CLOSURE PLAN

INACTIVE CCR SURFACE IMPOUNDMENTS CLOSURE PLAN

Bremo Power Station

Dominion

Submitted To: Bremo Power Station
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Bremo Bluff, VA 23022

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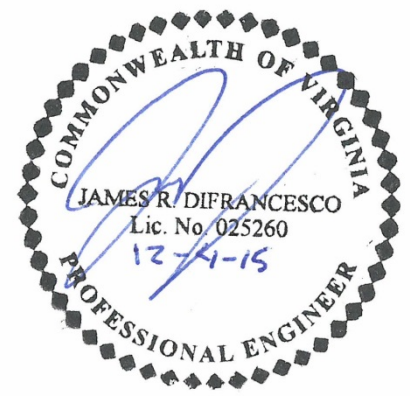

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1.0 CLOSURE OVERVIEW

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 CFR 257; the CCR rule): the North Ash Pond, East Ash Pond, and West Ash Pond.

The three impoundments have been regulated under the Virginia Pollutant Discharge Elimination System (VPDES) program during their operational life. The impoundments are being closed as inactive CCR surface impoundments under the CCR rule provisions at 40 CFR 257.100. Their long-term management, which includes closure, post-closure care, and groundwater monitoring, will be governed by the Virginia Solid Waste Management Regulations (VSWMR). Existing groundwater monitoring, corrective action, and/or risk assessment plans currently in effect under the VPDES permit will remain in effect until such time that they are superseded by a groundwater monitoring program pursuant to a solid waste permit for closure and/or post-closure in accordance with the VSWMR.

This Closure Plan has been prepared in accordance with the VSWMR; however, it also incorporates several of the measures described in the CCR rule. This Plan generally follows the format guidelines for Solid Waste Disposal Facilities as described in the Virginia Department of Environmental Quality's (DEQ's) Submission Instruction No. 6 (Rev. January 2012).

The North and East Ash Ponds will be closed in place with a final cover system. The West Ash Pond will be closed by removal of CCR and re-purposed as the West Treatment Pond to manage the Station's process wastewaters. The new West Treatment Pond will be regulated under the Station's existing VPDES permit (No. VA0004081). Embankments for the North and East Ash Ponds and the West Treatment Pond will continue to be regulated by the Virginia Department of Conservation and Recreation (DCR) under the Impounding Structure Regulations (4VAC50-20).

1.1 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). No newly generated CCR has been placed in these impoundments since the conversion to a gas-fired plant.

The three inactive CCR surface impoundments will be closed under the CCR rule provisions in 40 CFR 257.100. 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.

1.2 Closure Narrative

The West Ash Pond will be closed through the removal of CCR from the impoundment. CCR removed from the West Ash Pond was periodically placed in the North Ash Pond for storage until October 18, 2015. From that point forward, the material removed from the West Ash Pond will be sent off-site for proper disposal. After completing removal of the CCR from the eastern portion of the West Ash Pond, that area of the pond will be re-purposed as the West Treatment Pond to manage the Station's process wastewaters. A geomembrane liner will be installed to provide the bottom liner for the new West Treatment Pond. The remaining western portion of the West Ash Pond will be closed by removing the CCR, and the area will be graded and stabilized.

The North and East Ash Ponds will be closed in place with a final cover system. Closure of the North and East Ash Ponds will involve preparation of a suitable subgrade for the final cover system. After completion of the subgrade, the final cover system and drainage structures will be constructed, and disturbed areas seeded and mulched.

1.3 CCR Material Estimates

The North Ash Pond covers approximately 67.5 acres, has a dam approximately 96 feet tall, and contains approximately 4,000,000 cubic yards (yd^3) of CCR. The East Ash Pond covers approximately 27.4 acres, has a dam approximately 24 feet tall, and contains approximately 1,500,000 yd^3 of CCR. The West Ash Pond covers approximately 21.5 acres has a dam approximately 18 feet tall, and contains approximately 100,000 yd^3 of CCR as of October 19, 2015.

2.0 CLOSURE TIMEFRAMES

Closure of all three impoundments will comply with the CCR rule and the VSWMR, and will be complete by April 17, 2018. Closure is considered complete when the elements of this Closure Plan have been performed as specified and certified by a professional engineer licensed in the Commonwealth of Virginia. This certification will be included as part of a closure certification report.

2.1 Closure Schedule

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) and the tentative construction schedule found in Appendix A.

Table 1: Tentative 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

*The West Ash Pond will achieve closure by removal of CCR prior to a portion of the former pond being re-purposed as the new West Treatment Pond.

3.0 CLOSURE OF SURFACE IMPOUNDMENTS

3.1 Material Removal (West Ash Pond)

After completing removal of the CCR from the eastern portion of the West Ash Pond, that area of the pond will be lined with a 40 mil Ethylene Interpolymer Alloy (EIA) geomembrane liner system (XR-5) and placed back in service as the new West Treatment Pond. The remaining western portion of the West Ash Pond will be closed by removing the CCR, and the area will be graded and stabilized.

3.2 Stabilization

The North and East Ash Ponds will be decanted to remove free liquids prior to installation of the engineered final cover system. The CCR material will be re-graded prior to placement of the final cover system to promote drainage and prevent the future impounding of water after closure.

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 (40 CFR 257.100.b.3.ii), including 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 build-up. Detailed design information is contained in the Closure Plan Drawings (Appendix B), the Construction Quality Assurance (CQA) Plan and Technical Specifications (Appendix C), and the Bremo Ash Pond Final Cover Hydraulic Model Performance calculations (Appendix D).

The final cover systems are designed to minimize the need for maintenance after closure. The engineered final cover system will consist 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

A geotechnical analysis of the CCR impoundments was conducted to determine the feasibility of closure, the anticipated bearing capacity of the subgrade, the short- and long-term global stability, and the expected settlement of the final cover system. The complete analysis and entire Geotechnical Design Report is presented in Appendix E.

Stabilization of CCR in the North and East Ash Ponds will commence with decanting and dewatering of the upper layers of CCR. After dewatering, the subgrade will be graded and compacted to create a suitable liner base.

The liner subgrade consists of the top 6 inches of material underlying the geomembrane liner, and will contain no particles with an average maximum 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. 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 accumulation on the liner. The geocomposite will have a transmissivity of at least $5.0x10^{-4}$ m^2/s (permeability of 7.87 cm/s). The minimum interface friction angle between the geocomposite and the underlying geomembrane is 18.5°, and the minimum interface friction angle between the geocomposite and the protective cover soil layer is 24°.

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 Drains

A drainage system will be installed over the geocomposite to remove excessive hydraulic head accumulation on the liner. 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. 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. 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.

Seeding will follow the seeding dates outlined in Section 329219 – “Seeding” of the Technical Specifications (Appendix C). The selected plant species will be native vegetation as described in the Technical Specifications, 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. 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 3.3.3.1). Each underdrain will connect the cap drains and discharge into the final cover's stormwater run-off control system.

3.4 Geotechnical Analysis

The proposed final cover systems for the North and East Ash Ponds were evaluated for settlement, liquefaction, and stability. The complete analysis is contained in the Geotechnical Design Report found in Appendix E.

3.4.1 Settlement

Settlement of the ash was considered with respect to potential impacts on closure, notably, changes in drainage of the final cover system and drainage ditches. Some settlement is expected to occur due to additional load resulting from grading of ash and final cover placement during closure activities as well as drainage of the ash during and after closure. Laboratory test results and conventional consolidation theory show settlements up to several feet (up to 6 feet for portions of the North Ash Pond and up to 3.5 feet for portions of the East Ash Pond). The grading design has taken these settlements into account, such that adverse slopes should not occur on the final cover or in drainage ditches in the event such settlement occurs. The anticipated settlement amounts are not expected to inhibit the proper functioning of the proposed final cover or stormwater conveyance systems. The complete analysis of predicted settlement is found in Appendix E, Attachment 5 Geotechnical Settlement Analysis of the Geotechnical Design Report Appendix E.

3.4.2 Liquefaction

Liquefaction can occur in saturated, non-cohesive soils for a short time following seismic events. When it occurs, liquefaction can cause loss of shear strength depending on the magnitude of the seismic event, which can impact settlement and slope stability. The East Ash Pond CCR, residual soils, alluvial soils, and fills derived from them are not susceptible to liquefaction in the design seismic event (2% probability in 50 years). Limited areas of the North Ash Pond CCR, to the extent the CCR remains saturated, could liquefy in the design seismic event (2% probability in 50 years), causing localized displacements beneath the final cover system. Placement of the final cover system will result in a significant decrease in the saturation level of the CCR, thereby substantially reducing the liquefaction risk in the North Ash Pond. Nonetheless, engineering controls were incorporated into the design of the final cover system to provide

adequate factors of safety against potential instability conditions that could occur. These controls include soil or ash buttresses on either side of the ditches to mitigate the potential for localized failures. The complete analysis of liquefaction is found in Appendix E, Attachment 3 Liquefaction Analysis of the Geotechnical Design Report in Appendix E.

3.4.3 Stability

The existing pond embankments were evaluated for global stability against sliding, rotational failure, and seismic events. The North Ash Pond and West Ash Pond embankments provide acceptable factors of safety (FS), and will require only minor improvements and periodic maintenance. Existing sections of the East Ash Pond require re-grading to ensure global stability. As shown in the proposed grading plan (Appendix B) for the East Ash Pond. A summary of the slope stability results is provided in Table 2, below. The complete analysis of slope stability is found in Appendix E, Attachment 4, Global Stability Analysis, contained within the Geotechnical Design Report (Appendix E).

Table 2: Summary of Slope Stability Results

		A	B	C	D	E	F
	Grading	Existing	Design	Design	Design	Design	Design
	Type	Steady-State	Steady-State	Steady-State	Undrained	Seismic	Seismic
	Water Level	Existing	Max	Design	Max	Max	Design
	Required FS	N / A	1.5	1.5	1.5	1.2	1.2
Figure	**Section**	**Factors of Safety - West Ash Pond**					
WP-3	WP-C, West, Right	N/A	1.7	N/A	1.8	1.2	N/A
WP-4	WP-C, East, Left	2.3	2.1	N/A	2.2	1.8	N/A
WP-5	WP-C, East, Right	1.6	1.6	N/A	1.6	1.4	N/A
WP-6	WP-E, South, Left	1.4	1.6	N/A	1.6	1.4	N/A
WP-7	WP-E, South, Right	1.2	2.1	N/A	2.2	1.8	N/A
WP-8	WP-E, North, Left	2.1	2.0	N/A	2.4	1.9	N/A
WP-9	WP-E, North, Right	1.7	1.7	N/A	1.7	1.5	N/A
Figure	**Section**	**Factors of Safety - East Ash Pond**					
EP-4	EP-B, South	1.2	1.9	2.0	1.8	1.2	1.2
EP-5	EP-B, North	N/A	1.9	2.1	2.0	1.3	1.3
EP-6	EP-D, South	1.3	1.7	2.0	2.0	1.3	1.3
EP-7	EP-D, North	2.4	1.8	2.1	2.1	1.7	1.7
EP-8	EP-G, West	1.2	1.5	1.8	1.8	1.5	1.5
EP-9	EP-G, East	1.3	1.5	1.8	1.9	1.4	1.4
EP-10	EP-H, South	1.3	1.8	2.1	2.1	1.7	1.7
EP-11	EP-I, South, Left	1.3	1.7	N/A	1.9	1.6	N/A
EP-12	EP-I, South, Right	2.1	1.7	N/A	2.0	1.6	N/A
Figure	**Section**	**Factors of Safety - North Ash Pond**					
NP-2	NP-B, South, Left	1.6	1.6	1.6	1.6	1.3	1.3
NP-3	NP-B, South, Right	2.1	2.2	2.2	2.2	1.7	1.7
NP-4	NP-H, East	1.7	2.1	2.0	2.0	1.7	1.7

3.4.4 Soil Loss

The soil loss was calculated using the U.S. Department of Agriculture's (USDA) Revised Universal Soil Loss Equation (RUSLE). The RUSLE is:

$$A = R \times K \times L \times S \times C \times P$$

where A is the average soil loss per unit area, R is the rainfall-runoff erosivity factor, K is the soil erodibility factor, L is the slope length factor, S is the slope steepness factor, C is the cover-management factor, and P is the support practice factor.

The variables obtained from the USDA Agriculture Handbook 703 are shown below:

Factor	North Ash Pond		East Ash Pond	
	Value	Parameters	Value	Parameters
R	175	Fluvanna County	175	Fluvanna County
K	0.36	40% silt and fine sand, 60% sand, 0% organic material, very fine granular soil, slow permeability	0.36	40% silt and fine sand, 60% sand, 0% organic material, very fine granular soil, slow permeability
L	1.36	180' slope length, 8.9% average slope, low susceptibility to rill and inter-rill erosion	1.45	180' slope length, 16.35% average slope, low susceptibility to rill and inter-rill erosion
S	0.99	8.9% slope	2.21	16.35% slope
C	0.005	Good stand of dense grass	0.005	Good stand of dense grass
P	1	No proposed measures	1	No proposed measures

Using these values, the average annual soil loss is expected to be 0.42 ton/acre/year for the North Ash Pond and 1.01 tons/acre/year for the East Ash Pond. Based on the guidance contained in the DEQ's Solid Waste Permitting Submission Instruction No. 6 (SI-6), the annual soil loss must be less than 2 tons/acre/year. Both the North and East Ash Pond soil losses meet this criterion.

3.5 Stormwater Management

The stormwater practices to be used in the closure of the CCR impoundments were selected and sized to convey stormwater resulting from the 2-, 10-, 25-, and 100-year, 24-hour storm events as required by the Virginia Stormwater Management Program (VSMP) Regulations (9VAC25-870) and the VSWMR. Based on DCR's dam safety regulations, the impoundments and stormwater structures were also analyzed for the probable maximum flood (PMF) event. Stormwater calculations are presented in Appendix F with summary hydraulic and hydrology information presented in Appendix B Closure Plan Drawings.

During closure activities, rock check dams will be installed in the channels to reduce flow velocities and control sediment loss. Other erosion and sediment controls may include the use of silt fence, inlet/outlet protection for culverts, and temporary seeding/mulching. During CCR grading activities, temporary stormwater detention areas will be established where contact runoff can be collected and treated through filtering prior to discharge. These temporary sump areas will be located with the progression of earthwork activities.

3.5.1 Outfalls

During the closure process, the stormwater outfalls permitted under the station's existing VPDES permit will be maintained for the discharges of contact (with possible pre-treatment) and non-contact stormwater

flows. Those outfalls are Outfall 002 (West Ash Pond), Outfall 003 (East Ash Pond), and Outfall 004 (North Ash Pond).

Outfalls 003 and 004 will be eliminated as part of the closure activities for the North and East Ash Ponds. Non-contact stormwater from the closed North and East Ash Ponds will be redirected through two new surface water Outfalls 007 and 008. The facility's VPDES permit will be modified to incorporate these changes.

3.5.2 East Ash Pond

Following the completion of closure activities on or before April 17, 2018, two perimeter channels, the northern and southern, will collect runoff from the East Ash Pond area. The perimeter channels will have a maximum of a 3:1 side slope to promote slope stability and ease of maintenance. Each channel will be grass- or rip-rap-lined with soil stabilization matting to reduce erosion. Runoff collected in the northern perimeter channel will drain to a stormwater detention area (dry detention) before being discharged off-site in accordance with the station's existing VPDES permit. The southern perimeter channel and other drainage channels will discharge to a permitted outfall under the station's existing VPDES permit. Rock check dams will be installed in drainage channels during closure activities to reduce erosion and control sediment loss. Other erosion and sediment controls may include the use of silt fence, inlet/outlet protection for culverts, and temporary seeding/mulching.

3.5.3 North Ash Pond

Following the completion of closure activities on or before April 17, 2018, stormwater from the final cover system will be collected through the use of stormwater conveyance channels that will collect runoff along the southern and western perimeters of the pond. The perimeter channels will have a maximum of a 3:1 side slope to promote slope stability and ease of maintenance. Each channel will be grass- or rip-rap-lined with soil stabilization matting to reduce erosion. The two channels will merge and discharge into the East Ash Pond's northern perimeter channel via a box culvert and rip-rap-armored downchute. Winged headwalls will be installed on the inlet and outlet of the box culvert to minimize grading. The box culvert will be placed at a 0.5% slope and will discharge into a rip-rap-armored downchute. The rip-rap-armored downchute will flow into a large plunge pool that will discharge over a rip-rap-armored spillway into the East Ash Pond's northern perimeter channel. Runoff will then flow into the East Ash Pond's stormwater dry detention area to attenuate flows to provide localized flood control for the bricked arched culvert leading to the James River.

3.5.4 West Ash Pond

Following removal of CCR from the eastern portion of the West Ash Pond, the re-purposed eastern portion of the former pond area will be lined with a 40 mil Ethylene Interpolymer Alloy (EIA) geomembrane liner system (XR-5) and placed back in service as the West Treatment Pond.

Following the completion of the remaining West Ash Pond clean closure CCR removal activities (western portion) on or before April 17, 2018, the clean-closed area will be maintained as a No Exposure industrial area, with the non-contact stormwater discharged under sheet flow conditions.

During closure of the West Ash Pond, CCR removal activities in the West Ash Pond will occur within the footprint of the pond. The contact stormwater will be pumped into a temporary filtration system (i.e., pre-treated) and will be discharged to one of the permitted outfalls under the station's existing VPDES permit.

3.5.5 Pollutant Removal/Treatment

The post-construction non-contact stormwater pollutant removal requirements were calculated using the Virginia Runoff Reduction Method (VRRM) and VRRM Spreadsheet. Although no stormwater best management practices (BMPs) are required to treat pollutants, this Closure Plan incorporates a stormwater dry detention area in the eastern portion of the East Ash Pond to attenuate flows to provide localized flood control for the bricked ached culvert leading to the James River.

Additional stormwater treatment measures (i.e., filtration, with enhanced treatment if needed) will be located on the Station property for contact stormwater and ash dewatering water during closure construction activities for the West, North, and East Ash Ponds. The discharges from the treatment system(s) will be monitored in accordance with the Station's VPDES permit, and will discharge through permitted outfalls.

3.6 Leachate Collection

There are no leachate collection systems associated with the North and East Ash Ponds.

4.0 CLOSURE IMPLEMENTATION

Closure is considered complete when the elements of this Closure Plan have been completed as outlined herein and certified by a professional engineer licensed in the Commonwealth of Virginia. This certification will be included as part of a closure certification report.

4.1 Posting/Access

Upon completion of closure activities, Dominion will record a restriction on the property deed stating that the property has been used to manage CCR, and that the property's use is restricted in accordance with 9VAC20-81-170. A copy of the deed restriction will be submitted to the DEQ.

No additional site access controls (barriers, gates, etc.) are needed because the CCR impoundments are contained within the controlled-access Station property.

4.2 Notification

No later than December 17, 2015, Dominion must place in the Station's operating record a notification of intent to initiate closure of the CCR surface impoundments [40 CFR 257.100(c)(1)]. The notification must state that the inactive CCR surface impoundments are being closed under the requirements of 40 CFR 257.100(b), and include a narrative description of the closure activities, a schedule, and a certification from a professional engineer that the final cover system meets the requirements of the CCR rule.

4.2.1 Progress Reports

No later than 13 months after completing the notification of intent, Dominion must prepare a progress report summarizing the progress of the closure activities. The progress report must describe the actions completed to date, any problems encountered and resolution thereof, and projected closure activities for the next 12 months. The second progress report must be prepared no later than 12 months after completing the first progress report. The progress reports must be placed in the Station's operating record.

4.2.2 Final Survey

Within 90 days of closure of the North and East Ash Ponds, a final survey prepared by a professional land surveyor registered in the Commonwealth of Virginia will be submitted to the local land recording authority. This final survey will display the final grades and extent of CCR, and reflect the location of groundwater monitoring wells. The final survey will contain a note stating Dominion's responsibility to restrict disturbance of the closed impoundments.

4.3 Certification

Certification that the North and East Ash Ponds have been closed in accordance with the VSWMR, the CCR rule, and this Closure Plan will be provided by a professional engineer registered in the Commonwealth of Virginia, submitted to the DEQ, and placed in the Station's operating record within 60 days of completing closure. A copy of this certification shall be maintained on-site throughout the post-closure period.

5.0 CLOSURE COST ESTIMATE

Closure cost estimates were developed for the West, North, and East Ash Ponds using the DEQ's financial assurance cost estimate worksheets. A summary of the closure cost estimates is provided in the table below. Closure activities are expected to include dewatering for the North, East, and West Ash Ponds, residual CCR removal from the West Ash Pond, re-grading of the North and East Ash Ponds, installation of the final cover systems on the North and East Ash Ponds, and final stabilization. Earthwork materials were assumed to come from off-site sources, and associated closure costs for erosion and sediment control, stormwater controls, and construction quality assurance (CQA) have been included. The DEQ financial assurance cost estimate worksheets are presented in Appendix G for each of the ponds, with categories modified and/or added to reflect CCR surface impoundment closure activities.

Table 3: Summary of Closure Cost Estimates

Impoundment	Closure Cost
North Ash Pond	$11,238,686
East Ash Pond	$4,905,134
West Ash Pond	$11,178,869
TOTAL	**$27,322,689**

5.1 Financial Assurance

The Financial Assurance documents will be updated and submitted annually to DEQ, in accordance with the Virginia Financial Assurance Regulations for Solid Waste Facilities. Future annual financial assurance documents will be provided according to the cost estimates presented in this permit application, or updated accordingly.

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Golder Associates

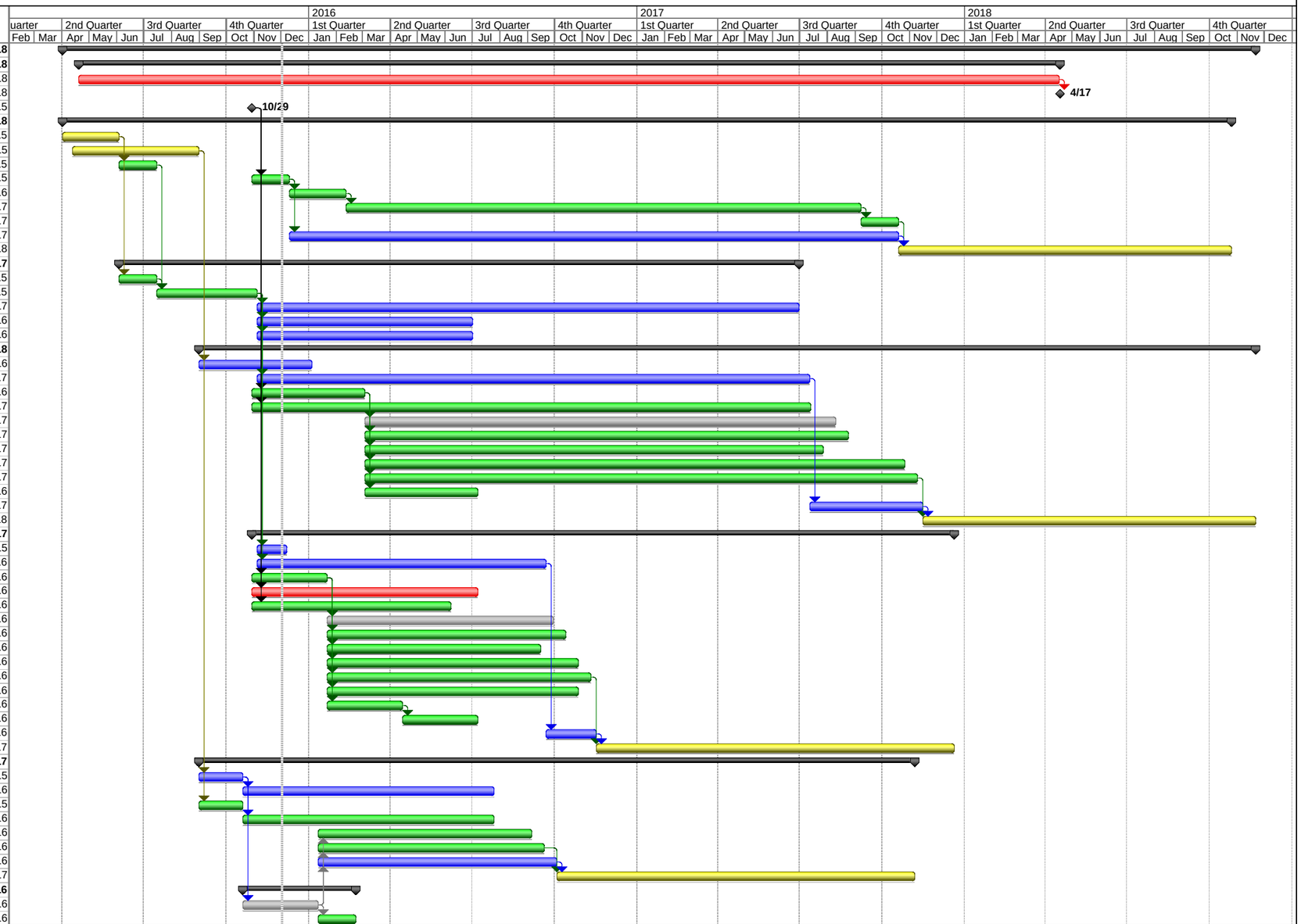
Engineering Earth's Development, Preserving Earth's Integrity

Appendix A

Tentative Construction Schedule

Bremo Power Station CCR Pond Closure Project - Tentative Construction Schedule

ID	Task Name	Start	Finish
1	**Construction Schedule**	**Thu 4/2/15**	**Wed 11/21/18**
2	**Regulatory Schedule**	**Mon 4/20/15**	**Tue 4/17/18**
3	Closure Timeframe for CCR Impoundments	Mon 4/20/15	Mon 4/16/18
4	Closure Date from EPA CCR Rule	Tue 4/17/18	Tue 4/17/18
5	Design Drawings (Issued for Construction)	Thu 10/29/15	Thu 10/29/15
6	**Common Construction Activities**	**Thu 4/2/15**	**Thu 10/25/18**
7	Contractor Selection	Thu 4/2/15	Wed 6/3/15
8	West Pond Dredging (Dominion)	Mon 4/13/15	Mon 8/31/15
9	Mobilization / Demobilization	Thu 6/4/15	Wed 7/15/15
10	Erosion and Sediment Controls	Fri 10/30/15	Thu 12/10/15
11	Clearing and Grubbing	Fri 12/11/15	Thu 2/11/16
12	Stormwater / Drainage Maintenance	Fri 2/12/16	Thu 9/7/17
13	Miscellaneous Seeding and Stabilization	Fri 9/8/17	Thu 10/19/17
14	Construction Stormwater Monitoring (VSMP)	Fri 12/11/15	Thu 10/19/17
15	Post Construction Stormwater Monitoring (VSMP)	Fri 10/20/17	Thu 10/25/18
16	**Dewatering Design / Installation / Monitoring Activities**	**Thu 6/4/15**	**Fri 6/30/17**
17	Dewatering / Water Treatment Design	Thu 6/4/15	Wed 7/15/15
18	Dewatering / Water Treatment Installation	Thu 7/16/15	Wed 11/4/15
19	North Pond Water Sampling and Analysis	Thu 11/5/15	Fri 6/30/17
20	East Pond Water Sampling and Analysis	Thu 11/5/15	Fri 7/1/16
21	West Pond Water Sampling and Analysis	Thu 11/5/15	Fri 7/1/16
22	**North Pond / Tower / Slope Toe Closure Activities (ARO)**	**Tue 9/1/15**	**Wed 11/21/18**
23	North Pond Decanting (VPDES)	Tue 9/1/15	Mon 1/4/16
24	North Pond Dewatering / Water Treatment Operation (VPDES)	Thu 11/5/15	Wed 7/12/17
25	Spillway Construction	Fri 10/30/15	Thu 3/3/16
26	Ash Grading	Fri 10/30/15	Thu 7/13/17
27	Geosynthetics Installation (HDPE / Geocomposite)	Fri 3/4/16	Thu 8/10/17
28	Cover Soil Drainage System	Fri 3/4/16	Thu 8/24/17
29	Cover Soil Supply (purchase, excavation, and transport)	Fri 3/4/16	Thu 7/27/17
30	Cover Soil Placement (spread and compact)	Fri 3/4/16	Thu 10/26/17
31	Seeding (seed and fertilize)	Fri 3/4/16	Thu 11/9/17
32	Outfall Abandonment	Fri 3/4/16	Thu 7/7/16
33	Construction Stormwater Monitoring (VSMP)	Thu 7/13/17	Wed 11/15/17
34	Post Construction Stormwater Monitoring (VSMP)	Thu 11/16/17	Wed 11/21/18
35	**East Pond Closure Activities (ARO)**	**Fri 10/30/15**	**Wed 12/20/17**
36	East Pond Decanting (VPDES)	Thu 11/5/15	Mon 12/7/15
37	East Pond Dewatering / Water Treatment Operation (VPDES)	Thu 11/5/15	Wed 9/21/16
38	Seepage Control	Fri 10/30/15	Thu 1/21/16
39	CSX Monitoring	Fri 10/30/15	Thu 7/7/16
40	Ash Grading (includes soil stripping)	Fri 10/30/15	Tue 6/7/16
41	Geosynthetics Installation (HDPE / Geocomposite)	Fri 1/22/16	Thu 9/29/16
42	Cover Soil Drainage System	Fri 1/22/16	Thu 10/13/16
43	Cover Soil Supply (purchase, excavation, and transport)	Fri 1/22/16	Thu 9/15/16
44	Cover Soil Placement (spread and compact)	Fri 1/22/16	Thu 10/27/16
45	Seeding (seed and fertilize)	Fri 1/22/16	Thu 11/10/16
46	Stormwater Conveyance	Fri 1/22/16	Thu 10/27/16
47	Outfall Abandonment	Fri 1/22/16	Thu 4/14/16
48	Lined Stormwater Detention Area	Fri 4/15/16	Thu 7/7/16
49	Construction Stormwater Monitoring (VSMP)	Thu 9/22/16	Wed 11/16/16
50	Post Construction Stormwater Monitoring (VSMP)	Thu 11/17/16	Wed 12/20/17
51	**West Pond Clean Closure Activities (ARO)**	**Tue 9/1/15**	**Mon 11/6/17**
52	West Pond Decanting (VPDES)	Tue 9/1/15	Mon 10/19/15
53	West Pond Dewatering / Water Treatment Operation (VPDES)	Tue 10/20/15	Mon 7/25/16
54	Rerouting of Waste Water Flows	Tue 9/1/15	Mon 10/19/15
55	Excavation / Hauling / Placement of remaining Ash / Soil	Tue 10/20/15	Mon 7/25/16
56	Backfill with Clean Structural Fill	Tue 1/12/16	Mon 9/5/16
57	Seeding (seed and fertilize)	Tue 1/12/16	Mon 9/19/16
58	Construction Stormwater Monitoring (VSMP)	Tue 1/12/16	Mon 10/3/16
59	Post Construction Stormwater Monitoring (VSMP)	Tue 10/4/16	Mon 11/6/17
60	**West Pond Repurposing Activities (Capital)**	**Tue 10/20/15**	**Mon 2/22/16**
61	Geosynthetics Installation (Low-volume Waste Pond)	Tue 10/20/15	Mon 1/11/16
62	Rerouting of Waste Water Flows	Tue 1/12/16	Mon 2/22/16



Project: Construction Schedule Ver. 1.
Date: Wed 12/2/15

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone