii); §257.100(b)(3)(i)(B)]. The protective cover soil will consist of soil with an average maximum particle size of 2 inches. No deleterious material will be allowed in the protective cover layer.

The protective cover layer will be placed in lifts no greater than 9 inches (compacted depth), and will be wetted or dried as necessary to reach acceptable moisture content. The protective cover layer will be compacted to at least 90% of its maximum dry density.

3.3.6 Vegetative Support Layer

A 6-inch vegetative support layer will be placed over the protective cover layer to promote grass growth and reduce erosion [40 C.F.R. §257.100(b)(3)(ii); §257.100(b)(3)(ii)(B); §257.100(b)(3)(i)(C)]. The vegetative soil layer will consist of soil with an average maximum particle size of 1 inch that is capable of supporting vegetation. Organic material may contribute up to 1.5% of the vegetative support layer (by weight). The vegetative support layer will be seeded, fertilized, and mulched to prevent erosion. Temporary and permanent soil stabilization matting will be used on side slopes to reduce the effects of erosion during final cover stabilization.

The selected plant species will be native vegetation, and include Kentucky 31 Fescue, Annual Ryegrass, and German Millet. Sodding is proposed as an alternative to seeding/mulching in selected areas of the North and East Ash Ponds to expedite stabilization. If used, sod will conform to the same quality standards as seeding and mulching.

The established vegetation will be maintained through periodic mowing to prevent the growth of large brush or trees that could damage the final cover system and to maintain healthy coverage. Maintenance will be performed as necessary to maintain the covered areas.

3.3.7 Final Grades

The final grades for the North and East Ash Ponds have been developed to control stormwater and erosion, as well as to reduce hydraulic head accumulation on the geomembrane liner [§257.100(b)(1)(i)]. The minimum post-settlement slope for the final cover system is 2% to ensure positive drainage of the surface and subsurface (interflow) stormwater. The maximum pre-settlement slope for the final cover system is 3:1 (33.3%) to minimize erosion and promote long-term stability of the cover.

Drainage channels will be installed as part of the final cover system to control run-off from the cover. Each drainage channel will have an underdrain to prevent water build-up on the liner. The underdrains will consist of a 10-inch SDR-17 half-perforated HDPE pipe placed in the same manner as the cap drains (see Section 3.3.4). Each underdrain will connect the cap drains and discharge into the final cover's stormwater run-off control system.

4.0 CLOSURE SCHEDULE

Construction activities related to the closure of the surface impoundments will be completed by April 17, 2018 in accordance with 40 CFR §257.100(b).

The West, North, and East Ash Ponds no longer receive CCR. Closure of the North and East Ash Ponds will begin in March 2016 when materials will be re-graded to establish the proposed subgrade required for the final cover systems. Closure of the West Ash Pond is anticipated to begin in December 2015 after decanting is completed. Closure activities for each impoundment are expected to occur as outlined in the tentative time table below.

Table 1: Tentative Closure Construction Time Table

Surface Impoundment	End CCR Active Period	Begin Decanting	Begin Closure Activities	End Closure Activities
North Ash Pond	October 2015	January 2016	March 2016	April 17, 2018
East Ash Pond	Inactive (>20 years)	January 2016	March 2016	April 17, 2018
West Ash Pond	June 2014	November 2015	December 2015	April 17, 2018

5.0 CERTIFICATIONS

The following Professional Engineer's certifications are provided in accordance with §257.100(b)(4) and (6).

I, the undersigned Virginia Professional Engineer, hereby certify that I am familiar with the technical requirements of 40 CFR §257.100. I also certify that it is my professional opinion that, to the best of my knowledge, information, and belief, the final cover system for the North and East Ash Ponds at the Bremo Power Station has been designed in accordance with current good and accepted engineering practice(s) and standard(s) appropriate to the nature of the project and the technical requirements of 40 CFR §257.100(b)(3)(i) or (ii).

In addition, I do hereby certify that it is my professional opinion that, to the best of my present knowledge, information, and belief, the closure activities associated with the East, North, and West Ash Pond at the Bremo Power Station as described in this NOI are technically feasible to be completed by no later than April 17, 2018.

For purposes of this document, "certify" and "certification" shall be interpreted and construed to be a "statement of professional opinion." The certification is understood and intended to be an expression of my professional opinion as a Virginia Licensed Professional Engineer, based upon knowledge, information, and belief. The statement(s) of professional opinion are not and shall not be interpreted or construed to be a guarantee or a warranty of the closure activities.

James R. DiFrancesco, Jr., P. E.	025260
Printed Name of Professional Engineer	Commonwealth of Virginia License Number

Signature of Professional Engineer

12/15/15
Date

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