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Closure Plan

Solid Waste Permit Application (SWP 617)

Virginia Electric and Power Company
Possum Point Power Station
Coal Combustion Residuals Surface Impoundment Closures
Dumfries, Virginia

GAI Project Number: C150132.00

October 2016

Prepared by: GAI Consultants, Inc.
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Glen Allen, Virginia 23060

Prepared for: Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, Virginia 23060-3308

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Acronyms -

CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
CQA	Construction Quality Assurance
DCR	Department of Conservation and Recreation
Dominion	Virginia Electric and Power Company d/b/a Dominion Virginia Power
EPA	Environmental Protection Agency
GDN	Geocomposite Drainage Net
H	horizontal
LLDPE	Linear Low-Density Polyethylene
PMF	Probable Maximum Flood
Station	Dominion Possum Point Power Station
V	vertical
VA	Virginia
VAC	Virginia Administrative Code
VDEQ	Virginia Department of Environmental Quality
VPDES	Virginia Pollutant Discharge Elimination System
VSWMR	Virginia Solid Waste Management Regulations

A. Introduction

This Closure Plan (Plan) was prepared on behalf of Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) by GAI Consultants, Inc. for the Dominion Possum Point Power Station (Station) Coal Combustion Residuals (CCR) Surface Impoundments A, B, C, D, and E.

A.1 Regulatory Background

The CCR impoundments are currently regulated by the Virginia (VA) Department of Conservation and Recreation (DCR) Dam Safety Program and by the VA Department of Environmental Quality (VDEQ) under VA Pollutant Discharge Elimination System (VPDES) Permit No. VA0002071.

The impoundments are being closed as CCR surface impoundments under the April 2015 Environmental Protection Agency (EPA) CCR regulations at 40 Code of Federal Regulations (CFR), Part 257.102 and the VA Solid Waste Management Regulations (VSWMR) 9VAC20-81-800, dated January 27, 2016. These rules allow for closure of CCR surface impoundments by closure in place or removal of CCR. Section A.3 of this plan outlines the closure description for the CCR units at the Station.

Closed CCR surface impoundments are subject to the VSWMR. This Closure Plan has been prepared in accordance with the VSWMR. This Plan follows the format guidelines for Solid Waste Disposal Facilities as described in Submission Instruction No. 6, issued by the VDEQ in 2012.

Existing, active CCR surface impoundments are also required to meet the requirements of 9VAC20-81-810.B before October 17, 2017. Under 9VAC20-81-810.D, inactive CCR surface impoundments are not subject to 9VAC20-81-810. A report to address 9VAC20-81-810.B is provided in Attachment 10 of Permit Application SWP 617 (GAI, 2016).

A.2 Site Description

The Station is located near Dumfries in Prince William County, VA. The Station is accessed by Possum Point Road (Route 633), and is adjacent to the Potomac River and Quantico Creek. There are currently five CCR impoundments located at the Station: Surface Impoundments A, B, C, D, and E. The CCR impoundments cover a total area of approximately 120 acres as shown on the design plans in Attachment 2 of Permit Application SWP 617 (GAI, 2016). The Station stopped using coal as a fuel in 2003 and no new CCR has been generated onsite since then. The CCR surface impoundment areas are described below.

- Surface Impoundments A, B, and C cover a total area of approximately 18 acres. They were constructed in 1955.
- Surface Impoundment D covers an area of approximately 64 acres. It was constructed in 1988 to replace a pre-existing impoundment in the same location.
- Surface Impoundment E covers an area of approximately 38 acres. Surface Impoundment E was constructed in 1967.

A.3 Closure Description

Surface Impoundments A, B, C, and E will be closed through the removal of CCR from the impoundments, thus meeting the requirements of 40 CFR §257.102(c) of the Final CCR Rule and 9VAC20-81-800 of the VSWMR. To accomplish this, Dominion is mechanically dredging the CCR from Surface Impoundment A, B, C, and E and placing it in Surface Impoundment D with the consent of VADEQ and per the requirements of VPDES Permit No. VA0002071. Dredging of Surface Impoundment E to Surface Impoundment D began in June 2015. Dredging from Surface Impoundments A, B, and C to Surface Impoundment D began in August 2015, also in accordance with

the station's VPDES permit. After closure by removal of CCR from Surface Impoundments A, B, C, and E, Dominion will recontour these areas back into the existing landscape and stabilize with natural vegetation.

Surface Impoundment D will be closed in place, with a cover system over the CCR surface that will be constructed in accordance with 40 CFR §257.102(d)(3) of the Final CCR Rule and 9VAC20-81-800 of the VSWMR. To prepare for closure, the upper portion of the CCR in Surface Impoundment D will be dewatered and graded to stabilize the CCR and create a slope for proper drainage. 40 CFR §257.102(d)(2)(i) requires that free liquids be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues. Water ponded on the surface of the CCR impoundment will be removed and the CCR dewatered to a depth determined by a qualified professional engineer to provide a stable surface for the installation of the final cover system. The depth of dewatering is estimated at approximately 10 feet below the proposed subgrade elevation. 40 CFR §257.102(d)(2)(ii) requires the CCR be stabilized sufficient to support the final cover system. Earthen fill from onsite or offsite borrow areas and the Surface Impoundment D embankment will be placed in the impoundment area to help raise the grade of the impoundment and create a slope for proper drainage. Water that comes in contact with CCR during closure activities, or that is generated by dewatering activities, will be discharged in accordance with the Station's VPDES Permit No. VA0002071.

Closure will be accomplished by placing an engineered cover system consisting of geosynthetic and soil layers over the CCR surface to prevent infiltration of water into the CCR. Protective cover and vegetative support layers make up the final cover system. An erosion resistant channel will also be constructed to prevent future impoundment of run-on waters.

Final grading may vary from design drawings, but final slopes will not exceed the minimum and maximum values required by the design and shown on the drawings, and slope stability factors of safety will not be less than those indicated in the calculations.

The CCR impoundments will be closed as in accordance with the VSWMR, which incorporates the requirements of the CCR Final Rule.

B. Closure Timeframes

Table 1 below includes a summary of the capping or closure construction at the Possum Point Power Station. Surface Impoundments A, B, C, and E have not received CCR since 2003. Closure of Surface Impoundments A, B, and C commenced in August 2015 and closure of Surface Impoundment E commenced in June 2015. Closure of Surface Impoundment D is considered to begin when construction of the final cover system commences, which is scheduled to begin in February 2017.

The total amount of CCR ever on-site within Surface Impoundments A, B, C, D and E is estimated to be 3.6 million cubic yards. This CCR quantity is based on historical documents and survey information taken in February 2015. Site life calculations are not provided in this section because they are not applicable to the closure of the impoundments.

Table 2 below provides a list of milestone dates to allow for the tracking and progress of closure.

Table 1 -

Closure Construction Summary -

Closure Phase	Size (acres)	Closure Construction Timeframe
Surface Impoundments A, B, and C	Approx. 18	August 2015 through 2018
Surface Impoundment E	Approx. 38	June 2015 through 2018
Surface Impoundment D	Approx. 64[1]	February 2017 through 2018
Total	**Approx. 120**	

Note:

1 Existing CCR limit is estimated to be approximately 64 acres. Limit of final cover system is anticipated to be approximately 71 acres.

Table 2 -

Surface Impoundments A, B, C, D, and E Construction Milestones -

Milestone	Approximate Start Date	Approximate End Date
Lower the A, B, C, and E dam embankments, decommission dams, and construct temporary sediment basins in the former Surface Impoundments A, B, C, and E to control stormwater.	October 2016	August 2017[1]
Grade and fill impoundment areas and establish vegetation in former Surface Impoundments A, B, C, and E after CCR is removed.	July 2016	April 2018
Grade CCR and import fill in Surface Impoundment D to establish subgrade (entire Surface Impoundment D).	July 2016	February 2017
Construct Surface Impoundment D final cover system and surface water drainage channels. This includes lowering the dam embankment to provide fill for the final cover system.	February 2017	September 2017
Construct new spillway through Surface Impoundment D dam embankment to prevent future impoundment of water.	April 2017	July 2017
Incorporate soil amendments into Surface Impoundment D cover soil and seed.	September 2017	December 2017
Closure of Surface Impoundments A, B, C and E Complete.	-	April 2018
Closure of Surface Impoundment D Complete.	-	December 2018[2]

Notes:

1 - Temporary Sediment Basins shall be removed once vegetation is fully established in accordance with Prince William County Sediment and Erosion Control requirements. Anticipated removal of temporary sediment basins is one year after permanent seeding of the closed impoundment areas.

2 - Construction outside the final cover system and additional seeding to establish vegetation may be - required after this date. -

C. Preparation for Closure of Surface Impoundments

Surface Impoundments A, B, C, D, and E are considered CCR surface impoundments under federal and state CCR regulations. The closure process for the impoundments is discussed below. This Plan is

consistent with the requirements of the CCR Final Rule, VSWMR, and the VDEQ Submission Instructions No. 6 for Solid Waste Facilities.

C.1 Removal

C.1.1 Surface Impoundments

Dominion is continuing to mechanically dredge the CCR from Surface Impoundments A, B, C, and E, and placing the dredged CCR in Surface Impoundment D. The majority of CCR in Surface Impoundments A, B, C, and E is scheduled to be removed in 2016.

After removal of the CCR from the impoundments, a registered professional engineer will visually inspect the bottom of Surface Impoundments A, B, C, and E to verify that all CCR in surface impoundments A, B, C, and E is effectively removed. To address 9 VAC 20-81-370(A), the CCR-free surfaces of Surface Impoundment A, B, C, and E areas will be excavated an additional depth of approximately 6 inches, then 6 inches further will be probed to visually verify that all CCR is effectively removed. To address 9 VAC 20-81-370(B), the VDEQ will be notified upon completion of CCR removal to inspect the facility to confirm the closure by removal is complete. CCR removal from Surface Impoundments A, B, C, and E is detailed in Section 8.4 of the CQA Plan (Attachment 3 of Permit Application SWP 617 [GAI, 2016]). Once all CCR has been verified removed as described above, stormwater may be discharged from the surface impoundment area in accordance with Erosion and Sediment Control Plan requirements.

Demonstration wells will be installed downgradient of the former Surface Impoundments A, B, C, and E to further demonstrate removal. If the results from the Impoundments A, B, C, and E Demonstration Wells show no trends or decreasing trends over 10 independent samples and the concentrations are below the GPS then Dominion will request permission from VDEQ to discontinue monitoring and to abandon the wells. Dominion will consider the impoundment closures to be complete under the CCR Rule when the concentrations are below the GPS for the Appendix IV parameters.

Wastewater management during closure of the impoundments will be accomplished in accordance with the Station's VPDES Permit No. VA0002071. Groundwater quality will be evaluated as described in the groundwater-monitoring plan.

C.1.2 Ancillary Areas

In addition, an area that appears to be a former laydown area, with surficial asphalt, concrete, and bottom ash, was found west of Surface Impoundment C. Debris and any CCR will be removed from this area and disposed of offsite in an authorized disposal facility. This area is separate from the surface impoundments and will have dedicated erosion and sediment controls installed.

After removal of CCR from the ancillary area, a registered professional engineer will visually inspect the bottom of the ancillary area to verify that all CCR in the ancillary area is effectively removed. CCR and any waste materials excavated from the ancillary area will be classified for offsite disposal in accordance with the requirements of the permitted offsite disposal facility. CCR will be transported to the permitted offsite disposal facility via covered trucks.

C.2 Stabilization and Free Liquid Considerations

Stabilization of the remaining waste is only applicable to Surface Impoundment D because the CCR in Surface Impoundments A, B, C, and E will be removed. Surface Impoundment D will be stabilized in preparation for the closure process and made suitable for construction of an engineered cover system by dewatering the upper portion of the CCR surface.

40 CFR §257.53 defines "free liquids" as liquids that readily separate from the solid portion of a waste under ambient temperature and pressure. 40 CFR §257.102(d)(2)(i) requires that free liquids be eliminated by removing liquid wastes or solidifying the remaining wastes and waste residues. 40 CFR §257.102(d)(2)(ii) requires the remaining CCR be stabilized sufficient to support the final cover system.

For this Closure Plan, "free liquids" are considered to include ponded water or water that separates from the CCR through processes such as rim ditching or compaction during closure activities. Water ponded on the surface of the CCR impoundment will be removed and the CCR dewatered to a depth determined by a qualified professional engineer to provide a stable surface for the installation of the final cover system.

A geotechnical investigation of the CCR in Surface impoundment D was completed to support the dewatering plan and design of the Surface impoundment D cover system. The ultimate bearing strength of the CCR surface was estimated to be 5,800 pounds per square foot which was estimated to provide for a stable final cover system. The bearing strength calculations are summarized in the Geotechnical Report, which is provided in Attachment 7 of Permit Application SWP 617 (GAI, 2016).

C.3 Structures and Equipment

Structures and equipment located in Surface Impoundments A, B, C, D, and E consist of the existing concrete riser structures and outlet pipes. With the exception of the portion of the Surface Impoundment D outlet pipe that will remain in place and be grouted closed, the riser structures and outlet pipes will be removed and disposed of at an offsite disposal facility that is permitted to accept demolition debris and CCR. Alternatively, the structures and pipes will be demolished, cleaned, and the material disposed of at an offsite sanitary or construction/demolition/debris disposal facility permitted to accept the construction debris.

D. Closure of Surface Impoundments

After removal of CCR, areas around Surface Impoundments A, B, C, and E will be filled and graded to drain and the subsoils and fill will be amended to establish vegetation.

The final cover system for Surface Impoundment D is described in more detail below.

D.1 Surface Impoundment D Final Cover Design

Surface Impoundment D includes a one-foot thick low permeability clay soil liner. No impacts to the existing liner are anticipated, however, if during regrading of CCR the existing liner is compromised, low permeability soil or geosynthetic clay liner (GCL) will be installed to maintain the liner integrity. The replacement soil liner will be placed to achieve a minimum one-foot thickness, and will have a hydraulic conductivity of no more than 1 x 10-7 cm/sec. The low permeability liner will be installed in accordance with 9VAC 20-81-130. A specification for low permeability soil liner including requirements for a test pad and permeability testing has been included in the technical specifications and the CQA plan in the event portions of the low permeability liner needs to be replaced during construction. The areas where low permeability liner may need to be replaced are shown on the closure design drawings.

A new dedicated underdrain will be installed beneath the final cover system to discharge any pore water that is released from the subgrade during construction of the final cover. The new underdrain will tie into the existing sanitary sewer or the water will be collected, treated, and discharged in accordance with the Station's VPDES Permit No. VA0002071. The underdrain is expected to dry up after construction and may be abandoned after construction is complete. A professional engineer will certify that the underdrain has sufficiently dried up and is no longer a required component of the final cover system.

The final cover design will be in accordance with the pre-approved alternate final cover systems described in 9 VA Administrative Code (VAC) 20-81-160.D.2.e and in accordance with the relevant provisions of the CCR Final Rule for closure of impoundments. Additional layers consisting of a cushion geotextile (as needed) below the 40-mil geomembrane and a Geocomposite Drainage Net (GDN) were added to the alternate cover system to enhance the puncture resistance of the geomembrane and drainage of stormwater, which will infiltrate through the soil above the 40-mil geomembrane cap. The cover system shown on the design plans (Attachment 2 of Permit Application SWP 617 [GAI, 2016]) covers approximately 71 acres, which is the largest area ever requiring a final cover at any time during the life of Surface Impoundment D based on this closure plan.

The layers of the final cover system to be installed are described below (from top to bottom) and shown in the details provided in the closure design plans (Attachment 2 of Permit Application SWP 617 [GAI, 2016]). The Earthwork, Cushion Geotextile, Textured Linear Low-Density Polyethylene (LLDPE) Geomembrane, and GDN Technical Specifications included in Attachment 3 of Permit Application SWP 617 (GAI, 2016) provide more detail for each component.

- **Vegetation.** Consists of a combination of quick-cover vegetation, such as annual ryegrass, and easily maintained perennial grasses and legumes, such as Kentucky 31 Fescue and clover. The seed mix for the cap will be selected in accordance with the VA Erosion and Sediment Control Handbook recommendations.
- **Vegetative Support Layer.** Consists of six inches of soil that can sustain vegetation. This layer will consist of topsoil or site soil amended with appropriate nutrients to facilitate vegetative growth. The vegetative support layer will be spread by low-ground-pressure equipment and will be compacted only as required for access and stability.
- **Protective Cover Soil Layer.** Consists of an 18-inch-thick soil layer. The protective cover soil layer will store moisture and support vegetation. It will also act as a protective layer for the drainage and barrier layers. The calculations provided in Attachment 4 of Permit Application SWP 617 (GAI, 2016) demonstrate that the soil loss of the stabilized final cover system is less than two tons per acre per year. The analyses show that the final slopes will not cause significant cover erosion throughout the closure and post-closure periods.
- **Drainage Layer.** Consists of a GDN, which is a synthetic drainage net sandwiched between two pieces of geotextile fabric. This layer provides lateral drainage over the barrier layer. Calculations provided in Attachment 9 of Permit Application SWP 617 (GAI, 2016) show that the selected drainage net will provide adequate flow capacity to handle water that will infiltrate through the vegetative support layer and protective cover soil layer. The geotextile filter fabric on the top of the GDN will allow the flow into the net while filtering out fine soil particles from the cover soil layer. The nonwoven geotextile fabric on the bottom of the GDN will act as a cushion to protect the 40-mil LLDPE geomembrane.
- **Barrier Layer.** This layer prevents water from infiltrating into the CCR. The barrier layer will consist of a 40-mil LLDPE geomembrane. In addition, the barrier layer will include a GCL beneath the 40-mil LLDPE geomembrane along the surface water drainage ditches within the limit of geosynthetic cap system.
- **Cushion Geotextile (as needed).** Consists of nonwoven geotextile that will act as a cushion to protect the 40-mil LLDPE geomembrane. This layer will be constructed directly on top of a prepared subgrade layer, which may be CCR, or soil from an on/off-site borrow area or the existing Surface Impoundment D Embankment. Cushion geotextile will not be needed where the prepared subgrade surface is smooth.

D.2 Final Slopes

The maximum overall side slope of the final cover system is 4 horizontal (H):1 vertical (V) and is 120 feet long. The minimum constructed slope of the final cover over the geosynthetic cap will be 2.5 percent. Major channels over the geosynthetic cap system will be constructed to a minimum slope of 1.5 percent; minor roadside channels located around the perimeter of the final cover system may be graded at a minimum slope of one percent. Areas outside the cap system on native grades or earthen fill will be graded to drain. Channel side slopes within the final cover system are designed at 5H:1V. These slopes allow the final cover system to drain properly, even after potential differential settlement of the underlying CCR. In addition, the drainage and erosion control system, described below, will be constructed for proper drainage of the water without allowing excessive erosion.

The intent is that by designing the cover system overland slopes to a grade of 2.5 percent and the major channel slopes to a grade of 1.5 percent, the final post settlement slopes will be a minimum of one percent for channels and two percent for overland areas. The veneer and deep-seated slope stability analyses of the final cover system were evaluated as part of this Closure Plan for both static and seismic loading conditions. The calculations for these analyses, presented in Attachment 5 of Permit Application SWP 617 (GAI, 2016) and Attachment 7 of Permit Application SWP 617 (GAI, 2016), demonstrate the final design slopes are stable.

D.3 Run-Off Controls

All stormwater features and facilities have been designed in accordance with the VSWMRs, which require that runoff from a 25-year, 24-hour storm event be controlled. The Surface Impoundment D cover system will be graded to drain surface water runoff into channels that will be graded into the cover system and its subgrade. The drainage channels in the impoundment area are designed with erosion control controls to prevent erosion from a minimum of the 25-year, 24-hour storm. The run-off controls are also designed to meet VA Stormwater Requirements and Prince William County Requirements for stormwater quality and quantity.

Perforated subsurface drainage pipes will be installed above the geomembrane at the bottom of the drainage channels to collect stormwater runoff that infiltrates through the cover soils and drains into the GDN.

Attachment 6 of Permit Application SWP 617 (GAI, 2016) includes hydrologic and hydraulic calculations, which estimate the run-off flow values from the final cover system. The appendix also includes calculations for the sizing of the temporary sediment basins, which collect the final cover run-off until the vegetation layer is established and sediment control is no longer required.

Surface Impoundment D will remain a jurisdictional dam regulated by the DCR after the cover system is installed and the impoundment area is closed. Because the embankment that forms Surface Impoundment D is a dam, it must meet the required DCR dam safety criteria. For dam safety purposes, the Surface Impoundment D embankment is designed to prevent overtopping during the Probable Maximum Flood (PMF) event, and the spillway that will be constructed through the embankment is designed to pass the PMF event without significant erosion. A separate dam modification permit will be obtained from the DCR for permitting of the spillway and embankment modifications.

D.4 Settlement, Subsidence, Displacement

The waste was analyzed to evaluate the stability of the final cover system and assess that positive drainage will be maintained on the final cover. Settlement was evaluated at stationing (every 100-ft) along the alignment of each of the three main surface water channels that drain the cap system; these channel alignments include the maximum fill depth of CCR subject to settlement. Settlement and stability calculations are provided in the geotechnical calculation completed for the closure design

provided in Attachment 7 of Permit Application SWP 617 (GAI, 2016). Based on the results of the geotechnical investigation and settlement the total settlement of the geosynthetic cap system was estimated to be approximately one to four inches. The final slopes should remain at a minimum of two percent after settlement for overland areas and one percent for channels.

E. Closure Implementation

E.1 Notification

Within 90 days following completion of closure of Surface Impoundment D, a survey plat will be submitted to the local land-recording authority (Prince William County General District Court) prepared by a professional land surveyor licensed by the Commonwealth or a person qualified in accordance with Title 54.1 of the Code of VA, indicating the location and dimensions of disposal areas. Monitoring well locations will be included and identified by their numbers on the survey plat.

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.

Sections 257.102 of the CCR Rule and 9 VAC20-81-800 of the VSWMR require the owner or operator of a CCR surface impoundment to place the following on the owner or operator's publicly accessible internet site: a notification of intent to initiate closure, annual progress reports, notification of closure completion, and notification of deed notation. These closure-related notifications will be provided in accordance with the CCR Rule and VSWMR.

In accordance with 9 VAC 20-81-160(D)(5)(a), one sign will be posted at the entrance of the facility notifying all persons of the closing, and of the prohibition against further receipt of waste materials.

E.2 Certification

After construction of the final closure sequence is completed, certification of closure prepared by a professional engineer licensed in the Commonwealth of VA will be submitted to the VDEQ. A copy will remain at the Station throughout post-closure.

F. Closure Cost Estimate

The closure costs estimates are provided in Attachment 8 of Permit Application SWP 617 (GAI, 2016). A summary of the cost estimates is provided in Table 3 below.

Table 3

Summary of Closure/Post-Closure Costs

Description of Activity	Estimated One Time Costs	Estimated Annual Costs
Surface impoundments A, B, and C	$5,546,000	-
Surface impoundment D	$69,464,200	$387,000
Surface impoundment E	$17,886,000	-
Total	**$92,896,200**	**$387,000**

F.1 Closure Cost Estimate

Closure cost estimates have been prepared for Surface Impoundments A, B, C, D, and E. Surface Impoundments A, B, C, and E will be closed through removal of CCR; therefore, only capital costs associated with closure activities are included. Surface Impoundment D will be closed with CCR

materials remaining in place. Estimated annual costs are summarized in the post-closure care cost estimate provided in Attachment 8 of Permit Application SWP 617 (GAI, 2016).

F.2 Financial Assurance

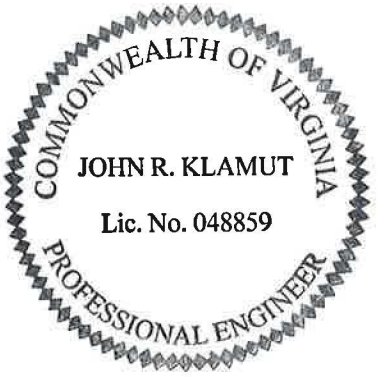
The Financial Assurance documents will be updated and submitted annually to VDEQ, in accordance with the VA Financial Assurance Regulations for Solid Waste Facilities. The future annual financial assurance documents will be provided according to the cost estimates provided in the permit application or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

G. Professional Engineer's Certification

I, the undersigned VA Professional Engineer, hereby certify that I am familiar with the technical requirements of the VSWMRs and 40 CFR §257.102. Based on this understanding, it is my professional opinion that, to the best of my knowledge, information, and belief, this closure plan and the final cover system for Surface Impoundment D have been designed by GAI pursuant to its Scope of Services 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 §257.102.

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 VA Registered 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 nor a warranty of the closure activities.

John R. Klamut, P. E.	048859
Printed Name of Professional Engineer	Commonwealth of Virginia License Number
Signature of Professional Engineer	10/13/2016
	Date



H. References

40 CFR Parts 257 and 261, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, April 17, 2015.

GAI Consultants, Solid Waste Disposal Facility Part B Permit Application (SWP 617), submitted to Commonwealth of Virginia, Department of Environmental Quality, October 2016.

Solid Waste Permitting Submission Instruction No. 6, Virginia Department of Environmental Quality, Office of Waste Permitting and Compliance, January 2012.

Virginia Administrative Code, 9VAC20-81.

Virginia Erosion and Sediment Control Handbook, Virginia Department of Environmental Quality, Third Edition, 1992.