Emergency Action Plan

Virginia Electric and Power Company
Possum Point Power Station
Ash Pond ABC, D and E
Dumfries, Virginia

Submitted to:

Dominion Energy
600 East Canal Street
Richmond, Virginia 23219

Submitted by:

Golder Associates Inc.
2108 West Laburnum Ave, Suite 200 Richmond, Virginia, USA 23227

+1 804 358-7900

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1.0 BASIC INFORMATION

Table 1: Possum Point Power Station Unit Hazard Potential Classification

Unit	Inventory Number	Hazard Potential Classification	
		CCR Regulations	Virginia Dam Safety
Ash Pond ABC Dam	153001	Significant	Low
Ash Pond D Dam	153020	Significant	Significant
Ash Pond E Dam	153021	Significant	Low

Name of Owner/Operator: Virginia Electric and Power Company d.b.a. Dominion Energy, Attn: William Reed
Address: Possum Point Power Station – 19000 Possum Point Road Dumfries, VA 22026
Telephone: (Mobile) 804-638-0335

Name of EAP Coordinator: Jeffrey Marcell, Manager Environmental Compliance or Assignee
Address: Possum Point Power Station 19000 Possum Point Road Dumfries, VA 22026
Telephone: (Business) 703-441-3813 (Mobile) 703-609-9015

Name of Alternate EAP Coordinator: Dana West, Environmental Compliance Coordinator
Address: Possum Point Power Station 19000 Possum Point Road Dumfries, VA 22026
Telephone: (Business) 703-441-3813 (Mobile) 703-609-9015

Name of Dam Engineer: Shaikh Rahman P.E.
Address: 600 East Canal Street, Richmond, VA, 23219
Telephone: (Business) 804-273-3081 (Mobile) 804-387-8263

Name of Alternate Dam Operator: Shift Supervisor
Address: Possum Point Power Station – 19000 Possum Point Road Dumfries, VA 22026
Telephone: (Business) 703-441-3828

Prince William County Emergency Management Coordinator: Brian Misner
Telephone: (Mobile) 703-853-3197 or 703-792-5627

2.0 EMERGENCY ACTION PLAN OVERVIEW

Three emergency stages, ranked by severity, will be established for the Ash Pond ABC, D, and E Dams.

Emergency Stage Definitions

Stage 1: Non-Emergency – failure is unlikely, and storm development or operational malfunction is slow in advancing to a potential emergency. This stage indicates a situation is developing such that the dam is not in danger of failing, but if it continues failure may be possible.

Stage 2: Potential Failure – storm development or operational malfunction that could result in failure of the dam is quickly accelerating. This stage indicates that a situation is developing that could result in a dam failure. Declaration of Stage 2 represents a safety emergency and would be considered an activation of the EAP under the CCR rule.

Stage 3: Imminent Failure – storm development or operational malfunction has reached a point that the failure of the dam has started or is imminent. This stage indicates dam failure is expected or occurring and may result in flooding that will threaten life and/or property downstream of the dam. Declaration of Stage 3 represents a safety emergency and would be considered an activation of the EAP under the CCR rule.

Stage 2 conditions include Stage 1 conditions and responsibilities, and Stage 3 conditions include both Stage 1 and Stage 2 conditions and responsibilities.

The Dam Owner, Dam Operator, or Designee may use the following Table 2 to assess weather conditions and operational conditions at the dam to determine the appropriate actions for notifying emergency personnel during potential and actual emergencies.

Table 2: Emergency Stage Table

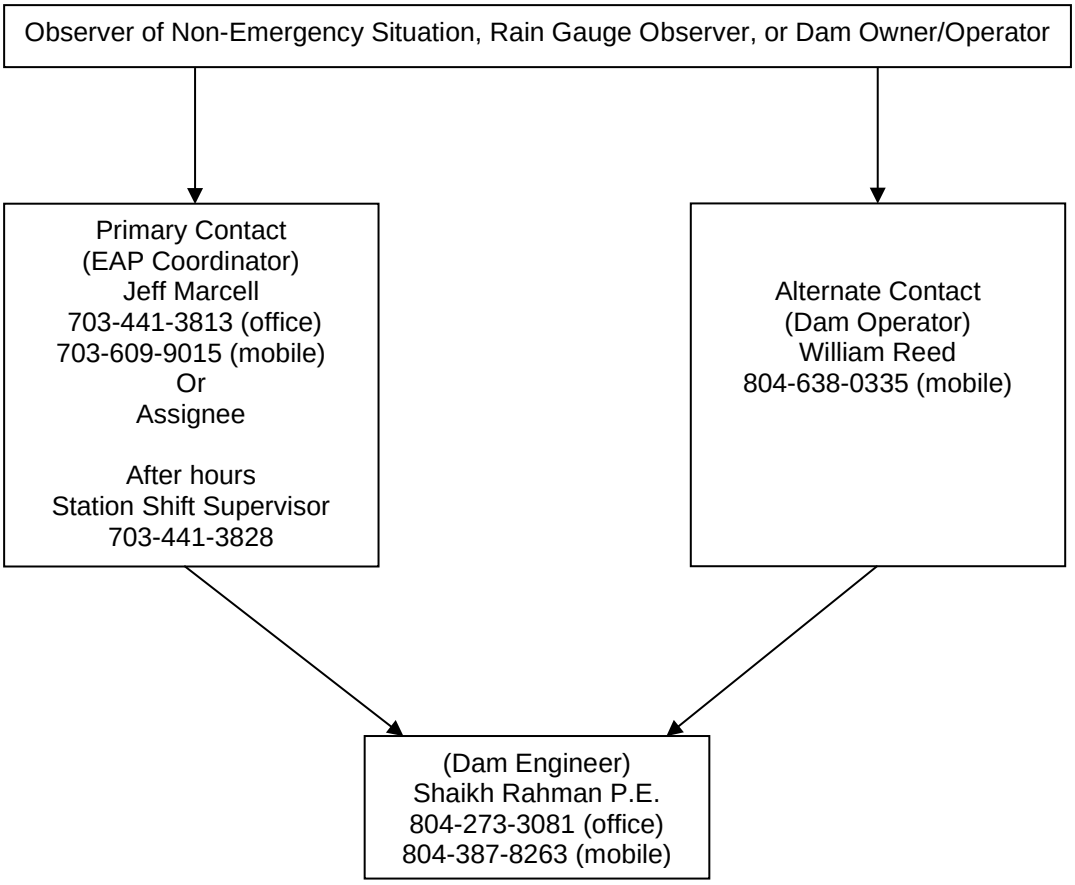
Step 1: Condition Detection	Event Detection: Assess the situation to determine the stage level using Section 6		
Step 2: Stage Level	**Stage 1**	**Stage 2**	**Stage 3**
	Non-Emergency Situation Slowly Developing Situation See Definition	Potential Emergency Situation Quickly Developing Situation See Definition	Urgent Emergency Situation Dam Failure is Imminent or In Progress See Definition
Step 3: Notification and Communication	Notification List See Section 3.1	Notification List See Section 3.2	Notification List See Section 3.3
Step 4: Expected Action	Inspect Dam, Spillway, Level Gauge, and Rain Gauge Every 6 hours Monitor and Listen to Weather Forecasts	Inspect Dam, Spillway, Level Gauge, and Rain Gauge Every 2 hours Notify Emergency Responders	Continuous Inspection of Dam, Spillway, Level Gauge, and Rain Gauge Continuous Contact with Emergency Responders
Step 5: Termination and Follow Up	Termination of Monitoring Conditions at the Dam and Proceed to Evaluate Damages and Plans for Repairs		

Normal methods of detecting potential emergency situations at Ash Pond ABC, D, and E Dams consist of surveillance monitoring and observing instrument readings. For conditions beyond the normal range of operations, contact the Prince William County Emergency Management Coordinator for assistance with evaluation of the conditions.

3.0 NOTIFICATION

3.1 Stage 1 Notification

The following flow chart is to be utilized upon determination of Stage 1 Conditions at each dam:



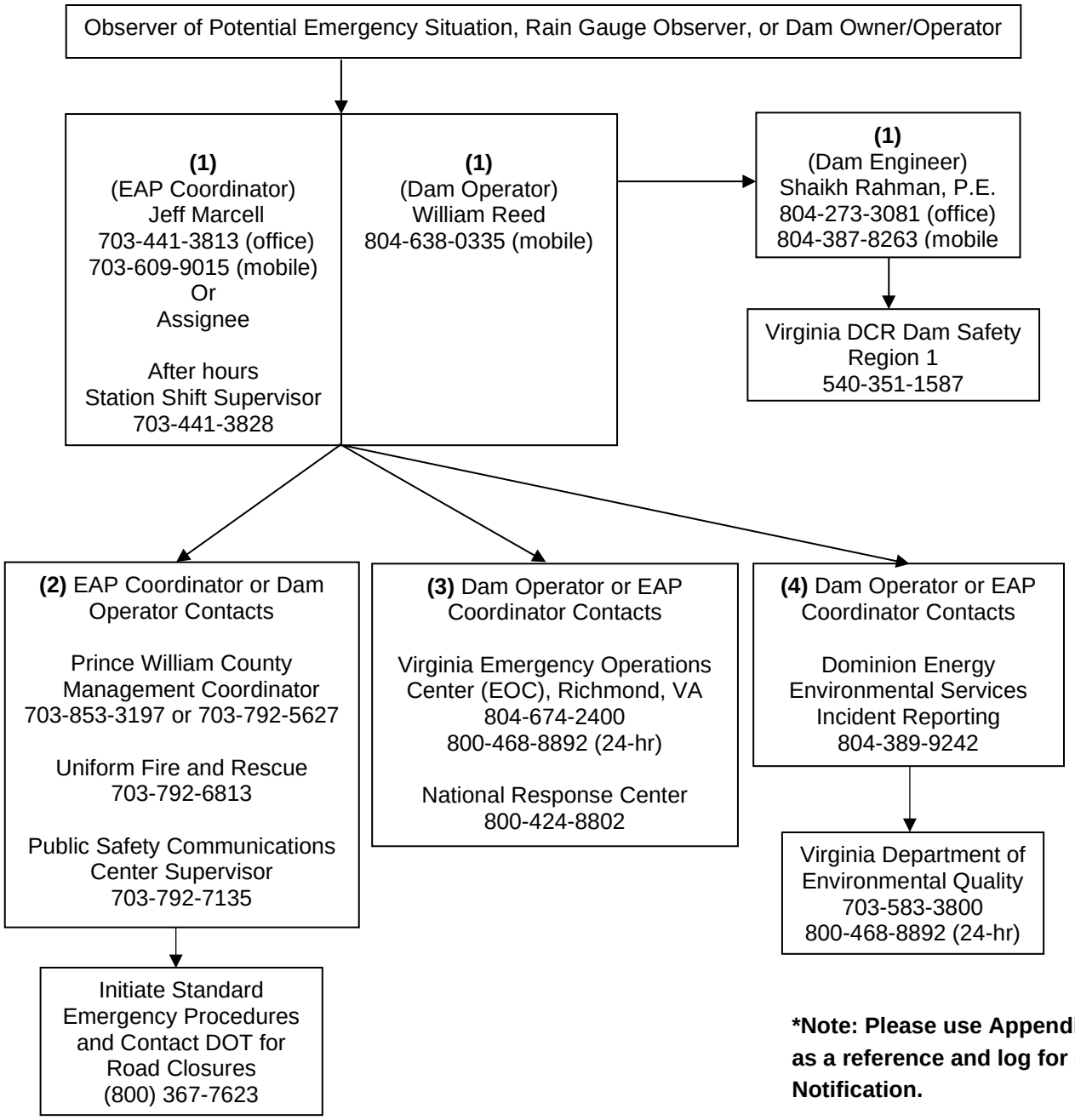
***Note: Please use Appendix B as a reference and log for Stage Notification.**

Message from the Dam Operator or the EAP Coordinator to Dam Engineer:

I am at the Possum Point Power Station evaluating the general conditions at the [insert dam name here] and coordinating with the observer of emergency situation as recommended in the Emergency Action Plan. We are currently at Stage 1. If conditions change, we may move to Stage 2 and perform more frequent evaluations. Otherwise, we will visit and make observations every 6 hours.

3.2 Stage 2 Notification

The following flow chart is to be utilized upon determination of Stage 2 Conditions at each dam:



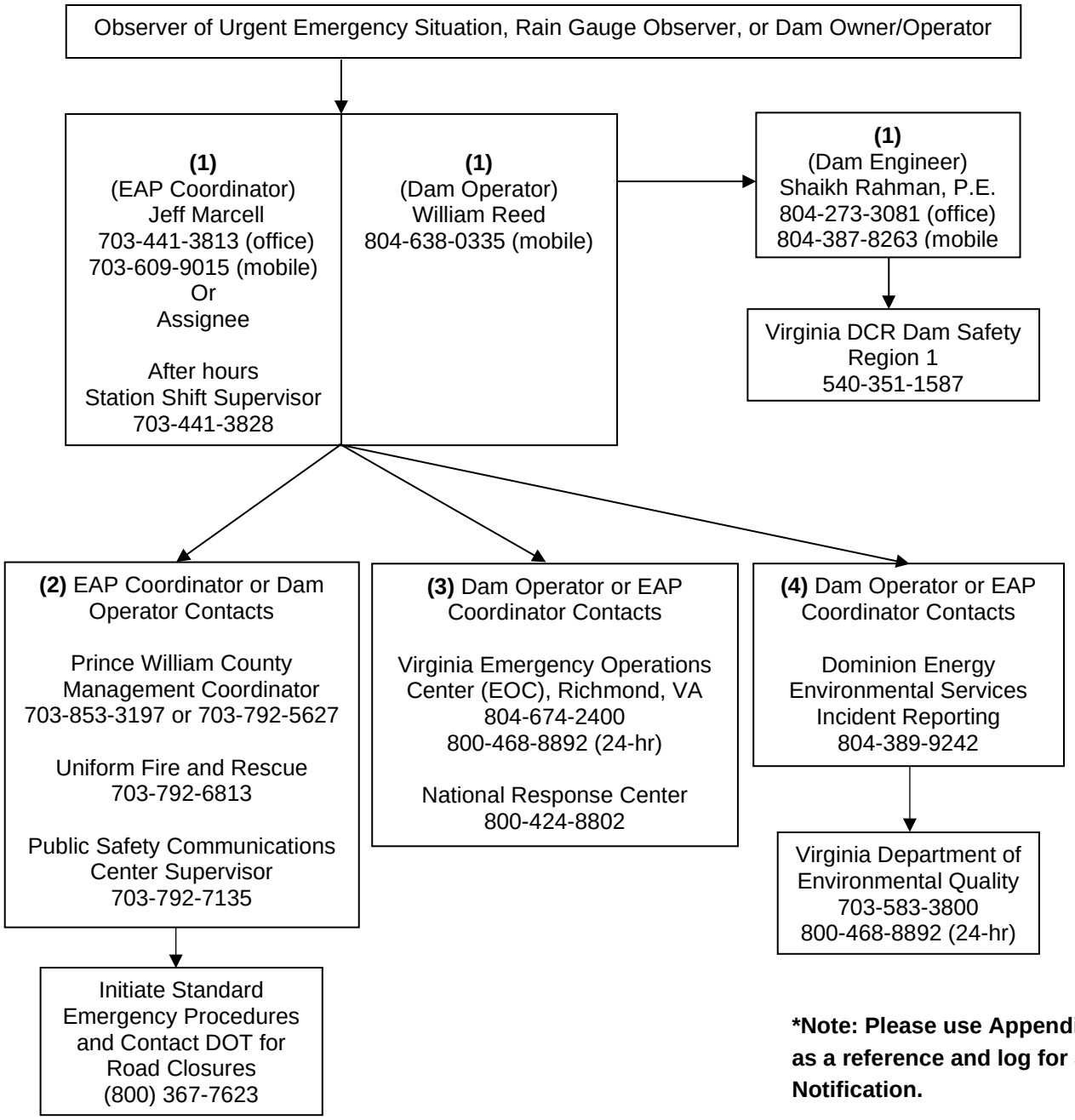
***Note: Please use Appendix B as a reference and log for Stage Notification.**

Message from the Dam Operator to the EAP Coordinator:

I am at [or I have been in contact with the observer at] the Possum Point Power Station, and conditions at the [insert dam name here] have reached the threshold established in the Emergency Action Plan at which to move to the Stage 2 Emergency Level. Please prepare your personnel in case of an emergency and continue to initiate your standard operating procedures. Someone will be observing the dam every 2 hours.

3.3 Stage 3 Notification

The following flow chart is to be utilized upon determination of Stage 3 Conditions at each dam:



***Note: Please use Appendix B as a reference and log for Stage Notification.**

Message from the Dam Operator to the EAP Coordinator:

I am at [or I have been in contact with the observer at] the Possum Point Power Station, and conditions at the [insert dam name here] have reached the threshold established in the Emergency Action Plan to move to the Stage 3 Emergency level. Please proceed with the Standard Emergency Procedures. Someone will remain at the dam to

monitor continuously until the dam breaks or the water level recedes to safe levels and the Emergency Services Coordinator directs us to terminate our responsibilities.

Note: Standard Emergency Procedures (SEPs) shall include notification of the evacuation team, contacting the National Weather Service (NWS) for rainfall projections, and contacting the Virginia Department of Emergency Management.

4.0 STATEMENT OF PURPOSE

Ash Pond ABC, D and E are designed and operated pursuant to Virginia Department of Conservation and Recreation Dam Safety and U.S. Environmental Protection Agency Disposal of Coal Combustion Residuals from Electric Utilities regulations and generally accepted engineering practices. The purpose of this Emergency Action Plan (EAP) is to provide critical information and a plan of action in the event of an emergency situation at the Possum Point Power Station Ash Pond ABC, D, and E. The plan addresses the following:

- Delineation of inundation areas downstream of the dam;
- Procedures for determining when to initiate various emergency response levels;
- Provisions for notification of emergency responders and owners of potentially affected downstream residences and structures;
- Emergency preparedness and exercises; and
- Documentation of evacuation routes.

This plan is intended to meet the requirements of 4VAC50-20-10 et seq. of the Virginia Department of Conservation and Recreation Impounding Structure regulations and 40 CFR 257.73(a)(3) of the Federal Disposal of Coal Combustion Residuals from Electric Utilities Final Rule (CCR rule). Under the Virginia Dam Safety regulations Ash Pond D was classified as a “significant hazard” in November 2014, Ash Pond ABC was classified as a “low hazard” in July 2018 and Ash Pond E was classified as a “low hazard” in November 2017. Ash Pond ABC, D, and E are classified as a “significant” hazard due to the potential environmental impacts of a failure based on the requirements of 40 CFR 257.73(a)(2) of the CCR Rule.

5.0 PROJECT DESCRIPTION

5.1 General Vicinity

The Possum Point Power Station, owned and operated by Virginia Electric and Power Company d/b/a Dominion Energy (Dominion), is located in Prince William County at 19000 Possum Point Road, located east of Route 1 (Jefferson Davis Highway) and overlooking the Potomac River and Quantico Creek, as shown on Figure 1. The Station contains two (2) generating units: one oil fired unit and one duel fired combined cycle unit. Two (2) gas fired units were converted from coal-fired units to natural gas-fired units in 2003 and were retired in March 2019. CCR from past operations was originally stored in the three (3) on-site CCR surface impoundments (Ash Pond ABC, D, and E). Closure by removal activities for Ponds ABC and E were completed November 14, 2018. Activities included the removal of all CCR material from Ponds ABC and E and the placement of CCR material in Pond D. No newly generated CCR has been placed in these impoundments since the conversion to a gas-fired plant.

The three (3) CCR surface impoundments are being closed under the CCR rule provisions in 40 CFR 257.102 and relevant sections of the Virginia Solid Waste Management Regulations and Dam Safety Regulations.

5.2 General Description

5.2.1 Pond ABC Dam

The Possum Point Ash Pond ABC Dam is located approximately 0.25 miles northwest of the Possum Point Power Station and is located approximately 175 feet northeast of Quantico Creek and 2,000 feet from the Potomac River. The ash pond used to impound CCR from past operations at the Possum Point Power Station, under DCR Inventory

Number 153001. All ash and almost all water have been removed from the 17.5-acre pond. The dam is an earthen embankment. Table 2 provides details of the dam:

Table 3: Ash Pond ABC Berm Details

Year Constructed	1955
Dam Height	19 feet
Crest Length and Width	1,200 feet x 10 feet
Top of Dam Elevation	21
Normal Pool Elevation	0
Principal Spillway Elevation	19
Principal Spillway Capacity	51 cubic feet per second (CFS), water surface at El 20 feet
Normal Reservoir Capacity	2.0 Acre-ft at El 0 feet
Maximum Reservoir Capacity	117.5 Acre-ft
Current Spillway Design Flood Capacity (SDF)	100% Probable Maximum Flood (PMF)

5.2.2 Pond D Dam

The Possum Point Ash Pond D Dam is located approximately 0.85 miles northwest of the Possum Point Power Station and is located approximately 1,000 feet northeast of Quantico Creek and 2,000 feet from the Potomac River. The ash pond impounds CCR from past operations at the Possum Point Power Station under DCR Inventory Number 153020. The approximately 64-acre Ash Pond D was reconstructed in 1988 in the same location as the pre-existing impoundment. The dam is an earthen embankment. Excavated ash from Ponds ABC and E have been relocated to Pond D. Table 3 provides details of the dam:

Table 4: Ash Pond D Berm Details

Year Constructed	1989
Dam Height	140 feet
Crest Length and Width	1,700 feet x 20 feet
Top of Dam Elevation	150
Normal Pool Elevation	115
Principal Spillway Elevation	142
Emergency Spillway Crest Elevation	144
Principal Spillway Capacity	154.6 cubic feet per second (CFS), water surface at El 148 feet
Normal Reservoir Capacity	3,000 Acre-ft at El 140 feet
Maximum Reservoir Capacity	6,400 Acre-ft

Current SDF Capacity	100% PMF

5.2.3 Pond E Dam

The Possum Point Ash Pond E Dam is located approximately 0.50 miles northwest of the Possum Point Power Station and is located approximately 225 feet northeast of Quantico Creek and 4,000 feet from the Potomac River. The ash pond used to impound CCR from past operations at the Possum Point Power Station under DCR Inventory Number 153021. All ash and almost all water have been removed from the 40-acre pond. The dam is an earthen embankment. Table 4 provides details of the dam:

Table 5: Ash Pond E Berm Details

Year Constructed	1968
Dam Height	36 feet
Crest Length and Width	3,000 feet x 12 feet
Top of Dam Elevation	40
Normal Pool Elevation	0
Principal Spillway Elevation	33
Principal Spillway Capacity	370 cubic feet per second (CFS), water surface at El 40 feet
Normal Reservoir Capacity	4.2 Acre-ft at El 0 feet
Maximum Reservoir Capacity	893 Acre-ft
Current SDF Capacity	100% PMF

6.0 EMERGENCY DETECTION, EVALUATION, AND CLASSIFICATION

The dam owner and/or operator is responsible for operation and maintenance of dam. The dam operator and the field observer are responsible for monitoring conditions at the dam, spillway, and staff gauge and notifying the Prince William County Emergency Management Coordinator when emergency stage conditions are activated.

The dam owner/operator will initiate this EAP based on rainfall depth in a 24-hour period, or if conditions at the dam indicate that water levels in the impoundment will rise to the point where there is flow through the principal or emergency spillways. Embankment erosion, appurtenant structure malfunction, or any of the other conditions described in this section may also dictate initiation of the emergency action. While it is the dam owner's responsibility to initiate this process, the Prince William County Emergency Management Coordinator may contact the dam owner to inform the team that an event is imminent and team members would initiate their duties as outlined in this EAP.

Depth of flow through the principal and emergency spillways is the best indication of flood conditions and should be used as an indicator of the potential impacts downstream. In the absence of actual flow depth data through the spillways, measured rainfall depths in inches monitored in the contributing watershed may be used to determine the emergency level. Visual observations should be made by a team member so that accurate and up to date information can be provided to the EAP Coordinator.

6.1 Reservoir Pool Level

Reservoir pool level, associated with the flow depth in the principal or emergency spillways, is the prime indicator of flooding conditions at the Possum Point Power Station.

Table 6: Reservoir Pool Level Summary

Pond	Stage Level	Pool Level Elevation (feet)	Comments
Pond ABC	Stage 1	10	This is the interior toe of the embankment and would provide for increased monitoring as pool levels begin encroaching on the soil fill.
	Stage 2	15	This is five feet below the embankment crest and below the elevation of the 2015 embankment repairs.
	Stage 3	19	This is at the crest of the principal spillway two (2) feet below the embankment crest and would indicate that overtopping of the dam embankment could soon occur.
Pond D	Stage 1	139	This is five (5) feet below the level of the emergency spillway and would provide for increased monitoring as pool levels begin approaching the emergency spillway elevation.
	Stage 2	144	This is the crest elevation of the emergency spillway and the spillway flow depth would therefore be zero (0) feet, but the spillway would be on the verge of discharging.
	Stage 3	145.5 or flow depth in emergency spillway is 1.5 ft.	This would occur when the pool level would be 4.5 feet below the dam crest and would indicate that overtopping of the dam embankment could soon occur.
Pond E	Stage 1	12	This is the interior toe of the embankment and would provide for increased monitoring as pool levels begin encroaching on the soil fill.
	Stage 2	33	This is approximately the principal spillway weir crest elevation and seven (7) feet below the embankment crest.
	Stage 3	39	This is one (1) foot below the embankment crest and would indicate that overtopping of the dam embankment could soon occur.

6.2 Rainfall Depths

Rainfall depths for various storm durations are another indicator of potential flooding conditions. The individual ponds have varying rainfall triggers due to their individual drainage areas and storage capacities. Rainfall depth

will be measured using an on-site rain gauge or projected using the National Weather Service (NWS) or other reputable weather source.

Table 7: Rainfall Depth Summary

Pond	Condition Level	Limit
Pond ABC	Stage 1	8.32 inches in 24 hours (100-yr, 24-hr event)
	Stage 2	13.6 inches in 24 hours (1,000-year, 24-hr event)
	Stage 3	31.7 inches in 24 hours (PMP, 24-hr event)
Pond D	Stage 1	8.32 inches in 24 hours (100-yr, 24-hr event)
	Stage 2	13.6 inches in 24 hours (1,000-year, 24-hr event)
	Stage 3	31.7 inches in 24 hours (PMP, 24-hr event)
Pond E	Stage 1	8.32 inches in 24 hours (100-yr, 24-hr event)
	Stage 2	13.6 inches in 24 hours (1,000-year, 24-hr event)
	Stage 3	31.7 inches in 24 hours (PMP, 24-hr event)

6.3 Observation Frequency

Dam, spillway, and staff gauge observations shall occur at frequencies determined by the Emergency Stage condition:

- Stage 1 conditions – observations shall occur at six-hour intervals (Every six (6) hours)
- Stage 2 conditions – observations shall occur at two-hour intervals (Every two (2) hours)
- Stage 3 conditions – continuous observation

An observer can be any person assigned by Dominion personnel who has the ability to monitor and report observations of the dam at the time of a stage triggering event. Observers should use caution and be aware of the potential for flooded roads along the route to each dam. Monitoring and surveillance of conditions at each dam will continue under emergency conditions as long as safety is not in question. An inspection form is included in Appendix B.

Note: In the event that conditions are considered unsafe (i.e. wind speed greater than 40 mph, lightning, tornado etc.) conditions will be documented and dam observations will be postponed until conditions improve.

6.4 Public Roads Downstream

6.4.1 Pond ABC Dam

The downstream area of the dam is the hundred-year flood plain to Quantico Creek. There are no permanent occupied structures downstream of the dam or in the anticipated inundation zone resulting from an embankment failure.

6.4.2 Pond D Dam

The downstream area of the dam consists of the haul road for the Ash Pond Closure project and Possum Point Road. Possum Point Road is a public road and is approximately 1,000 feet from the top of the dam. Per VDOT, Possum Point Road has an average annual daily trip count of 500. There are no occupied structures downstream of the dam or in the anticipated inundation zone resulting from an embankment failure.

6.4.3 Pond E Dam

The downstream area of the dam consists of Possum Point Road. Possum Point Road is a public road and is approximately 1,000 feet from the top of the dam. Per VDOT, Possum Point Road has an average annual daily trip count of 500. There are no occupied structures downstream of the dam or in the anticipated inundation zone resulting from an embankment failure.

6.5 Additional Emergency Conditions

The following table is to be used to initiate emergency conditions during events other than those related to precipitation and reservoir pool levels. If any of these conditions are observed, Dominion's Power Generation Engineering group, applicable Dominion department, or qualified consultant, should be contacted for further discussion, observation, and/or technical direction.

Table 8: Emergency Conditions

Event	Situation
Emergency Spillway and Channel	Visual movement of the spillway channel with no flow
	Spillway is flowing and erosion/head cutting is observed
Seepage	New seepage areas on or near the dam
	New seepage areas with cloudy discharge or increasing flow rate
Sinkholes	Observation of new sinkhole on embankment
	Rapidly enlarging sinkhole
Embankment Cracking	New cracks in embankment greater than ¼ inch wide without seepage
	Cracks in embankment with seepage
	Cracks in embankment with rapidly increasing seepage
Embankment Movement	Visual movement of the embankment slope
	Sudden or rapidly progressing slides of the slopes
Vortex in Pond	Whirlpool with discharge downstream
Earthquake	Measurable earthquake with a magnitude of 3.5 or greater within 50 miles of the dam
	Earthquake resulting in visible damage to the dam
	Earthquake resulting in potential uncontrolled release of water from the dam
Security Threat, Sabotage, and Vandalism	Verified bomb threat that, if carried out, could result in damage to the dam
	Detonated bomb that has resulted in damages to the dam or its appurtenances
	Damage to the dam or appurtenances with no impacts to the functioning of the dam
	Damage to the dam or appurtenances that has resulted in seepage flow

In the event of a measurable earthquake with a magnitude of 3.5 or greater within 50 miles of the dam, overtopping of the dam, evacuation of inundation areas, or other serious problems resulting in a triggering of stage conditions, the dam must be inspected by a professional engineer knowledgeable with the dam site. This inspection may be postponed due to unsafe conditions or lack of accessibility to the site.

6.6 De-escalation of Stage Conditions

Stage conditions can be stepped down when the following events occur:

Stage 3 to Stage 2

- After heavy rains have ended, the water level in the impoundments is below:
  - Pond ABC, El 19 and the water level is receding
  - Pond D, El 145.5 or flow depth in the emergency spillway of 1.5 ft and the water level is receding
  - Pond E, El 39 and the water level is receding

Stage 2 to Stage 1

- After heavy rains have ended, the water level in the impoundments is below:
  - Pond ABC, El 15 and the water level is receding
  - Pond D, El 144 and the water level is receding
  - Pond E, El 33 and the water level is receding

Stage 1 to Termination

- Other emergency conditions have been evaluated by Dominion personnel and determine to not present a hazard to the dam going forward.
- After heavy rains have ended, the water level in the impoundments is below:
  - Pond ABC, El 10 and the water level is receding
  - Pond D, El 139 and the water level is receding
  - Pond E, El 12 and the water level is receding

Termination of stage conditions occurs when all entities notified of the emergency condition have been communicated with and informed of current non-emergency conditions.

7.0 RESPONSIBILITY UNDER THE EAP

This section is intended to clearly outline the responsibilities of parties involved in all EAP procedures, including notification, surveillance, classification, evacuation, and termination.

7.1 Dam Owner/Operator Responsibilities

1) The Dam Owner/Operator/EAP Coordinator/Assignee IS RESPONSIBLE for notifying the Prince William County Emergency Management Coordinator of any problem or potential problem at the dam site.

2) The Dam Owner/Operator/EAP Coordinator/Assignee WILL DETERMINE when Stage 1 conditions are met at the dam and WILL INITIATE dam surveillance accordingly.

3) The Dam Owner/Operator/EAP Coordinator/Assignee WILL DETERMINE when Stage 2 conditions are met at the dam.

4) The Dam Owner/Operator/EAP Coordinator/Assignee WILL DETERMINE when Stage 3 conditions are met at the dam.

5) The Dam Owner/Operator/EAP Coordinator/Assignee WILL BE RESPONSIBLE for operating pumps as needed for the dam to function effectively.

6) The Dam Owner/Operator/EAP Coordinator/Assignee WILL BE RESPONSIBLE for coordinating with local emergency response personnel to restrict traffic access to Possum Point Road under Stage 2 and Stage 3 conditions.

7) The Dam Owner/Operator/EAP Coordinator/Assignee WILL BE RESPONSIBLE for notifying local emergency response personnel of changes in emergency conditions include stage escalation and de-escalation and termination of the EAP under non-emergency conditions.

7.2 Responsibility for Notification

1) The observer of the emergency situation WILL NOTIFY the dam owner/operator/EAP Coordinator before beginning dam surveillance under Stage 1 conditions.

2) The Dam Owner/Operator/EAP Coordinator/Assignee WILL NOTIFY the 24-hour dispatch center and the Prince William County Emergency Management Coordinator when Stage 2 conditions are met, in order to alert them to perform actions required for Stage 2 conditions and to review actions that may be required for the safety and protection of people and property. The dam owner/operator WILL NOTIFY the Regional Dam Safety Engineer and Dominion Power Generation Engineering that Stage 2 conditions have been implemented.

3) The Dam Owner/Operator/EAP Coordinator/Assignee WILL NOTIFY the 24-hour dispatch center and the Prince William County Emergency Management Coordinator to initiate warning of residents when Stage 3 conditions or imminent dam failure are probable. The dam owner/operator WILL NOTIFY the Regional Dam Safety Engineer and Dominion Power Generation Engineering that Stage 3 conditions have been implemented.

4) The Dam Owner/Operator/EAP Coordinator/Assignee WILL NOTIFY local emergency response personnel of changes in emergency conditions include stage escalation and de-escalation and termination of the EAP under non-emergency conditions.

Once stage conditions have been activated, the dam owner/operator/EAP Coordinator will continue to provide the EAP Coordinator with information concerning water level rise, erosion in the emergency spillway, and/or dam overtopping, as provided by the dam/spillway/staff gauge observer. It is particularly important for the EAP Coordinator to know when a breach is occurring to evacuate their rescue personnel. During stage 3 conditions the staff gauge observer will remain at the dam until released from duty by the EAP Coordinator or Assignee.

7.3 Responsibility for Evacuation

1) The Prince William County Emergency Management Coordinator should implement the Prince William County Emergency Operations Plan in the event that dam failure is possible or occurring.

2) The Prince William County Emergency Management Coordinator WILL CONTACT the VDOT or other authorized personnel to set up barricades to close roads at locations described in Section 6.4 in the event that Stage 2 and/or Stage 3 conditions are met.

7.4 Responsibility for Stage Termination

Stage conditions can be rescinded when the following events occur:

1) Stage conditions have de-escalated to non-emergency conditions, reference Section 6.6, the EAP Coordinator may terminate or rescind the activation of the EAP.

2) All entities notified of the emergency condition have been communicated with and informed of current non-emergency conditions.

3) Regional flooding may occur prior to an incident at this dam and could continue for long periods of time. The staff gauge observer needs to have plans for staying or returning to the dam as conditions worsen. The termination responsibility should be handled by the EAP Coordinator or Assignee.

7.5 Responsibility for Stage Follow-Up

1) Post-EAP activation event, discussions should be used to determine strengths and weaknesses in the EAP in order to improve the document for future events.

2) The EAP Coordinator or designee should prepare documents recording the activation of the EAP event, reference Appendix C. Per 257.73(a)(3)(v) and 257.105(f)(8) of the CCR Rule, Stage 2 and 3 activation documentation will be posted to the Public CCR website (see Section 2.0).

7.6 EAP Coordinator Responsibility

The EAP coordinator will be responsible for EAP-related activities, including (but not limited to) preparing revisions to the EAP, establishing training seminars, and coordinating annual face-to-face EAP exercises between representatives of the owner/operator, Prince William County emergency responders, and additional federal and state agencies. This person will be the EAP contact if any involved parties have questions about the plan.

7.7 Methods for Notification and Warning

Prince William County has the authority and responsibility for Mass Notification, Alert, and Warning, and Population Protective Actions for all offsite Facilities.

During an emergency condition, the EAP Coordinator will communicate timely information about conditions at the dam to the Prince William County Emergency Managements Coordinator, who will initiate their own emergency notifications and action.

7.8 Evacuation Procedures

Once the EAP Coordinator has been notified of a problem, they will notify the Prince William County Emergency Management Coordinator who will provide alert and warning per Section 7.6 and coordinate any evacuation or sheltering needs. The primary concerns for evacuation are Possum Point Road and day-use boaters in Quantico Creek. The EAP Coordinator should provide regular situation reports to the Prince William County Emergency Operations Center (EOC), the Virginia State Emergency Operations Center, or send a representative to the Prince William County EOC, if requested.

8.0 PREPAREDNESS

This section is intended to clearly outline the responsibilities of parties involved in all EAP procedures, including notification, surveillance, classification, evacuation, and termination.

8.1 Surveillance

The dams are attended and monitored under normal operating conditions for the duration of closure activities.

The Possum Point Power Station management and staff should monitor the status of weather fronts through the NWS. The NWS maintains a hurricane center that reports on hurricanes, tropical storms & tropical depressions as they travel and affect coastal and inland areas. The web site address is: http://www.nhc.noaa.gov/.

The station is staffed 24 hours per day by the Operations Department. An operator should be dispatched from the on-shift crew to observe the ponds during an emergency situation. The emergency situation observer should never put themselves in harm's way. In the event a hurricane or tropical depression occurs with high winds, the observer shall use extreme caution while monitoring conditions.

Preplanned access routes should be utilized, given that small streams crossing under state and local roads may flood, preventing safe access. The observers and Dam Safety Region staff should never attempt to cross a road that has flood water crossing it at a depth greater than one-foot unless the vehicle is specially designed for that purpose.

Alternative routes should be chosen for access by foot in the event that a car is unsafe for use. Other alternative means of transportation may be considered.

8.2 Routine Inspections

The Ash Ponds ABC, E and D Dams are inspected every seven (7) days in accordance with the CCR regulations. It is inspected monthly in accordance with the Virginia Dam Owner's Handbook. If any findings trigger an action level, the EAP will be put into place immediately. Any findings in question will be discussed with a Dominion Power Generation Engineer and a resolution determined by the next seven (7) day inspection. Any maintenance needs will be relayed to the grounds contractor or closure construction contractor within one calendar week.

8.3 Alternative Systems of Communication

Communications during a major rainfall event may be problematic. Telephone land lines may be used as the first means of communication. Cellular telephones can be used to supplement the land lines. Unfortunately, telephone lines, like electrical lines, are subject to damage by falling trees, so radio communication during these events is normally required.

8.4 Emergency Supplies

Stockpiling of Materials and Equipment: The location of necessary supplies and materials, such as barricades, sand, sandbags, etc. are either stored onsite or readily available through our emergency response contractors.

Emergency access to supplies and equipment should be planned before any emergency is called. Appendix C lists sources and locations of supplies and equipment that may be required during an emergency along with addresses and telephone numbers of the sources/suppliers.

9.0 INUNDATION ZONE PROPERTY OWNERS AND RESIDENTS

Inundation Maps are presented in Appendix D.

10.0 CERTIFICATION BY DAM OWNER/OPERATOR

I certify that procedures for implementation of this Emergency Action Plan (EAP) have been developed pursuant to 40 CFR 257.73(a)(3) of the CCR rule and coordinated with and a copy given to the Prince William County Emergency Management Coordinator serving the areas potentially impacted by the dam. Also, that a copy of this EAP has been filed with the Virginia Department of Emergency Management in Richmond and a copy of the Dam Break Inundation Map has been provided to the Prince William County Emergency Management Coordinator with plat and plan approval authority or zoning responsibilities as designated by the locality for each locality in which the dam break inundation zone resides; that this plan shall be adhered to during the life of the project; and that the information contained herein is current and correct to the best of my knowledge.

(Signature of Dam Owner/Operator)

This 10TH day of December, 2019

William Reed, Station Director
(Printed Name)

11.0 CERTIFICATION BY PREPARER

By means of this certification the undersigned Licensed Professional Engineer attests that he/she is familiar with the requirements *of* 40 CFR 257.73(a)(3) and the Department of Conservation and Recreation (DCR) regulations. This certification also demonstrates that the Plan is prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of *40 CFR §257.73*; that procedures for required inspections and testing have been established; and the Plan is adequate for the Site.

This certification in no way relieves the owner or operator of a facility/Site of his duty to prepare and fully implement the Plan in accordance to the requirements of *40 CFR §257.73.*

(Signature of Preparer)

This 10th day of December, 2019

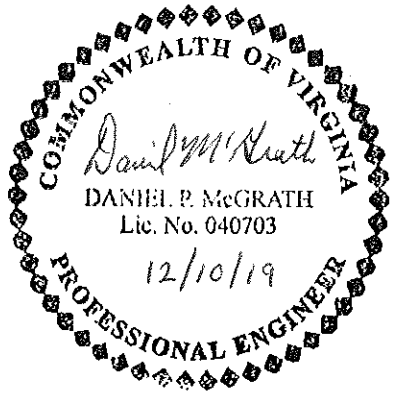
Printed Name: Dan McGrath, P.E.

Title: Associate/Senior Consultant

Address: 2108 W. Laburnum Ave, Suite 200

Richmond, VA 23227

Telephone: 804-358-7900



APPENDIX A

Analyses of Impounding Structure Failure Floods

APPENDIX A
Analyses of Impounding Structure Failure Floods

Pond	Design Storm Event	Design Analysis
ABC	½ Probable Maximum Flood Event	Golder April 2018
D	Probable Maximum Flood	Golder December 2012
E	1,000 Year Flood Event	Golder April 2018

APPENDIX B

Plans for Training, Exercising, Updating, and Posting the Emergency Action Plan, and Supplemental Documents

APPENDIX B
Plans for Training, Exercising, Updating, and Posting the Emergency Action Plan

1. Training

Emergency action planning, generally, will be held once a year for responsible staff personnel.

2. Exercises

a. Table Top Exercises - Table top exercises will be held, at a minimum, once every five years. This exercise will occur in the year that certification is required.

b. Drills - A drills will be conducted each year by the owner except when a table top exercise is required.

c. Annual drills will be conducted to verify lines of communication, phone numbers, personnel roles, and responsibilities. All parties on the Stage II/III notification flowchart are invited and encouraged to attend; however attendance from station personnel is mandatory. Record the invitation of the drill to emergency response representatives and the drill attendance and details in the Training Record.

3. Updating

This EAP will be checked yearly during the drill exercise to determine if names, addresses, and telephone numbers of the people shown in Section 7 are accurate. The document will be updated at any time when a major change is determined to have occurred and noted in the plan's revision log.

If an annual review of the EAP indicates that no amendments are necessary, a note shall be placed in the revision log noting that no changes were made during the annual review.

4. Posting

This document will be on file with:

- Dominion (Dam Owner)
- Prince William County Emergency Operations Center
- VA Department of Conservation and Recreation (DCR), Division of Dam Safety
- VA Department of Emergency Management

EAP Training Record
Possum Point Power Station Ash Ponds
Inventory #'s: 153001, 153020, 153021

Training Date	Training Type	Results
11/10/17	Annual Tabletop	Updated EAP, distributed EAP to agencies
10/04/18	Annual Tabletop	Updated EAP, distributed EAP to agencies
12/10/18	Annual Tabletop	Updated EAP, distributed EAP to agencies

EAP Revision Record
Possum Point Power Station Ash Ponds
Inventory #'s: 153001, 153020, 153021

Revision No.	Date Entered	Changed By	Description of Change
Original	May 2015		
1	April 2017	Dominion	Incorporation of CCR Regulations
2	November 2017	Dominion	Incorporation of changes per Tabletop Meeting
3	October 2018	Dominion	Addition of Inactive Ponds per CCR Regulations
4	December 2019	Dominion	Annual Update
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

POSSUM POINT POWER STATION EMERGENCY ACTION PLAN

ACTION LOG

Impoundment Name:	**Inspected By:**
Date of Inspection:	**EAP Coordinator:**

WEATHER CONDITIONS:

_____

_____

Check one (one inspection form per stage)	Time of EAP Implementation	Time of Termination
Stage 1 Condition: (Observation Required every 6 hours)		
Stage 2 Condition: (Observation Required every 2 hours)		
Stage 3 Condition: (Continuous observation required)		

Time	Inspector Name	Observations/Condition of Dam/Description of Concern/Failure *Note adverse conditions/inability to observe

ACTION LOG

Time	Inspector Name	Observations/Condition of Dam/Description of Concern/Failure *Note adverse conditions/inability to observe

General Comments/Event De-Brief Notes:

_____
_____
_____
_____
_____

Possum Point Power Station - Ash Pond ABC, D and E Emergency Action Plan
Notification Log

Contact Name/Agency	Phone Number	Person Notified	Time Notified
Refer to Notification Process on pages 6-8 in the Emergency Action Plan			
Stage 1 Notifications			
(EAP Coordinator) Jeff Marcell/Dominion Energy	703-441-3813 (office) 703-609-9015 (mobile)		
(Afterhours) Shift Supervisor/Dominion Energy	703-441-3828		
(Dam Operator) William Reed/Dominion Energy	434-842-4100 (office) 804-638-0335 (mobile)		
(Dam Engineer) Shaikh Rahman/Dominion Energy	804-387-8263		
Stage 2 Notifications			
(EAP Coordinator) Jeff Marcell/Dominion Energy	703-441-3813 (office) 703-609-9015 (mobile)		
(Afterhours) Shift Supervisor/Dominion Energy	703-441-3828		
(Dam Operator) William Reed/Dominion Energy	434-842-4100 (office) 804-638-0335 (mobile)		
(Dam Engineer) Shaikh Rahman/Dominion Energy	804-387-8263		
Emergency Management Coordinator/Prince William County	703-853-3197 or 703-792-5627		
Uniform Fire and Rescue/Prince William County	703-792-6813		
Public Safety Communications Center/Prince William County	703-792-7135		
Virginia Department of Emergency Management	804-674-2400 800-468-8892 (24hr)		
Virginia DCR Dam Safety	540-351-1587		
Dominion Energy Environmental Incident Reporting	804-389-9242		
Virginia Department of Environmental Quality	703-583-3800 800-468-8892 (24hr)		
Additional Contacts:			
Cockpit Point Road Asphalt Terminal	703-221-1171		
Stage 3 Notifications			
(EAP Coordinator) Jeff Marcell/Dominion Energy	703-441-3813 (office) 703-609-9015 (mobile)		
(Afterhours) Shift Supervisor/Dominion Energy	703-441-3828		
(Dam Operator) William Reed/Dominion Energy	434-842-4100 (office) 804-638-0335 (mobile)		
(Dam Engineer) Shaikh Rahman/Dominion Energy	804-387-8263		
Emergency Management Coordinator/Prince William County	703-853-3197 or 703-792-5627		
Uniform Fire and Rescue/Prince William County	703-792-6813		
Public Safety Communications Center/Prince William County	703-792-7135		
Virginia Department of Emergency Management	804-674-2400 800-468-8892 (24hr)		
Virginia DCR Dam Safety	540-351-1587		
Dominion Energy Environmental Incident Reporting	804-389-9242		
Virginia Department of Environmental Quality	703-583-3800 800-468-8892 (24hr)		
Additional Contacts:			
Cockpit Point Road Asphalt Terminal	703-221-1171		

APPENDIX C

Additional Resources

APPENDIX C
Additional Resources

Directory of Additional Personnel with Dam Safety Expertise

In addition to personnel shown elsewhere in this plan, the following list identifies other individuals with expertise in dam safety, design, and construction that may be consulted about taking specific actions at the dam when there is an emergency situation:

Name	Telephone	Responsibility
DCR, Division of Dam Safety	540-351-1587	Dam Safety Regional Engineer
Golder Associates, Inc. Dan McGrath, P.E.	804-521-1783 (office) 804-357-8953 (cell)	Consulting Design Engineer

Supplies and Resources

Equipment Available	Location	Phone Number
Sand/Sand Bags	Forty-Two Contracting, Inc. Pete Snead	804-377-2270 (o) 804-638-0430 (m)
Rock/Gravel	Forty-Two Contracting, Inc. Pete Snead	804-377-2270 (o) 804-638-0430 (m)
Pumps/Generators/Lights	Available at Station	
	Godwin Pumps	804-798-6600
	Rain for Rent	804-732-6914
Heavy Equipment	Available at Station	
	Forty-Two Contracting, Inc. Pete Snead	804-377-2270 (o) 804-638-0430 (m)

Personnel Resources/Labor

Company	Contact	Phone Number
Dominion Energy	Control Room Lead Maintenance Operator	703-441-3828
Brand	Erik Espinoza	804-330-0682 (office)

APPENDIX D

Figures

Dominion Energy℠

N
W
E
S

0 250' 500'

DATE OF PHOTOGRAPH: MAY 21, 2019

POSSUM POINT POWER STATION

CLIENT
DOMINION ENERGY
POSSUM POINT POWER STATION

PROJECT
INACTIVE POND CCR DEMONSTRATION
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

CONSULTANT

Golder Associates

YYYY-MM-DD	2018-02-01
DESIGNED	KAL
PREPARED	KAL
REVIEWED	DPM
APPROVED	

TITLE
POND ABC BREACH STUDY
1,000-YEAR, 24-HOUR STORM

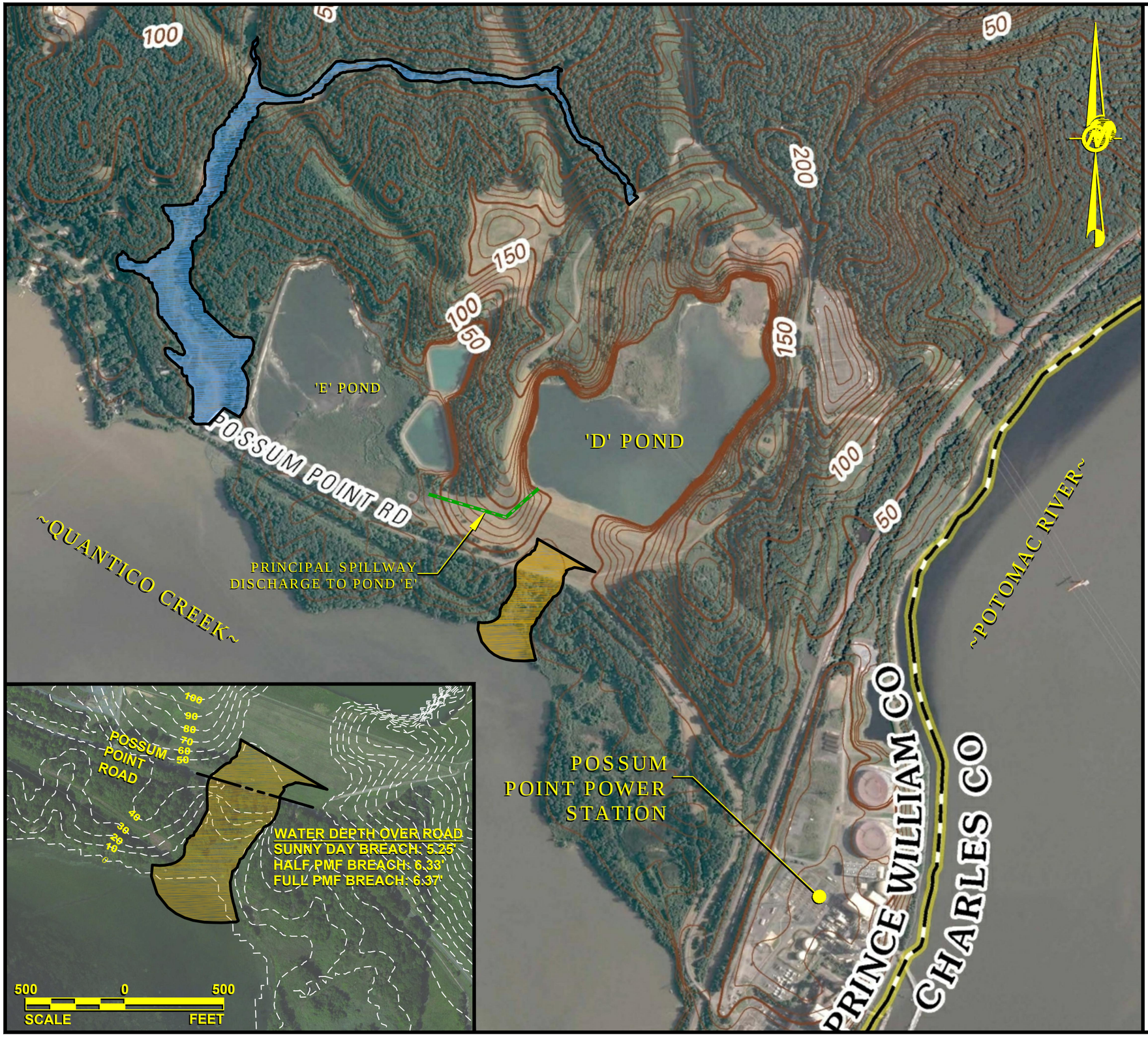
PROJECT NO.
16-62150

REV.

FIG 2

Path: G:\Projects\Dominion\Possum Point\166-2160 Engineering\CCR Inactive Demonstrations\Calcs\Breach Map.dwg

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A



LEGEND

100 — EXISTING TOPOGRAPHIC CONTOUR (50' INTERVAL)

70 — EXISTING TOPOGRAPHIC CONTOUR (10' INTERVAL)

PEAK WATER SURFACE ELEVATION WITH THE:

WATER SURFACE ELEVATIONS (WSE) DURING SUNNY DAY BREACH, HALF PMF, AND FULL PMF BREACH

EMERGENCY SPILLWAY WSE DURING PMF EVENT

750 0 750
SCALE: 1" = 750' FEET

NOTES

1. MAPPING OF FLOODED AREAS AND FLOOD WAVE TRAVEL TIMES ARE APPROXIMATE. TIMING AND EXTENT OF ACTUAL INUNDATION MAY DIFFER FROM INFORMATION PRESENTED ON THIS MAP.
2. AERIAL IMAGE SOURCE: USGS 7.5-MINUTE QUADRANGLE MAP TITLED "QUANTICO, VA-MD" DATED 2011.
3. TOPOGRAPHY SOURCE: DEM FILE FOR USGS QUADRANGLE "QUANTICO, VA-MD" DATED 9/19/01. 10 METER GROUND RESOLUTION

COMMONWEALTH OF VIRGINIA
DANIEL P. McGRATH
Lic. No. 040703
12/14/12
PROFESSIONAL ENGINEER

Golder Associates
Richmond, Virginia

PROJECT
DOMINION
POSSUM POINT POWER STATION
ASH POND D DCR INVENTORY 15320
PRINCE WILLIAM COUNTY, VIRGINIA

TITLE
POND FAILURE DURING FULL PMF, ON A SUNNY DAY, AND SPILLWAY DESIGN FLOOD

PROJECT No. 123-96623		
FILE No. 123-96623A01		
REV. 0	SCALE AS SHOWN	
DESIGN	DPM	12/14/12
CADD	ATN	12/14/12
CHECK	DPM	12 / 14 /12
REVIEW	JRD	12 / 14 / 12

FIGURE 3

CLIENT
DOMINION ENERGY
POSSUM POINT POWER STATION

PROJECT
INACTIVE POND CCR DEMONSTRATION
HAZARD POTENTIAL CLASSIFICATION ASSESSMENT

CONSULTANT

Golder Associates

YYYY-MM-DD	2018-02-01
DESIGNED	KAL
PREPARED	KAL
REVIEWED	DPM
APPROVED	

TITLE
POND E BREACH STUDY
1,000-YEAR, 24-HOUR STORM

PROJECT NO.
16-62150

REV.

FIG 4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

Path: G:\Projects\Dominion\Possum Point\166-2160 Engineering\CCR Inactive Demonstrations\Calcs\Breach Map.dwg

golder.com