PRE-CONSTRUCTION NOTIFICATION
INDIVIDUAL PERMIT

Surry – Skiffes Creek – Whealton
(Joint Permit Application # 13-V0408)

Surry, James City and York Counties, and the
Cities of Newport News and Hampton, Virginia

August 2013

Dominion
It all starts here.

U.S. ARMY CORPS OF ENGINEERS
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WILLIAMSBURG
ENVIRONMENTAL
GROUP, INC.

Permit Applicant:
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WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
Environmental Consultants

LETTER OF TRANSMITTAL

Attn: Mr. Randy Steffey

To: U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23501

From: Lori A. Shelton
Regulatory Assistant

cc:

Date: August 8, 2013

Project #: 4652
Task #: 9911

Re: Surry – Skiffes Creek – Whealton

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1	Aug 2013	Surry – Skiffes Creek – Whealton- Pre-Construction Notification Individual Permit (Joint Permit Application # 13-V0408)

Notes:
Dear Mr. Steffey,
Attached please find the Pre-Construction Notification Individual Permit (Joint Permit Application # 13-V0408) for the Surry – Skiffes Creek – Whealton project. Please feel free to contact myself or Christine Conrad with any questions or if we can be of further assistance to you.

Thank you,

Lori A. Shelton, Regulatory Assistant

U.S. ARMY CORPS OF ENGINEERS
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WILLIAMSBURG ENVIRONMENTAL GROUP, INC.
Environmental Consultants

August 8, 2013

Mr. Randy Steffey
U.S. Army Corps of Engineers
Norfolk District Office
803 Front Street
Norfolk, VA 23501

Re: JPA # 13-0408 Revised Submission and Withdrawal of JPA # 13-0885
Surry – Skiffes Creek – Whealton Project
Surry, James City and York Counties, and the Cities of Newport News and Hampton, Virginia
Applicant: Virginia Electric and Power Company (Dominion VA Power)
WEG Project #4652

Dear Mr. Steffey:

On behalf of the applicant, Williamsburg Environmental Group, Inc. (WEG) is pleased to submit the attached revised Joint Permit Application and supporting information for Project # 13-0408. This project, the Surry – Skiffes Creek 500 kV Line, was originally submitted to the U.S. Army Corps of Engineers (Corps), Virginia Department of Environmental Quality (DEQ) and the Virginia Marine Resources Commission (VMRC) on March 15, 2013. The permit application, submitted on March 15, 2013, also included the proposed Skiffes Creek Switching Station as part of the project. A separate JPA for the Skiffes Creek – Whealton 230 kV Line project was submitted to the agencies on June 3, 2013 (Project # 13-0885). Upon review of each application, the Corps has determined that the two projects do not have independent utility and should be combined and reviewed as a complete project. As such, WEG is requesting the withdrawal of Project # 13-0885 and providing the attached revised application documents for Project # 13-0408. The revised application addresses the Surry – Skiffes 500 kV Line, the Skiffes – Whealton 230 kV Line and the Skiffes Creek Switching Station as a single and complete project.

The revised submittal also includes additional information as requested by the Corps in various letters and emails during their review process. For tracking purposes, a project history is provided in Table 1 at the end of this letter. Copies of this revised submittal have been provided under separate cover to the VMRC and the DEQ for their review.

Thank you for your prompt review of this permit application and accompanying materials. If you have any questions or require additional information, please advise me at your earliest convenience.

Sincerely,

Christine F. Conrad

Christine F. Conrad, Ph.D.
Senior Regulatory Specialist

Enclosures

cc: Mr. Ben Stagg, Virginia Marine Resources Commission
Ms. Larissa Ambrose, Virginia Department of Environmental Quality
Ms. Liz Harper, Dominion Virginia Power

Table 1. Project History

Date	Action
07/26/12	Preliminary Jurisdictional Determination issued for Skiffes Creek – Whealton 230 kV Line (NAO-2011-01096)
03/15/13	Original JPA Submission for Surry – Skiffes Creek 500 kV Line (Project # 13-0408)
04/30/13	Corps issued Discretionary Authority Letter and Additional Information Request
05/06/13	Preliminary Jurisdictional Determination issued for Surry – Skiffes Creek 500 kV Line (NAO-2013-00451)
06/03/13	Original JPA submission for Skiffes Creek – Whealton 230 kV Line (Project # 13-0885)
06/24/13	Revision to permit application for Surry-Skiffes Creek 500 kV Line and response to 4/30/13 additional information request
07/01/13	Corps request for additional information for Surry – Skiffes Creek 500 kV Line
07/05/13	Corps request for additional information for Skiffes Creek – Whealton 230 kV Line
07/12/13	Response to 7/1/13 Corps request for additional information for Surry- Skiffes Creek 500 kV Line
07/17/13	Response to 7/5/13 Corps request for additional information for Skiffes Creek – Whealton 230 kV Line project
07/25/13	Corps determination that projects 13-0408 and 13-0885 should be combined into single and complete project
08/08/13	Request to withdraw Skiffes Creek – Whealton JPA # 13-0885
08/08/13	Revised JPA and Permit Support Document submitted to Corps, DEQ and VRMC (JPA # 13-V0408)

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INDIVIDUAL PERMIT
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(Joint Permit Application # 13-V0408)
Surry, James City and York Counties, and the Cities of Newport News and Hampton, Virginia

August 2013

Permit Applicant:
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EXECUTIVE SUMMARY

Dominion Virginia Power (Dominion), proposes to construct new electrical transmission line infrastructure in the Hampton Roads area of Virginia, known as the Surry – Skiffes Creek – Whealton project, to resolve projected violations of the North American Electric Reliability Corporation (NERC) Reliability Standards. The retirement of several generation units at the Yorktown and Chesapeake Power Stations by the Spring of 2015 coupled with increasing demand in the service region, is expected to result in violations of the NERC Reliability Standards if the proposed transmission facilities are not in operation by the Summer of 2015. To resolve the projected violations, Dominion proposes to construct a new 7.76 mile 500 kV overhead transmission line, the Surry – Skiffes Creek 500 kV Line, from the Surry Nuclear Power Station in Surry County, to the proposed Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station (Switching Station); construct the proposed Switching Station on a 51- acre parcel in James City County; and construct a new 230 kV overhead transmission line, the Skiffes Creek – Whealton 230 kV Line, 20.2 miles from the proposed Switching Station to the Whealton Substation in the City of Hampton. The project is located within the Lower James and Lynnhaven – Poquoson watersheds, Hydrologic Unit Codes (HUCs) 02080206 and 02080108, respectively.

The project will include overland routes and 22,549 linear feet of aerial crossings over state-owned subaqueous bottom for crossings of the James River, Wood Creek and Skiffes Creek, each of which is tidal, as well as crossings of Lee Hall Reservoir and Harwood's Mill Reservoir, each of which has a drainage area greater than five square miles. Each of these will be spanned with no impacts to the waterbody, with the exception of the James River. The proposed Surry – Skiffes Creek 500 kV Line will be a single circuit overhead line requiring the placement of 17 towers and a fender protection system within the James River, resulting in 612 square feet direct impacts to the river bottom and 77,044 square feet of encroachment over state-owned subaqueous bottom. The proposed crossing of the river also crosses the Tribell Shoal Federal navigational channel, an associated dredge spoil disposal area, a secondary navigational channel used mainly by tug and barge traffic, and several private oyster lease areas within the river. As proposed, the project is able to meet the minimum vertical and horizontal clearances for crossing the navigational channels and the dredge spoil disposal area, as required by the U.S. Army Corps of Engineers and the U.S. Coast Guard.

In conjunction with the construction of the Surry – Skiffes Creek 500 kV Line, Dominion proposes to construct the Switching Station. The site for the proposed Switching Station is partially

cleared as it contains an existing Dominion right-of-way and, upon completion, will house the transmission infrastructure necessary to accommodate the new 500 kV and 230 kV transmission lines. The proposed Skiffes Creek – Whealton 230 kV Line is a new 230 kV double circuit overhead transmission line. To accommodate the new line, the existing Dominion right-of-way will have to be reconfigured, resulting in impacts to 220 square feet non-tidal wetlands for the construction of new pipe pile foundations. The majority of the project will be constructed within existing, cleared right-of-way; however, a total of 2.86 miles of right-of-way will need to be cleared to accommodate the new lines, resulting in the conversion of 0.71 acres of palustrine forested wetland to palustrine scrub-shrub wetland.

The design team has avoided and minimized impacts to waters of the U.S. to the greatest extent practicable while still maintaining the purpose of the project. As total permanent impacts resulting in the loss of waters of the U.S. do not exceed 0.10 acre of wetlands or 300 linear feet of stream channel and no loss in wetland value or function is expected from the proposed impacts, no compensatory mitigation is proposed at this time. A delineation of the limits of jurisdictional areas within the project has been completed and the results have been submitted to the U.S Army Corps of Engineers; preliminary jurisdictional determinations have been issued for the project (NAO-2011-01096, NAO-2012-010196 and NAO-2013-00451).

The applicant is seeking authorization from the U.S. Army Corps of Engineers for work within and proposed impacts to waters of the U.S. subject to Section 404 of the Clean Water Act and to the Virginia Department of Environmental Quality for work within and proposed impacts to waters subject to Section 401 of the Clean Water Act. Authorization from the VMRC is also sought pursuant to Section 28.2-1200 *et. seq.* of the Code of Virginia for aerial crossings of the James River, Wood Creek, Skiffes Creek, Lee-Hall Reservoir, and Harwood's Mill Reservoir, and for encroachment over subaqueous lands for the placement of structures within the James River.

1.0 PROJECT LOCATION

The applicant, Dominion Virginia Power (Dominion), proposes to construct new electrical transmission line infrastructure in the Hampton Roads area of Virginia, known as the Surry – Skiffes Creek – Whealton project (Figure 1-1 Project Vicinity Map, Appendix B). The proposed project involves the construction of two new overhead transmission lines, a 500 kV line and a 230 kV line, as well as an electrical switching station. The proposed 500 kV line, the Surry – Skiffes Creek 500 kV Line, originates at the Surry Nuclear Power Station/ Surry Switching Station, located in Surry County, and extends approximately 7.76 miles across the James River to the proposed switching station, the Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station, located in James City County (Figure 1-2 Project Location Map, Appendix B). The proposed 230 kV line, the Skiffes Creek – Whealton 230 kV Line, originates at the proposed Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station and extends approximately 20.2 miles through James City County, Newport News, York County, and Hampton to the existing Whealton Substation. The project is located within the Lower James and Lynnhaven-Poquoson watersheds, Hydrologic Unit Codes (HUCs) 02080206 and 02080108, respectively.

2.0 PURPOSE AND NEED

The proposed project is necessary to ensure that Dominion can continue to provide reliable electric service to its customers in the North Hampton Roads Load Area comprised of the Peninsula (Counties of Charles City, James City and York and the Cities of Williamsburg, Yorktown, Newport News, Poquoson and Hampton), Middle Peninsula (Counties of Essex, King William, King and Queen, Middlesex, Mathews, Gloucester and the City of West Point), and Northern Neck (Counties of King George, Westmoreland, Northumberland, Richmond and Lancaster and the City of Colonial Beach) consistent with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards for transmission facilities and Dominion's planning criteria. Power flow studies show that Dominion's transmission facilities will not meet NERC Reliability Standards if the project is not in service by the summer (commencing June 1) of 2015. The failure to address these NERC criteria violations could lead to loss of service and potentially damage Dominion's electric facilities in this area, significantly impacting electric service and the region's economy.

Continued load growth in the North Hampton Roads Load Area over the past ten years coupled with aging infrastructure and increasingly stringent environmental requirements on emissions have driven the need for construction of the proposed lines. The project area is currently served primarily by two 230

kV corridors and the generation facilities at the Yorktown Power Station. One corridor is a double circuit crossing of the James River alongside the James River Bridge containing the Surry – Winchester Line (Line 214) and the Chuckatuck – Newport News Line (Line 263). The second corridor is the Chickahominy to Yorktown corridor containing the Chickahominy – Waller (Line 2102) and Lenexa – Waller (Line 2113) 230 kV Lines. The 230 kV system in the North and South Hampton Roads Load areas both have significant generation deficiencies, meaning neither of the two existing 230 kV systems can meet reliability criteria within the region should the other system go down. This transmission system serves over 28,000 customers, including the Newport News Shipbuilding, Joint Base Langley-Eustis (previously Langley Air Force Base and Fort Eustis) and Yorktown Naval Weapons Station, all of which provide essential defense functions for the U.S. Government. Other significant customers served in the area include NASA, Canon and the Thomas Jefferson National Accelerator Facility, all of which depend on reliable electrical service for day to day activities and operations. Over the 10- year period from 2002 to 2011, peak electrical demand has grown from 1,767 Megawatt (MW) to 1,969 MW, an increase of 11.4% (based on the 2012 PJM Interconnection, LLC (PJM) Load Forecast Report). In addition, the load projection report indicates the load will grow an additional 351 MW between 2012 and 2021. Powerflow studies performed by PJM, the regional transmission organization, indicate that by summer of 2015, the region will experience violations of NERC Categories B (events resulting in the loss of a single element), C (events resulting in the loss of two or more elements) and D (extreme event resulting in two or more elements removed or cascading out of service).

The proposed Surry – Skiffes Creek – Whealton project was originally projected to be needed by 2019 to meet growing demands. However, Dominion's 2011 Integrated Resource Plan has determined that two of the three generation units at the Yorktown Power Station will be retired by spring of 2015. The four generation units at Chesapeake Power Station will also be retired by 2015. These units fail to comply with existing and forthcoming requirements of the Environmental Protection Agency (EPA), specifically the Mercury and Air Toxics Standards (MATS), the Clean Air Interstate Rule (CAIR), the ozone and sulfur dioxide National Ambient Air Quality Standards (NAAQS) and §316(b) of the Clean Water Act as well as the anticipated Coal Combustion Residuals (CCR) Rule or the Effluent Guidelines Rule. As such, they must be retrofitted to comply with the new regulations or be decommissioned. Installation of equipment and upgrades to comply with these regulations would require a capital investment of approximately $1 billion between 2011 and 2022. In addition, the plants cannot be retrofitted in time to meet NERC reliability requirements for this region. As stated above, failure to maintain reliable electric service in this region could have significant impacts on the regional economy, including the extensive military operations based in the area. Power flow studies taking into account the

retirement of the generation units indicate that the in-service date for the project must be accelerated from 2019 to Summer 2015.

It is projected that the project will cost approximately $155 million and will require a minimum of 12 months for construction. Dominion has filed an application with the State Corporation Commission (SCC) and it is currently under review (Case Number PUE-2012-00029). Approximately 12 months is required for project engineering, design, materials acquisition, and permitting. To meet required in-service dates, this application is being filed prior to final engineering of portions of the project. However, the project design has progressed to the point to allow for adequate assessment of alternatives as well as potential impacts associated with the proposed route.

3.0 PROJECT DESCRIPTION

The proposed Surry – Skiffes Creek – Whealton project consists of three components, the Surry – Skiffes Creek 500 kV Line (Surry – Skiffes Creek), the proposed Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station (Switching Station) and the Skiffes Creek – Whealton 230 kV Line (Skiffes Creek – Whealton). The project as a whole will include overland routes and crossings of the James River , tidal portions of Wood Creek and Skiffes Creek, as well as crossings of Lee Hall Reservoir and Harwood's Mill Reservoir, each of which have a drainage area of greater than five square miles. In total, the project will result in approximately 77,044 square feet (SF) of encroachment over state-owned subaqueous bottom for the construction of towers and a fender protection system within the James River and require aerial crossings of 22,549 linear feet (LF) of state-owned subaqueous bottom for transmission line installation. Construction of tower foundations will result in approximately 612 SF (0.014 acres, AC) of direct, permanent impacts to the James River bottom and 220 SF (0.004 AC) of permanent impacts to non-tidal wetlands. The proposed project will take place within existing, cleared right-of-way (ROW) wherever possible, but will ultimately require the clearing 2.86 miles of ROW to accommodate new transmission infrastructure, resulting in the conversion of approximately 0.71 AC of palustrine forested (PFO) wetland to palustrine scrub-shrub (PSS) wetland. Details regarding each portion of the project are provided below.

3.1 Surry – Skiffes Creek 500 kV Line

The Surry-Skiffes Creek line (Line 582), is a proposed single circuit 500 kV overhead transmission line that extends approximately 7.76 miles from Surry County to the proposed Switching

Station in James City County. The proposed route originates at the Surry Nuclear Power Station/ Surry Switching Station and parallels a canal for approximately 1.4 miles towards the southern shore of the James River. Leaving the Surry County shoreline, the route continues southeast for a distance of 0.1 mile before turning northeast and crossing the James River for a distance of approximately 0.6 mile (Figure 1-2 Project Location Map, Appendix B). The route then turns north and parallels the shoreline of Hog Island Wildlife Management Area for approximately 1.2 miles. The route then turns east and travels across the James River for 2.5 miles. After coming onshore in James City County, the route continues north for approximately 0.7 miles through new ROW to the existing Dow Chemical Substation. From the substation to the proposed Switching Station, the route would utilize an existing Dominion ROW that currently contains a 115 kV line (a portion of Lanexa-Yorktown Line 34). The existing 1.7 mile ROW is currently 80-130 feet (FT) wide and will need to be expanded to 150 FT wide. The route then crosses Route 60 and turns to the northwest to its terminus at the proposed Switching Station. As proposed, the route will require the conversion of 0.61 AC of PFO wetlands to PSS wetlands for the clearing of new ROW, as further detailed in Section 3.4 Construction Access and Right-of-Way Clearing and Maintenance.

The proposed line will consist of a mix of steel monopoles and lattice towers ranging in height from approximately 128-295 FT (Structure Details, Appendix D). From the Surry Switching Station, the proposed single circuit line will be constructed on steel monopoles averaging 155 FT in height for approximately 1.6 miles (Structure Details, Sheets 1-3, Appendix D). The James River crossing will utilize galvanized steel lattice towers measuring approximately 160 FT tall (Structure Details, Sheets 6-7, Appendix D). Taller towers are proposed at two channel crossings (Structure Detail, Sheet 4-5, Appendix D). Further details regarding the tower heights, clearances and construction across the river are provided in Section 3.1.1.1 James River Crossing, below. Once onshore in James City County, the line will continue to be constructed on steel lattice towers measuring approximately 150 FT high for approximately 0.7 miles (Structure Details, Sheet 8, Appendix D). The line then joins the existing Line 34 ROW and travels approximately 1.5 miles into the proposed Switching Station. The existing 52 FT tall wood H-frame structures and 85 FT tall steel towers will be replaced with 128 FT steel towers that will hold both the proposed line (Line 582) and existing Line 34 (Structure Details, Sheets 9-11, Appendix D).

Towers within the overland portions of the line will utilize existing foundations wherever possible, or new pipe pile foundations. All towers along this portion of the project have been located outside of wetlands; therefore, no impacts are proposed as a result of overland tower foundations for this portion of the project. More detail regarding pipe pile foundations are included in Section 3.3.1 Tower

Construction since the Skiffes Creek – Whealton portion of the project does propose towers to be located in wetland areas.

3.1.1 Section 10 and State-Owned Subaqueous Bottom Crossings

The proposed Surry – Skiffes Creek route crosses two tidal water bodies, Wood Creek and the James River. These crossings require either Section 10 authorization from the U.S. Army Corps of Engineers (Corps) and/or authorization from the Virginia Marine Resources Commission (VMRC) for aerial crossings of state-owned subaqueous bottom. A crossing of Skiffes Creek is also required; however, the crossing is at an area that is neither tidal nor has a drainage area greater than five square miles. As proposed, the line will require aerial crossings of 21,773 LF of state-owned subaqueous bottom, including the James River, as well as the permanent encroachment of 74,044 SF (1.7 AC) for tower and fender system construction (Tables 3-1 and 3-2, and Jurisdictional Area Impacts Map, Appendix B). Further details for the Wood Creek and James River crossings are provided below.

Table 3-1. Aerial Crossings of Subaqueous Bottom Requiring Section 10 and/or VMRC Authorization

Tidal Waters			
Crossing	**Tower Numbers**	**Crossing Length (MLW-MLW, LF) (MHW-MHW, LF)**	**Minimum Vertical Clearance Above MHW (FT)**
James River (Section 10 Authorization)	582/12 – 582/18	21,715 21,715	Tribell Shoal Channel: 204 Secondary Channel: 191 Remainder of River: ≥ 60
Wood Creek 1	582/30 – 582/31	35 93	95
Wood Creek 2	582/32 – 582/33	23 183	83
Skiffes Creek	285/435 – 285/436	629 194	71.5
Non-Tidal Waters (drainage area >five square miles)			
Crossing	**Tower Numbers**	**Estimated Crossing Length (LF)**	**Minimum Vertical Clearance Above MHW (FT)**
Lee-Hall Reservoir	285/443 – 285/444	49	> 26
Harwood's Mill Reservoir 1	209/5725 – 209/573	49	> 26
Harwood's Mill Reservoir 2	292/590 – 292/591	49	> 26

3.1.1.1 James River Crossing

As designed, the proposed line will span a total of 4.11 miles (21,715 LF) from mean low water (MLW) to MLW and include the placement of 17 steel lattice towers in the James River (Jurisdictional Area Impacts Map, Appendix B). Due to resolution of data at this scale, the crossing distance from MLW to MLW is not discernibly different than the mean high water (MHW) distance (Table 3-1). The proposed overhead crossing of the James River crosses the Tribell Shoal Federal navigational channel (maintained by the Corps), an associated dredge spoil disposal area, a secondary navigational channel used mainly by tug and barge traffic, and several private oyster lease areas (Proposed James River Navigational Clearances, Appendix C). Water depths within these channels range from approximately 29 FT in the federal channel to 15-19 FT in the secondary channel. The presence of these features presented a number of design constraints. Initial discussions with the Corps provided guidance regarding minimum buffer requirements for towers adjacent to the federal and secondary channel, as well as the requirement to span the dredge spoil disposal area. Specifically, a minimum distance of 250 FT is required to be maintained between the adjacent towers and the limits of the federal navigational channel, and a minimum distance of 100 FT is required to be maintained between the adjacent towers and the limits of the secondary navigational channel. The proposed configuration has been designed to meet these buffer requirements and to span the dredge disposal area, as shown on the Proposed James River Crossing Navigational Clearances graphic (Appendix C).

Vertical Clearance Requirements

Minimum vertical clearances (MVCs) of the channels are required for navigational purposes. In accordance with the U.S. Coast Guard (USCG) Bridge Guidance Clearance manual, the James River has a pre-determined clearance requirement of 145 FT for fixed crossings. Additionally, 33 CFR Part 322.5(i) states that an additional 35 FT of vertical clearance is required for 500 kV transmission lines. Thus, a MVC of 180 FT above MHW is required, specifically at the Tribell Shoal federal channel. The proposed MVCs associated with the proposed line exceed the required MVC for 500 kV lines over navigable channels and are not expected to impact commercial or recreational use of this portion of the river (Proposed James River Crossing Navigational Clearances, Appendix C). Specifically, the MVC above MHW for the Tribell Shoal Federal navigational channel is approximately 204 FT and approximately 191 FT for the secondary navigational channel. The MVC across the remainder of the James River is approximately 60 FT or greater. These clearances are listed in Table 3-1 and illustrated on the following

graphics: Proposed James River Navigational Clearances (Appendix C) and the James River Crossing Plan and Profile (Appendix E).

The proposed clearances associated with the project are not expected to impact commercial or recreational use of this portion of the river. The majority of traffic traveling this portion of the river will largely be confined to one of the two channels. Water depths along the eastern and western shorelines of the river are generally shallow, ranging from 2-7 FT. These depths may support small, recreational watercraft, but would likely not support larger vessels requiring more than 60 FT of vertical clearance. In the central portion of the river, navigation would not be affected by the proposed line clearances as the entire area between the federal and secondary channels is a designated Red Sector (Proposed James River Crossing Navigational Clearances, Appendix C). As such, this area is off limits to all boat traffic and no impacts to navigation will occur as a result of the proposed overhead line. Last, it is expected that the clearance provided outside of the federal channel will accommodate much of the current use. Should vessels require additional clearance, the federal channel will provide a safe passageway with ample vertical clearance based on regulatory guidelines and other existing crossings within the river.

Tower Construction

As designed, the proposed line will require the placement of 17 steel lattice towers in the James River (Jurisdictional Area Impacts Map, Appendix B). Steel lattice towers ranging in height from 127 FT to 296 FT will be used for the majority of the crossing with taller towers (273 FT) required at the federal channel crossing (Table 3-1). Towers are expected to be constructed from barge work platforms. As towers directly adjacent to the navigational channels will exceed 200 FT in height, they will require lighting per Federal Aviation Administration regulations. The foundation system for each structure will consist of approximately 20 steel piles (approximately 5 piles per leg) for each tower (Conceptual Tower Leg Foundation Detail, Appendix C). During construction, each pile will be driven into the river bottom to the required design depth. The pile will then be encased with a 2-piece fiberglass sleeve that will be hand-jetted into the river bottom. The sleeve will be backfilled with grout that will be poured from the surface. The fiberglass sleeve will completely seal the pile and grout to prevent release to adjacent waters. Each pile has a diameter of 1.5 FT for a total of 0.75 SF per tower leg. A total of 17 towers are proposed to be located within the James River, resulting in 612 SF (0.014 AC) of direct impacts to the River bottom (Jurisdictional Area Impacts Map, Appendix B).

A concrete cap will then be constructed on top of the piles with the top of the cap at approximately 6 FT above MHW (Conceptual Tower Leg Foundation Detail, Appendix C). The anticipated maximum dimension of the concrete cap for each tower leg is 12 FT x 12 FT x 6 FT. The total structure footprint (75 FT x 75 FT) for towers greater than 200 FT in height would require approximately 5,625 SF of encroachment over state-owned subaqueous bottom and approximately 3,600 SF of encroachment for towers less than 200 FT in height (60 FT x 60 FT) (Table 3-2 and Jurisdictional Area Impacts Map, Appendix B).

Table 3-2. Proposed Encroachment over Subaqueous Bottom for the Fender System and Tower Placement in the James River

Structure	Dimensions (SF)	Quantity	Total Footprint (SF)
Towers < 200 FT	3,600	13	46,800
Towers > 200 FT	5,625	4	22,500
Fender System	1,936	4	7,744
Encroachment Over Subaqueous Bottom			**77,044**

A fender system consisting of 53 driven piles will also be placed within the river along the channel side of the structures adjacent to both the federal and secondary channel to protect against collision. The fenders will be approximately 528 LF and are expected to utilize approximately 30-inch diameter piles on 10-FT centers (Conceptual Fender System Detail, Appendix C). As the fender system is supported by driven piles, there are no permanent impacts requiring mitigation according to 33 CFR Part 323.3.c2. The fender system will be capped with a 6 FT laminate structure embedded with steel reinforcement. The top of the laminate system will be 10 FT above MLW and the bottom will be 4 FT above MLW. A total of four fender systems are required, resulting in approximately 7,744 SF of encroachment over state-owned subaqueous bottom (Table 3-2 and Jurisdictional Area Impacts Map, Appendix B). Per Section 28.2-1204 of the Code of Virginia, the encroachment over state-owned subaqueous bottom requires VMRC Authorization. Based on the proposed design, the construction of instream towers and the fender system will result in a total of 74,044 SF (1.7 AC) of encroachment over subaqueous bottom (Table 3-2). Appropriate royalties will be paid to VMRC for this encroachment, as well as for the aerial crossings of tidal waterbodies and waterbodies with a drainage are greater than 5 square miles.

Private Oyster Lease Areas

The Surry – Skiffes Creek route also crosses four private oyster lease areas in the James River (Table 3-3). A total of seven towers will be required to be located within these areas. The surveyed limits of the lease areas were obtained from the VMRC and are shown on the James River Crossing Alternatives Map (Appendix F). Ownership information for affected lease areas is provided in Appendix A. The route does not cross any Public Baylor Grounds.

Table 3-3. Private Oyster Leases Crossed in the James River

Tower Numbers	Plat Number	Number of Towers in Leased Areas
582/17 – 582/20	19205	4
582/23	19725	1
582/27	19800	1
582/28	17064	1

3.1.1.2 Wood Creek Crossings

Two aerial crossings of Wood Creek will be required (Jurisdictional Area Impacts Map, Appendix B). Table 3-1 provides the crossing length and minimum vertical clearance of each aerial crossing. Wood Creek Crossing 1 will be approximately 95 FT above MHW and span approximately 35 LF from MLW to MLW. Wood Creek Crossing 2 will be 83 FT above MHW and span approximately 23 LF from MLW to MLW. No towers are proposed to be located in Wood Creek.

3.2 Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station

In conjunction with the line construction, Dominion proposes to build the Switching Station on a 51-acre parcel in James City County. The site for the proposed switching station is partially cleared, as it contains an existing Dominion ROW. Construction of the Switching Station includes the installation of one new 500 kV terminal, five new 230 kV terminals and three new 115 kV terminals, as well as transformers and additional transmission equipment. Stormwater management will be provided onsite through the construction of a stormwater pond to the northwest of the station. Construction of the Skiffes Creek Switching Station will not result in impacts to waters of the U.S. An archaeological resource (DHR ID# 44JC0662) has been identified within the limits of disturbance of the Switching Station. In addition, appropriate habitat for the federally listed small whorled pogonia (*Isotria medeoloides*) is

present in the northwest portion of the site (Detailed Survey for Small Whorled Pogonia, Appendix H). Both the archaeological resource and small whorled pogonia habitat areas are shown on the Jurisdictional Area Impacts Map (Appendix B). Each are discussed in further detail in Sections 8.0 and 9.0, respectively.

3.3 Skiffes Creek – Whealton 230 kV Line

The Skiffes Creek – Whealton line (Line 2138), is a new 230 kV double circuit overhead transmission line that extends approximately 20.2 miles from the proposed Switching Station to the existing Whealton Substation. To accommodate the new line, the existing ROW along this route will have to be reconfigured. The proposed route utilizes existing ROW which contains several transmission lines in varying configurations, including Lines 34, 58, 61, 99, 285, 292 and idle Line 209 (Structure Details, Appendix D). Structures within the ROW will be replaced to accommodate the new 230 kV line and the remaining transmission lines. All work will take place within the existing cleared 150 foot ROW, with the exception of work in a 1.16 mile section of the route located in the vicinity of the Newport News/Williamsburg Airport and Harwood's Mill Reservoir. In this section an additional 100 FT of existing ROW will need to be cleared to a final width of approximately 250 FT. Hand clearing of this additional ROW will result in the conversion of 0.10 AC of PFO wetlands to PSS wetlands (Jurisdictional Area Impacts Map, Appendix B), as further detailed in Section 3.4 Construction Access and Right-of-Way Clearing and Maintenance. The Skiffes Creek – Whealton line will also result in approximately 220 SF (0.004 AC) of impacts to non-tidal wetland for the construction of tower foundations, as further discussed in Section 3.3.1 Tower Construction.

3.3.1 Tower Construction

The entire line will be constructed within existing Dominion ROW. Structure replacement will generally be at a one-to-one ratio with the existing structures. Replacement structures will be constructed as near as possible to the existing structures to minimize disturbance. Adjacent to the Harwood's Mill Reservoir, existing structures are proposed to be replaced along with construction of completely new steel H-frame structures (Structure Details, Sheets 27-28, Appendix D). Proposed structures along the route will range in height from 52 FT H-frame structures to 125 FT monopole structures and use existing, direct bury and pipe pile foundations. The shorter H-frames will be used for structure numbers 209/566 – 209/570 and 292/579 – 292/590 due to the proximity to the Newport News/Williamsburg Airport where these structures cannot exceed the existing heights (Structure Details, Sheets 21-22, Appendix D). Table

3-5 summarizes the construction activities to be used along the route. The existing and proposed ROW configuration and structure details are included in Appendix D.

As designed, 22 monopole structures in wetlands are proposed to be rebuilt. No existing or new structures will be located within open waters or streams. Foundations for these structures will utilize pipe pile foundations. These foundations will use a 42-inch diameter outer pile driven to an appropriate depth. Bottom material will be excavated from within the pile and disposed of in upland areas, then a 30-inch diameter inner pile will be driven in place and the space between the inner and outer pile will be grouted (Typical Pipe Pile Foundation Detail, Appendix D). Leveling bolts which extend beyond the outer piles are used to level the foundation. In upland areas, the pipe pile foundations may be installed such that the leveling bolts are located below the ground surface as depicted on the Typical Pipe Pile Foundation Detail (Appendix D); however, when used in wetlands, the outer pile is designed to locate the leveling bolts above ground level. Therefore, within wetlands, excavation outside of the outer pile is not required to access or install the leveling bolts. Each completed pipe pile foundation has a footprint of approximately 10 SF per pile. Therefore, rebuilding of the 22 structures will result in approximately 220 SF (0.004 AC) of structural discharge in wetland areas (Table 3-4 and Jurisdictional Area Impacts Map, Appendix B).

Table 3-4. Non-Tidal Wetland Impacts

Tower Number	Structure and Foundation Type	Number of Structures	Approximate Impact Area (SF)
285/455	Monopole using existing foundation	1	0
285/463	Monopole with pipe pile foundation	1	10
58/276 – 58/282	Monopole with pipe pile foundation	7	70
58/287 – 58/290	Monopole with pipe pile foundation	4	40
292/595 – 292/596	Monopole with pipe pile foundation	2	20
292/599	Monopole with pipe pile foundation	1	10
292/607 – 292/608	Monopole with pipe pile foundation	2	20
292/613	Monopole with pipe pile foundation	1	10
292/626 – 292/629	Monopole with pipe pile foundation	4	40
Total Impacts to Non-Tidal Wetlands			**220**

3.3.2 State-Owned Subaqueous Bottom Crossings

An aerial crossing of a tidal portion of Skiffes Creek (Skiffes Creek Crossing Plan and Profile, Appendix E), as well as aerial crossings of Lee-Hall Reservoir and two crossings of Harwood's Mill Reservoir will be required (Jurisdictional Area Impacts Map, Appendix B). At the crossing locations,

both reservoirs have drainage areas greater than five square miles. To determine the crossing length over regulated waters within the Lee-Hall and Harwood's Mill Reservoirs, the width of the historic stream channel was determined. An approximate width was calculated by interpolating between upstream and downstream channel widths adjacent to the reservoir dam. Table 3-1 provides the estimated crossing length and minimum vertical clearance of each aerial crossing. Since the new towers will be of similar height or taller, the new double circuit 230 kV line will be at or above the minimum height for each crossing, and at least 26 FT above any fixed structure as required for overhead 230 kV lines per 33 U.S.C. 322.5.(i)(2).

Table 3-5. Skiffes Creek – Whealton Construction Summary

Tower Numbers	Construction Activity	Existing Maximum Tower Height (FT)	Average Proposed Tower Height (FT)
285/421 – 285/437	Replacing double circuit weathering towers with double circuit weathering poles	125	125
285/438 – 285/458	Existing double circuit painted poles will be painted and reused	115	115
285/459 – 285/464A	Replacing double circuit weathering towers with double circuit weathering poles	130	125
58/275 – 58/290	Replacing wood double circuit 3-pole H-frames with double circuit weathering poles	61	105
58/291 – 58/293	Replacing double circuit weathering towers with double circuit weathered poles	100	105
209/566 – 209/570	Replacing H frames with weathering H-frames	52	52
209/571 – 292/574	Replacing double circuit weathering towers with double circuit weathering poles	115	120
292/574 – 292/578	Replacing steel towers with weathering poles	106	110
292/579 – 292/590	Replacing wood H frames with two H frames	52	52
292/591 – 292/639	Replacing double circuit weathering towers with double circuit weathering poles	106	115
292/640 – 292/641	Replacing double circuit painted pole structure with double circuit weathering pole structure	115	125
292/642 – 292/644	Replacing double circuit weathering towers with double circuit weathering poles	106	115
292/645 – 292/646	Replacing double circuit weathering towers with double circuit weathering poles	101	110

3.4 Construction Access and Right-of-Way Clearing and Maintenance

Construction access will generally be provided through existing roads, timber paths, and along the existing ROW. Within the ROW, timber mats will be used in wetland areas and stream channels will be bridged or access from either side to avoid impacts to these areas. As proposed, no impacts are expected from construction access.

The existing variable width ROW for the entire project is currently cleared and maintained for existing transmission facility operation with the exception of two areas. A 1.7 mile length of ROW along the Surry – Skiffes Creek line from the Dow Substation to the proposed Switching Station, and a 1.16 mile section of ROW along the Skiffes Creek – Whealton line in the vicinity of Harwood's Mill Reservoir need to be widened and cleared. Clearing for the Surry – Skiffes Creek line is required due to the voltage of the line and minimum horizontal clearances required for 500 kV lines, while clearing for the Skiffes Creek – Whealton line is required due to the proximity to the Newport News/Williamsburg International Airport. The additional 100 FT of existing, unmaintained ROW is needed to accommodate additional structures to hold the new line. In total, selective hand clearing of the ROW will result in the conversion of 0.71 AC of PFO wetlands to PSS wetlands (Table 3-6 and Jurisdictional Area Impacts Map, Appendix B). In areas of forested ROW, trees must be removed and prevented from growing above a scrub/shrub level as they can interfere with line operation and pose a safety hazard.

Table 3-6. Proposed Wetland Conversion Impacts from Selective Hand Clearing

Impact Number	Tower Number	Impacts Map Sheet Number	Approximate Acres of PFO to PSS Conversion
SHC 1	582/29 – 582/31	5	0.21
SHC 2	582/32 – 582/34	5	0.08
SHC 3	582/34 – 582/37	6	0.31
SHC 4	582/40 – 582/41	7	0.01
SHC 5	292/578 – 292/579	13	0.01
SHC 6	292/580 – 292/587	13	0.09
Total Wetland Conversion Impacts			**0.71**

In general, clearing will be accomplished by hand in wetland areas and within 100 FT of streams; matting will be used for heavy equipment in these areas. Vegetation is proposed to be cut by hand above ground level within wetlands. The stumps will not be grubbed, and the root system will not be disturbed. Vegetation that does not typically grow beyond the scrub/shrub level is allowed to naturally regenerate.

The ROW will continue to be maintained on a regular cycle by certified professionals to prevent interruption to electric service and provide ready access to the ROW in order to patrol and make emergency repairs. Trees located outside of the ROW that are tall enough to potentially impact the expanded transmission facilities, commonly referred to as danger trees, may need to be removed. Erosion control devices will be used on an ongoing basis during all clearing and construction activities, and temporary stabilization for all soil disturbing activities will be used until the ROW has been restored. Periodic maintenance to control woody growth will consist of continued hand cutting in wetland areas, machine mowing in upland areas and select herbicide application.

4.0 ALTERNATIVES CONSIDERED

Both Federal Energy Regulatory Commission (FERC) guidelines and the Code of Virginia § 56-46.1 promote using existing ROW wherever feasible as a priority over acquiring and utilizing new ROW. As such, the feasibility of locating the proposed utility facilities within existing easements and ROW was considered during the initial routing process. For the Skiffes Creek – Whealton portion of the project, Dominion determined that the existing ROW could accommodate the construction of the new 230 kV line, therefore, no other alternatives were evaluated for this portion of the project.

However, Dominion conducted an extensive alternatives analysis for the Surry – Skiffes Creek portion of the project that included generation alternatives, upgrades to existing facilities, use of existing transmission lines and the construction of new transmission lines of varying capacities including double circuit 230 kV and single circuit 500 kV lines. As detailed in the following sections, several alternatives did not meet either the short-term or long-term NERC reliability requirements. As such, these alternatives do not meet the purpose and need of the project and were not considered further.

Both a 230 kV and a 500 kV underground crossing of the James River were among the alternatives considered for Surry – Skiffes Creek portion of the project. A 230 kV line, either overhead or underground, would not meet NERC reliability requirements. Therefore, this alternative does not meet the purpose and need and was not considered further. Installation of a 500 kV underground line poses significant reliability, operational, financial and environmental challenges. There is only one known underground 500 kV line in the United States, and no 500 kV line of the capacity required for this project has ever been installed anywhere in the world. As such, the underground 500 kV line is not a feasible alternative and was also eliminated from consideration.

Of the remaining viable alternatives, several variations of the James River crossing and an overland route from the existing Chickahominy Substation were evaluated further. During the initial planning stages of the project, four routes were identified as possible alternatives for crossing the James River, the Surry Alternative, James River Variation 1 (JRV1, the selected alternative), James River Variation 2 (JRV2) and James River Variation 3 (JRV3) (James River Crossing Alternatives Map, Appendix F). The Surry Alternative, James River Variations 1, 2 and 3, and the overland route from the Chickahominy Substation are all electrically viable, but with varying degrees of environmental, cultural and financial constraints. These variations were driven largely by the need to maintain minimum clearances across the federal and secondary navigational channels within the river while avoiding encroachment into the Terminal Instrument Procedure (TERPS) non-precision approach obstacle clearances associated with Felker Army Airfield at Joint Base Langley – Eustis.

In addition to the river crossing variations, a 37.9 mile overland route within an existing, ROW from the Chickahominy Substation in Charles City County to the proposed Skiffes Creek Switching Station in James City County was also considered. This route would result in increased environmental impacts as approximately 24.9 miles of the ROW is currently uncleared, and the route crosses through the Chickahominy Wildlife Management Area. Based on preliminary investigations, there is also an increased potential for impacts to cultural and historic resources. Due to the overall length of the line, this alternative would also cost significantly more to construct.

All of the alternatives considered were evaluated by PJM's Transmission Expansion Advisory Committee (TEAC). As a result of that analysis, PJM recommended the Surry Alternative as the preferred alternative. However, JRV 1 was ultimately identified as the most viable alternative and is the least environmental damaging practicable alternative. As such, the JRV1 route is the selected alternative for the Surry – Skiffes Creek 500 kV Line portion of the project. Further details of all alternatives considered for the Surry – Skiffes Creek portion are provided in Section 4.1. A comparison of the viable alternatives for this portion of the project that meet the project purpose and need and can feasibly be constructed is provided in Table 4-1.

4.1 Alternatives Considered for the Surry – Skiffes Creek 500 kV Line

4.1.1 Surry Alternative

The Surry Alternative route extends approximately 7.4 miles from Surry County to the proposed Skiffes Creek Switching Station in James City County. The route originates at the Surry Nuclear Power Station/ Surry Switching Station and parallels a canal for approximately 1.38 miles towards the southern shore of the James River. The route then turns northeast and travels across the James River for 3.48 miles. After coming onshore in James City County, the route continues north for approximately 0.8 miles through new ROW to the existing Dow Chemical Substation. From the substation the route would join and follow an existing Dominion ROW that currently contains a 115 kV line (a portion of Lanexa-Yorktown Line 34). The route then crosses Route 60 and turns to the northwest for 0.19 miles to its terminus at the proposed Skiffes Creek Switching Station.

Crossing the James River, this route would require the placement of 16 structures in the James River and cross three private oyster lease areas. In order to maintain a MVC of 145 FT as required by the U.S. Coast Guard (USCG, Bridge Guide Clearances), as well as the additional 35 FT of clearance for 500 kV transmission lines, as required by the Corps (33 CFR Part 322.5 (i)), some towers would encroach upon TERPS non-precision approach obstacle clearances associated with Felker Army Airfield at Joint Base Langley – Eustis. To avoid penetration of the TERPS clearances, the maximum tower height at the secondary navigational channel would be reduced, resulting in a MVC of only 69.4 FT. During the planning stages of the project, the Corps, USCG and Joint Base Langley – Eustis were consulted on potential MVC over the James River, including the navigational channels. Both the Corps and Joint Base Langley Eustis expressed concern regarding the reduced MVC over the secondary channel and as such, Dominion determined the initially proposed route to no longer be a viable option.

Table 4-1. Comparison of Feasible Alternatives for the James River Crossing Meeting the Project Purpose and Need

Project Component	Surry Alternative	Surry – Skiffes Creek (JRV1)	James River Crossing 3	Chickahominy-Skiffes Creek
Length of Route	7.4 miles	7.76 miles	7.5 miles	37.9 miles
Homes Within 500 FT of ROW	84	84	84	1,129
Estimated Cost	$102 million	$107 million	$106 million	$164 million
PFO Wetland Conversion	0.57 acre	0.61 acre	0.73 acre[1]	62.00 acre[1]
Tidal Wetlands Crossed	1.20 acre	1.20 acre	0.00 acre	8.64 acre
Navigable Crossing (miles)	James River (3.5)	James River (4.11)	James River (4.13)	Chickahominy River (0.35)
Structures in River	16	17	16	1
Structures in Private Oyster Lease Areas	4	7	4	0
Tower Height Restrictions	Yes – Felker Airfield TERPS	No	No	No
Potential Threatened & Endangered Species Habitat	small whorled pogonia, anadromous fish, Atlantic sturgeon, bald eagle	small whorled pogonia, anadromous fish, Atlantic sturgeon, bald eagle, colonial waterbirds	small whorled pogonia, anadromous fish, Atlantic sturgeon, bald eagle, colonial waterbirds	small whorled pogonia, sensitive joint-vetch, bald eagle, anadromous fish, Atlantic sturgeon
Architectural sites within 0.5 miles of ROW	17	17	18	30
Archaeological Sites within ROW	4	4	2	68
Effects on Cultural & Historic Resources[2]	Nearest Tower Distance from Carter's Grove 2.4 miles/ relative visual impact is minimal	Nearest Tower Distance from Carter's Grove 1.7 miles/ relative visual impact is moderate	Nearest Tower Distance from Carter's Grove 0.8 miles/ relative visual impact is significant	Significant visual impact to Captain John Smith Chesapeake National Historic Trail

[1]Estimate based on field delineated wetlands and desktop resources
[2]Relative effects as determined by Truescape Visual Communication (see Section 9.0)

4.1.2 James River Variation 2 (JRV2)

After leaving the shoreline in Surry County, JRV2 turns to the northeast and parallels the southern edge of an existing underground pipeline corridor across the James River. This alternative makes landfall further north in James City County than the selected route. The JRV2 route would cross several parcels zoned for industrial use, including a parcel owned by James City County Industrial Development Authority (IDA). Dominion does not have the rights to exercise their power of Eminent Domain over County property, and the ability to acquire the required easement through the IDA parcel is uncertain.

Crossing the James River, this route will require the placement of 15 in-stream structures. Because the line would parallel an existing easement, no encroachment on private oyster lease areas would be required. However, the route is only slightly north of the initially proposed route, and height limitations at the channel crossings remain problematic for this route. To maintain a minimum 180 FT clearance at both the federal and secondary channels, the required tower heights would penetrate the TERPS surface. As JRV2 does not alleviate clearance interferences with the TERPS or provide any significant benefits relative to JRV1, as such, JRV2 was not chosen as the preferred alternative.

4.1.3 James River Variation 3 (JRV3)

JRV3 also parallels Hog Island MWA offshore, but for a shorter distance than the selected route. The crossing of the James River will include the placement of 16 in-stream structures with four being located in privately owned oyster lease areas. JRV3, would locate the line far enough north to avoid tower height restrictions associated with Felker Airfield at the federal and secondary channel crossings. However, JRV3 would face the same ROW acquisition constraints for the IDA parcel as those outlined for JRV2.

Given the route for JRV 3, additional angle structures would be required resulting in increased costs for this alternative. JRV3 would also place the line at its closest proximity to known historic resources within James City County, approximately 0.8 miles, resulting in relatively significant impacts to the viewshed of this resource. As with JRV2, this route would also cross the same industrial parcels resulting in the same potential property acquisition uncertainties. As such, this route is not the preferred alternative.

4.1.4 Chickahominy – Skiffes Creek 500 kV Line

The Chickahominy – Skiffes Creek alternative includes the construction of an approximately 37.9 mile long overhead single circuit 500 kV line from the existing Chickahominy Substation in Charles City County to the proposed Skiffes Creek Switching Station in James City County. While the entire line would be constructed within existing ROW, 24.9 miles would be located on unimproved ROW which would require clearing. The remaining 13 miles would be located on existing, improved ROW already occupied by transmission line facilities with no additional clearing required. This alternative would require a crossing of the Chickahominy WMA for a distance of 2.6 miles all on existing but uncleared ROW (Chickahominy – Skiffes Creek 500 kV Line Alternative Map, Appendix F).

A crossing of the Chickahominy River would also be required. Due to the topography at the crossing and the distance across the river, one structure would be required to be placed in the river bed. The portion of the river at the crossing location has not been developed significantly and has maintained a relatively undisturbed environment. The Chickahominy Indian Tribe considers the Chickahominy River to be important to their heritage and sacred to the tribe. This part of the Chickahominy River also is included in the Captain John Smith Chesapeake National Historical Trail. Interested parties have noted concern about the visual impact of a 500 kV line crossing the pristine environment of the Chickahominy River at this location.

As this alternative traverses a much longer route than the initially proposed route, and because clearing of forested areas is required, the Chickahominy – Skiffes Creek alternative would result in increased impacts to environmental and cultural resources relative to the proposed Surry – Skiffes Creek route. Preliminary investigations, including a wetland delineation and a cultural and historic resources survey, were conducted on this route by Williamsburg Environmental Group, Inc. (WEG) and Cultural Resources, Inc. (CRI), respectively. Results from this work identified six previously known archaeological sites, 24 newly identified archaeological sites and 38 new isolated archaeological finds within the ROW. Based on the delineated areas, the route contains 93.32 AC of wetlands, with approximately 62 AC PFO wetlands, as well as 8.64 AC of tidal wetlands. In addition, there are several known eagle nests located in the vicinity of this route, and it is likely that some of the forested areas along the existing ROW contain appropriate habitat for listed plant species, including small whorled pogonia. Construction of this line, and the associated clearing of the ROW, would likely impact these species as well as effect cultural and historic resources. Based on the anticipated increased environmental and

cultural impacts, as well as increased costs associated with the route, the Chickahominy – Skiffes Creek route is not the preferred alternative.

4.2 Alternatives Considered but Eliminated

As discussed above, several additional alternatives were considered, including an underground crossing of the James River (both a 230 kV and a 500 kV line), alternative overland routes as well as upgrades and retrofitting of existing generation facilities. However, based on failure to meet the project purpose and need or technical, environmental and financial constraints rendering these alternatives infeasible, these alternatives were excluded from further consideration. Below is a description of the alternatives considered and justification for their elimination from further consideration.

4.2.1 Surry – Skiffes Creek Underground James River Crossing

When determining whether to construct overhead or underground transmission lines, Dominion considers such factors as reliability, operability, time to construct, cost and overall impacts associated with the line construction. Currently, only 1.2% of Dominion's transmission network is underground, and of that, no lines exceed 230 kV. Underground transmission facilities are generally not the preferred option if there is a feasible overhead route. This is due to the fact that such underground transmission facilities present certain reliability and operating issues and the initial and ongoing costs are significantly higher as compared to overhead transmission facilities. However, the potential to construct an underground crossing of the James River was evaluated to address potential concerns over viewshed impacts and the placement of towers in this section of the river.

An underground double circuit 230 kV line alternative was first considered as the installation of underground lines of this capacity have been shown to be technically feasible. Dominion recently installed a 230 kV line under the York River. However, the construction of a 230 kV line in this case, either overhead or underground, would fail to resolve the electrical deficiencies identified by NERC criteria violations. Specifically, constructing a new 230 kV line would cause additional load stress on the South Hampton Roads area which is already generation deficient. A 230 kV line does not provide the transfer of bulk power that a 500 kV line does, and therefore would merely shift burdens between load generation areas. Based on this analysis, a 230 kV line, either overhead or underground, does not meet electrical NERC reliability requirements and is therefore excluded from further analysis.

The construction of an underground 500 kV line was also considered. Unlike 230 kV lines which have made great strides in underground construction, the placement of 500 kV lines underground remains on the cutting edge of technology. The only 500 kV underground cables in the United States are at the Grand Coulee Dam in the state of Washington. These are generator connections from the dam to the adjacent switchyard which are very short in length. These circuits are currently in the process of being replaced due to reliability concerns. While other underground 500 kV circuits have been constructed outside of the U.S., none are of the capacity required to meet the purpose and need for this project. Several other projects around the U.S. have recently considered the construction of underground 500 kV lines including a 6.5 mile line in the Everglades, Florida (Patrick Engineering, Inc. 2010), a 12.6 mile Antelope-Pardee 500 kV line in Los Angeles, California (USDA Forest Service, 2006) and an 2.12 mile crossing of the Potomac in Maryland (Black & Veatch, 2008). In each case, significant obstacles to construction have been noted, and the overhead option has been chosen in favor of an underground line.

Reliability and operability are major concerns in determining whether to build overhead or underground transmission lines. Overhead and underground lines each have reliability challenges, but the ability to locate and repair an overhead line is much easier and more efficient than repairs on underground lines. On average, most repairs on an overhead line can be completed within hours, but repairs to underground lines take days to weeks due to significant issues locating the fault and subsequently "reclosing" the line. Where the underground line is located in the bed of a river, such as would be the case here, the repairs become even more specialized and would be expected to take even longer. This results in significantly longer outages on underground lines than those on the overhead counterparts. These types of lengthy outages are unacceptable from a reliability and customer service standpoint. In addition, underground transmission lines add operating restrictions to the electric system. When power usage is low, normally in spring and fall, underground lines can raise the voltage demand on the transmission grid to unacceptable levels. To avoid equipment damage, these lines must be temporarily taken out of service, or sufficient reactive compensation facilities must be added to the system. Such additional demands and special facilities are not required for overhead transmission lines. From a reliability and operational standpoint, overhead lines are the preferred option.

An equally critical factor to consider is the time available to construct the project. As previously discussed in Section 2.0, the timeline for the in-service date for this project has been significantly accelerated from 2019 to Summer 2015. Based on a previous 230 kV project of similar length, the minimum estimated construction timeframe for an underground line is 60 months. This construction

timeframe is based on the utilization of multiple contractors and an extremely aggressive construction schedule. It is unlikely that the number of contractor crews required to meet such a schedule can be obtained due to the limited resources that exist in the transmission underground construction industry. As such, it is not feasible to physically construct an underground alternative in the requisite timeframe for the project. By contrast, the length of time required to construct the proposed overhead Surry – Skiffes Creek 500 kV line is estimated to be 15 months and can be expected to be completed in time to meet regulatory requirements. In addition, as a public utility, Dominion has a responsibility to provide a reliable network in as cost-efficient manner as practicable. The least expensive of the underground alternatives considered not only cannot be constructed by the need date, but would cost at least $462 million[1] compared to the $102 million cost of the proposed overhead route.

In addition to the other reliability, operational and cost factors outlined above, environmental impacts associated with an underground crossing of the James River would also be more significant relative to an overhead crossing. As previously detailed, the overhead tower construction will utilize pipe pile foundations which minimize disturbance to the river bottom. While directional drilling could be utilized to avoid disturbance to much of the river bottom for an underground crossing, several splice points would be required within the river for a crossing of this length. At each splice point, a trench approximately 900 FT long by 4 FT wide and 15 FT deep would be required to be excavated. It is estimated that at least three splice points would be required for the James River crossing following the most direct route. This would result in significant disturbance to sediments which are known to contain historic contaminants (PCBs, Kepone). Based on the above analysis, construction of an underground 500 kV line that meets the purpose and need is not feasible, and this alternative was not considered further.

4.2.2 Chickahominy – Lanexa – Skiffes Creek North-South 500 kV Line

Dominion also evaluated two other alternatives adjacent to an existing improved ROW extending from the Chickahominy Substation through Lanexa and on to the Lightfoot Junction. The corridor from the Lightfoot Junction, the line would follow an existing, improved corridor to the proposed Skiffes Creek Switching Station. This alternative, termed the Chickahominy – Lanexa – Skiffes Creek North-South 500 kV Line, would involve the expansion of the existing ROW between the Chickahominy Substation and Lightfoot Junction North to either the north by 125 FT or to the south by 115 FT. Preliminary analysis

[1] As no underground 500 kV lines at the required capacity have ever been constructed, cost estimates are based on best professional knowledge of construction of an underground 230 kV line of similar length. Actual costs are expected to be much higher based on specialized materials and technical requirements for construction.

indicate that approximately 43 AC of PFO would be required to be permanently converted to w for the expansion of the ROW to accommodate the additional 500 kV Line.

While this alternative initially appeared to be viable, subsequent power flow studies showed that building the new 500 kV line using the portion of the improved ROW between Chickahominy and Lanexa Substation does not resolve NERC Category D violation issues. Specifically, events that would result in a cascading outage could ultimately interrupt service to customers not only in the North Hampton Roads area but also in Northern Virginia, the City of Richmond area and North Carolina. These alternatives were determined not to be an electrically acceptable solution for the project because they would not address projected violations of mandatory NERC Standards. Construction of the 500 kV line through Lanexa also could have significant routing impacts, including the acquisition of significant additional ROW and the taking of a significant number of homes. Therefore, these alternatives were rejected.

4.2.3 Generation Retrofit at Yorktown and Chesapeake Power Stations

The EPA has proposed and implemented a several regulations that are expected to significantly affect certain units in Dominion's current fleet of generation resources. These include the Mercury and Air Toxics Standards (MATS), Clean Air Interstate Rule (CAIR), the ozone National Ambient Air Quality Standards (NAAQS), the sulfur dioxide (SO_2) NAAQS and the proposed §316(b) rule of the Clean Water Act as well as the anticipated Coal Combustion Residuals (CCR) Rule and Effluent Guidelines Rule. Dominion's 2011 Integrated Plan, filed with the Virginia State Corporation Commission on September 1, 2011, identified multiple generation units located in the area as projected to retire between 2014 and 2022 resulting in a generation capacity loss of 910 MW. On November 7, 2011, Dominion filed notice with PJM Interconnection, LLC (PJM), the regional transmission organization, to retire units at Chesapeake Power Station Units #1 and #2 and Yorktown Power Station Unit #1 by December 31, 2014. PJM has also identified Yorktown Unit #2 to be at risk for retirement because it is a coal-fired unit more than 40 years old with a capacity of less than 400 MW. This unit will also be retired by the end of 2014. The loss of generating facilities within the load region is a principal factor driving the need for the proposed project.

In order to comply with these new environmental regulations, a number of variables were evaluated to determine Dominion's decision to either retrofit aging coal and oil fired generating units with

newer technology or retire those particular units from service. The analysis sought to balance competing costs and environmental regulations with the goal of maintaining system reliability. The EPA regulations are primarily affecting coal fired units, which would require scrubbers or dry sorbent injection to address SO_2, mercury and potentially selective catalytic reductions to address nitrogen oxides, baghouses to address mercury, changes to ash handling practices and water intake improvements.

Several options for meeting air and emission regulations exist. These include retrofitting existing units to meet current environmental regulations, convert existing coal units to burn oil or natural gas, or retire existing facilities and construct new infrastructure to offset load generation demands. Retrofitting existing units has generally proved to be the most expensive option. Converting the fuel base for existing units has also shown to be cost prohibitive compared to retiring old units and constructing new facilities. An extensive analysis was performed to identify feasible options that would enable the Chesapeake and Yorktown Coal Fired units to comply with the EPA CAIR, the NAAQS and §316(b) of the Clean Water Act.

As part of a settlement reached between the U.S. Justice Department and the EPA, Dominion has already spent $1.2 billion since 2003 in upgrades to reduce emissions from several of its coal-fired plants; however based on the age of the Yorktown and Chesapeake Power Stations, similar upgrades at these facilities are not feasible. The Yorktown Power Station has been in operation since 1957, and the Chesapeake Energy Center opened along the Elizabeth River in 1953. Since both plants were built before 1960, the cost of making the upgrades is significant. It was determined that installation of equipment and upgrades to comply with the above regulations would require a capital investment of approximately $1 billion between 2011 and 2022. The projected cost of the Surry – Skiffes Creek – Whealton project, is approximately $155 million.

The decision to retrofit a plant also has implications for reliability since plants must be taken off line for several months. Because a large number of plants will have to be retrofitted within the next five years, a bottleneck in supply and installation of pollution controls and a shortage of skilled labor required to install these controls could occur. Companies were given a three year compliance period (2012-2015), with a one-year extension (until 2016) that will be made broadly available. An additional one year extension to 2017 can also be made under specific timelines and circumstances. The retirement of the generation units do not qualify for the terms of any of these extensions as their retirement is not deemed to pose a serious risk to electrical reliability. This assessment is based on the fact that transmission

facilities can be constructed to meet the project purpose and need by 2015, within the specified compliance period.

5.0 AVOIDANCE AND MINIMIZATION

The proposed project consists of three distinct project segments – Surry – Skiffes Creek, the proposed Switching Station and Skiffes Creek -- Whealton. Each portion of the project has been designed to avoid and minimize impacts to the greatest extent practicable. The overland portions of the project will minimize clearing and disturbance to forested areas, including PFO, through the co-location of the proposed line within existing, cleared ROW currently occupied by existing transmission facilities. Leaving the Surry Nuclear Power Plant, the project area parallels a man-made canal and follows an existing fence line. The 500 kV line is located away from the Hog Island WMA to avoid any need for disturbance or clearing within the limits of the WMA. The remaining overland portions of the line will be constructed within existing ROW.

In accordance with the Code of Virginia Section 56-46.1, the feasibility of locating proposed utility facilities on, over or under existing easements and ROW must be considered. During the initial routing process, Dominion determined that portions existing ROWs could accommodate the construction of the new lines. Utilizing the existing ROW avoids the need to clear additional forested areas and minimizes the potential for additional environmental impacts. Support structures have been designed to be the minimum size necessary and have been located outside of wetlands to the maximum extent practicable, and all tidal crossings outside of the James River will be spanned. Clearing of PFO will be done by hand, as well as areas within 100 FT of stream channels.

The James River crossing is located in a working area of the river characterized by two shipping channels with industrial development on both sides of the river. The areas adjacent to and downstream of the proposed crossing contain major power stations and multiple high voltage transmission lines on the south side of the river and an abandoned DOW chemical plant on the north side of the river. Occupying most of the shoreline south and southeast of the crossing is Joint Base Langley – Eustis, which allows no public access to the shoreline. Tower placement across the river has been designed to provide the maximum span length, thereby minimizing the number of towers within the river. The resulting configuration provides required horizontal clearances from the navigational channels and dredge spoil area while maintaining MVC requirements across the river.

The proposed Switching Station has also been designed to avoid and minimize impacts to jurisdictional areas. The switching station site was originally proposed to be entirely cleared. However, subsequent environmental investigations determined that a large area in the northwest portion of the site was suitable habitat for the federally and state listed small whorled pogonia. To ensure that the project does not adversely affect this habitat, the limits of clearing and grading have been reduced to just the area required for the switching station construction itself. The limits of grading and outer fence line are shown on Sheet 7 on the Jurisdictional Area Impacts Map (Appendix B). The proposed site plan will also avoid impacts to jurisdictional features located within the central portion of the project site. However, to avoid impacts to these areas, the station will impact a known archaeological resource that has been determined to be eligible (DHR ID# 44JC0662). Dominion is currently coordinating with the Virginia Department of Historic Resources (DHR) regarding treatment of this site.

This project is not expected to impact public water supply, spawning grounds, waterfowl habitat; nor jeopardize threatened or endangered species, of which we are aware; nor disrupt the movement of aquatic life. Therefore, this project should not cause or contribute to significant degradation of WOUS, adversely or substantially affect human health or welfare; life stages of organisms dependent upon the aquatic ecosystem, ecosystem diversity, productivity, or stability; not significantly degrade recreational, aesthetic or economic values.

6.0 COMPENSATORY MITIGATION

As proposed, the project will result in the selective hand clearing of 0.71 AC PFO wetlands to PSS wetlands, 220 SF (0.004 AC) of impacts for structures located in wetlands, and 612 SF (0.014 AC) of impacts to the river bottom for structures located in the James River, which do not require mitigation. The areas of selective hand clearing (0.71 AC) will be maintained at a scrub-shrub level through natural succession. Therefore, as there is no net loss of wetlands or waters associated, no compensatory mitigation is proposed. The Corps has previously reviewed and authorized similar Dominion projects with hand clearing of 0.38 AC to 2.27 AC of PFO wetlands to PSS wetlands without requiring mitigation (NAO-2006-7422, NAO-2011-02405, and NAO-2011-0208). The 220 SF (0.004 AC) of wetland impacts associated with the placement of 22 structures (10 SF per structure) would generally be covered under a Nationwide Permit 25 and would not require mitigation. Direct impacts have been avoided and minimized through engineering and design of the project. Total permanent impacts for the project do not

exceed 0.10 AC of wetlands or 300 LF of stream channel. As such, no compensatory mitigation is proposed.

7.0 WETLAND DELINEATION AND RESOURCE PROTECTION AREA

Jurisdictional waters of the U.S. within the project area were delineated by Williamsburg Environmental Group, Inc (WEG) according to the methods outlined in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*. Delineations for the Surry – Skiffes Creek and Skiffes Creek – Whealton (inclusive of the proposed Switching Station) portions of the project were submitted to Mr. Randy Steffey of the Corps under separate cover. The entire project area contains a total of 65.22 AC of non-tidal wetlands, 1.74 AC of tidal wetlands, 4,037 LF (0.70 AC) of non-tidal stream channel, 583 LF (75.48 AC) of tidal stream channel, and 3,304 LF (1.06 AC) of jurisdictional ditches. Preliminary Jurisdictional Determinations were issued by the Corps and are included in Appendix G (NAO-2013-00451, NAO-2012-01096, and NAO-2011-01096). The limits of the delineated wetlands are shown on the attached Jurisdictional Area Impacts Map (Appendix B).

The majority of jurisdictional features identified by WEG within the project limits may be classified as tidal waters associated with the James River. Forested, scrub-shrub and emergent wetlands as well as non-vegetated stream channels are also present within the project limits. Common wetland vegetation identified includes sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), common rush (*Juncus effusus*), and slender woodoats (*Chasmanthium laxum*), green ash (*Fraxinus pennsylvanica*), tag alder (*Alnus serrulata*), black willow (*Salix nigra*), eastern baccharis (*Baccharis halimifolia*), velvet panicum (*Dichanthelium scoparium*), straw-colored flatsedge (*Cyperus strigosus*), soft rush (*Juncus effusus*), warty panicgrass (*Panicum verrucosum*), deer-tongue grass (*Dichanthelium clandestinum*), and various sedge species (*Carex spp.*). The transition from wetland to upland is generally identified by a shift from a vegetative community dominated by hydrophytes (OBL to FAC) to non-hydrophytes (FACU to UPL) and a break from hydric to non-hydric soils.

Under the Chesapeake Bay Protection Act (CBPA), a Resource Protection Area (RPA) is associated with all tidal waters as well as a perennial stream located within the Skiffes Creek Switching Station site. The limits of the RPA were confirmed by James City County by letter dated October 29, 2012 (Appendix G). Construction of utility lines is exempt from CBPA provided the activity complies with applicable regulations; therefore, the project is not subject to restrictions in RPAs or Resource

Management Areas (RMAs). Based on discussions with James City County, a Water Quality Impact Assessment is not required for the switching station construction.

8.0 THREATENED AND ENDANGERED SPECIES

8.1 Surry – Skiffes Creek 500 kV Line and the Proposed Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station

The United States Fish and Wildlife Service (USFWS) Information, Planning and Conservation System online database was searched to identify the potential for listed threatened or endangered species within the vicinity of the project. According to the USFWS, the federally listed sensitive joint-vetch (*Aeschynomene virginica*) and small whorled pogonia may potentially be affected by the proposed project (Appendix H).

WEG also searched the Department of Conservation and Recreation (DCR), Natural Heritage Program (NHP) for both Surry and James City Counties. The results of this search indicated that the federally and/or state listed Mabee's salamander (*Ambystoma mabeei*), bald eagle (*Haliaeetus leucocephalus*), Atlantic sturgeon (*Acipenser oxyrinchus*), sensitive joint-vetch, small whorled pogonia, New Jersey rush (*Juncus caesariensis*), narrow-leaved spatterdock (*Nuphar sagittifolia*), barking tree frog (*Hyla gratiosa*), black banded sunfish (*Enneacanthus chaetodon*) and eastern big-eared bat (*Corynorhinus rafinesquii macrotis*) are known to occur within Surry and James City Counties (Appendix H). Known occurrences of these species, as well as documented eagle nest locations, were investigated utilizing GIS data provided by DCR.

Based on the scope of the project, surveys for both small whorled pogonia (SWP) and sensitive joint-vetch (SJV) were determined to be warranted. A detailed survey for SWP was conducted within the limits of the Switching Station site on June 7 and 8, 2012, a time frame that occurs within the sampling window for SWP suggested by the USFWS for the region (25 May – 15 July). The detailed survey was conducted by Mr. Kenrick Presgraves of WEG, who is recognized as a SWP survey contact by the USFWS. While appropriate habitat was noted in the northwest portion of the site, no individuals of SWP were located during the detailed survey of the identified habitat areas (Detailed Survey for Small Whorled Pogonia, Appendix H). As no clearing is proposed in this area, the project is not expected to impact the identified habitat. For the Surry – Skiffes Creek line, a detailed survey for SWP was completed during the sampling window in 2013, at which time appropriate and marginal habitat was identified within the

proposed ROW limits; however, no plants were identified. The report will be submitted to the USFWS under separate cover and a copy can be provided upon request. Potential habitat for SJV may be present with the ROW limits for the Surry – Skiffes Creek line, a detailed survey will be conducted during the sampling window and submitted under separate cover.

The Department of Game and Inland Fisheries (DGIF) Virginia Fish and Wildlife Information Service (VAFWIS) database was also searched for threatened and endangered species occurring within a two-mile radius of the project. Results identified the presence of the federally and/or state listed Atlantic sturgeon, peregrine falcon (*Falco peregrinus)*, Mabee's salamander and the bald eagle. The Center for Conservation Biology (CCB) Bald Eagle Nest Locator for Virginia mapped several eagle nests within the vicininty of the project. However, based on information obtained from Mr. John Randolf, DGIF Wildlife Management Area Supervisor, the nest in question was blown down during a storm, and the eagles occupying that nest moved to another location on Hog Island WMA. Verified eagle nest locations and the associated management zones are shown on the James River Crossing Alternatives Map (Appendix F). The proposed route does not intersect either the primary or the secondary management zones of any of the identified nests. No habitat for Mabee's salamander appears to be present within the ROW, and the project is not expected to impact the peregrine falcon. As such, the project is not expected to impact any of these species.

DCR and VAFWIS document a colonial water bird colony within the Hog Island WMA (James River Crossing Alternatives Map, Appendix F). The proposed route does not cross within 0.25 miles of the colony. As such, no impacts are expected. Alternative river crossings would bring the line much closer to the documented colony, but would still be located more than 0.25 miles from the site.

VAFWIS identified the James River as a confirmed anadromous fish use area and Skiffes Creek as a potential anadromous fish use reach (Appendix H). The approximately 629 LF crossing of Skiffes Creek will be spanned with no instream work required. Appropriate erosion and sediment control measures will be utilized to ensure that there are no impacts to this area. The James River crossing will require the placement of 17 towers within the river itself. Instream construction measures, as described in Section *3.3.2 Tower Construction*, are proposed to occur throughout a 12 month period.

The recently listed Atlantic sturgeon is known to occur in the James River, with known spawning areas occurring in the upstream reaches of the river. Based on modeling work using features associated

with spawning habitat, Turkey Island oxbow and James River oxbow (above river mile 75) have been identified as potential spawning sites for sturgeon (Bushnoe et al., 2005). Additional tracking data from 2010 indicate an aggregation of sturgeon at river mile 48, suggesting the possibility of suitable spawning habitat in this area. These sites are all located well upstream of the project area which is located between river miles 18 and 19. However, adult sturgeon are known to enter the river in the spring and appear to occur between river miles 18 and 67 from April to June (Hager, 2011). The fish depart the river in June when water temperatures are around 24° C and are absent from the river through August. During the late summer and early fall (August – November), spawning runs occur, and the fish ascend rapidly to congregate in the upriver sites. The primary spawning season for the sturgeon is thought to be April to May based on current evidence (Bushnoe et al., 2005; ASSRT, 2007; Balazik et al., 2012). By December, the fish appear to be completely absent from the river. The project is not expected to affect Early Life Stage (ELS) sturgeon as eggs and larvae do not move off the benthos and there are no suitable or known spawning areas within the vicinity of the project. Turbidity during construction will be minimal and is not expected to affect adult or juvenile fish migrations. However, temporary noise and vibrations from construction activities may potentially effect adult and juvenile sturgeon as they are known to occur within this portion of the river from April to June.

8.2 Skiffes Creek – Whealton 230 kV Line

WEG consulted the list of threatened and endangered species maintained by the USFWS for James City and York Counties, as well as the Cities of Hampton and Newport News (Appendix H). According to the USFWS, the following federal and state threatened or endangered species are known or likely to occur in those localities: piping plover (*Charadrius melodus*), northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), SWP, SJV, and swamp pink (*Helonias bullata*).

WEG also searched the VAFWIS database for threatened and endangered species occurring within a two-mile radius of the project area. Results identified the presence of the following state threatened or endangered species: eastern tiger salamander (*Ambystoma tigrinum*), Mabee's salamander, canebrake rattlesnake (*Crotalus horridus*), and the bald eagle (Appendix H). The CCB Bald Eagle Nest Locator for Virginia reported eagle nests in the vicinity of the project; however, none with management zones which intersect the route. VAFWIS also identified Skiffes Creek as a potential anadromous fish use area (Appendix H). However, no impacts to anadromous fish are expected since no in-stream work is proposed.

Additionally, WEG reviewed DCR EOReps data from the NHP. In addition to USFWS and VAFWIS data, NHP county and city data also identified Atlantic sturgeon, New Jersey rush, narrow-leaved spatterdock (*Nuphar sagittifolia*), peregrine falcon, gull-billed tern (*Gelochelidon nilotica*), Harper's fimbristylis (*Fimbristylis perpusilla*) and the barking treefrog (*Hyla gratiosa*) as potentially occurring within the counties and cities in which the project is located.

WEG conducted habitat and detailed surveys within the project area for the threatened and endangered species identified above. Based on this assessment, no habitat for piping plover, swamp pink or northeastern tiger beetle is present within the project boundaries. As such, no adverse effect on these species is anticipated based on the scope of this project.

Four areas of appropriate SWP habitat were identified in the 1.16-mile ROW expansion near the York County Sports Complex and Harwood's Mill Reservoir. As a result of being identified as potential habitat for SWP, a detailed survey for SWP was also conducted in the area on June 7 and 8, 2012, by Mr. Presgraves. No individuals of SWP were located during the detailed survey of the identified habitat areas. A copy of the report detailing the findings is provided in Appendix H.

Additionally, as a result of the assessment, potential habitat for SJV was identified within the tidal wetlands along Skiffes Creek (Rare Species Habitat and Raptor Nest Location Map, Appendix H). A detailed survey for the species was conducted in October 2012, a time frame that occurs within the sampling window for SJV suggested by the USFWS for the region (15 August – 15 October). Based on the results of the survey, the tidal wetlands are considered marginal habitat and no SJV plants were observed.

Eastern tiger salamander has been documented in York County in the vicinity of Harwood's Mill Reservoir. As shown on the attached Rare Species and Raptor Nest Location Map (Appendix H), potential habitat (breeding and non-breeding) begins at the Newport News and York County line, east of Shields Road and north of Richneck Road, and extends south and east along the existing easement towards Harwood's Mill Reservoir. Additional habitat is mapped on the east side of Harwood's Mill Reservoir north of the York County Sports Complex. Given that Mabee's salamander and eastern tiger salamander utilize similar habitats, the areas identified as potential Mabee's salamander habitat overlap with potential habitat areas for the eastern tiger salamander. No clearing or permanent habitat alteration is required within these habitat areas, and construction access will be located to avoid these areas to the

maximum extent practicable. Appropriate erosion and sediment control measures will also be used in the vicinity of these area to avoid impacts during construction.

Barking treefrogs are expected to occupy similar habitats to the eastern tiger salamander and Mabee's salamander. Potential habitat (breeding and non-breeding) for the barking treefrog begins at the Newport News and York County line, east of Shields Road and north of Richneck Road, and extends south and east along the existing easement towards Harwood's Mill Reservoir. Additional habitat is mapped on the east side of Harwood's Mill Reservoir near the northern crossing and north of the York County Sports Complex. As stated above, no clearing or permanent habitat alteration is proposed within these areas. Strict erosion and sediment control measures will be utilized to avoid impacts during construction.

Potential habitat for the canebrake rattlesnake begins along the Newport News and York County line, east of Shields Road and north of Harwood's Mill Reservoir. Two other areas of potential habitat are present. One area is in Newport News near Brick Kiln Creek, east of Interstate 64 and south of Victory Boulevard. The other area is in the City of Hampton, north of Hampton Center Parkway and west of Sandy Bottom Nature Park. The areas of potential canebrake rattlesnake habitat are shown on the Rare Species Habitat and Raptor Nest Location Map (Appendix H). Clearing is proposed within the 1.16 mile expansion area in York County that is identified as potential canebrake rattlesnake habitat. Measures will be taken during construction to avoid impacts to this species.

Harper's fimbristylis has been previously documented in a wetland area located near the Grafton Pond complex north of Denbigh Boulevard (Rt. 173) and southeast of Richneck Road (Rt. 636). The results of the assessment indicate that the wetland area is still present and likely supports appropriate habitat for Harper's fimbristylis. No clearing or permanent habitat alteration is proposed within this area (Rare Species Habitat and Raptor Nest Location Map, Appendix H).

An active bald eagle nest was identified within the project area on Tower 292/578 (Rare Species Habitat and Raptor Nest Location Map, Appendix H). This nest has not been identified by the VAFWIS or CCB databases. Dominion will coordinate with the USFWS in order to remove or relocate the nest during the appropriate time of year. Multiple osprey (*Pandion haliaetus*) nests and one red-tailed hawk (*Buteo jamaicensis*) nest were also identified on existing towers along the route (Rare Species Habitat and Raptor Nest Location Map, Appendix H). Ospreys and hawks are protected under the Migratory Bird

Treaty Act and the DGIF provides guidelines for the removal of osprey and hawk nests in Virginia (2010). For osprey, these guidelines state that inactive nests may be removed without authorization between September 16 and April 15. However, between April 16 and September 15 inactive nests should only be removed upon confirmation of nest status by DGIF or U.S. Department of Agriculture. Removal or relocation of an active nest may only be done by an individual authorized by USFWS and is generally not allowed unless the nest constitutes a nuisance and interferes with the structure. While regulation regarding the removal or relocation of the nests of red-tailed hawks is less specific, Dominion will coordinate with DGIF to remove or relocate any osprey or hawk nests (Rare Species Habitat and Raptor Nest Location Map, Appendix H).

9.0 CULTURAL AND HISTORIC RESOURCES

9.1 Surry – Skiffes Creek 500 kV Line and the Skiffes Creek 500 kV – 230 kV – 115 kV Switching Station

Cultural Resources Inc. (CRI) conducted a Phase I Cultural Resource Survey of the Surry – Skiffes Creek and Skiffes Creek Switching Station portions of the project, including an underwater archaeological assessment for the James River. The surveys entitled, *A Phase I Cultural Resources Survey of the Proposed Dominion Virginia Power Skiffes Creek to Surry 500 kV Transmission Line Alternatives in the James City and Surry Counties, Virginia*, and *A Phase 1 Archaeological Survey of the Proposed 51-Acre Skiffes Creek 500-230-115 kV Switching Station Parcel, James City County, Virginia* identified four previously known archaeological sites (44JC0649, 44JC0650, 44JC0662, and 44JC0663) as located either within or adjacent to the proposed ROW. Two of the sites, 44JC0662 and 44JC0663, are located within the proposed Switching Station parcel. Site 44JC0663 was recommended not eligible for listing on the National Register of Historic Places (NRHP), and this finding was concurred by DHR in a letter dated April 24, 2012 (Appendix I). Site 44JC0662 (Jurisdictional Impacts Maps, Sheet 7, Appendix B) was recommended eligible after a Phase II Evaluation entitled, *Phase II Evaluation Site 44JC0662 for the Dominion Virginia Power Skiffes Switching Station, James City County, Virginia*, and DHR concurred in a letter dated June 20, 2012 (Appendix I). Phase III Data Recovery efforts are planned and will be coordinated with DHR and the Corps before construction of the Switching Station begins. Of the remaining two sites, site 44JC0649 just touches the existing ROW. Two shovel tests were performed within the mapped boundaries of the site; both tests were negative and no further work is recommended. Eleven shovel tests were performed within the mapped location of site 44JC0650; one test contained a

single piece of brick and the site is recommended not eligible for listing on NRHP. The Phase I Survey is being provided to the Corps and DHR separately from this application.

CRI also conducted a reconnaissance level architectural survey for resources falling within a 0.5-mile radius on either side of the center line of the proposed project. The survey consisted of the reevaluation of previously recorded resources as well as the documentation of unrecorded resources. Twelve previously recorded resources fall within the 0.5-mile radius. Two of these sites have been demolished since the previous survey, and three do not have any above ground remains and were not resurveyed. No standing architectural resources were visible on Hog Island within 0.5-mile radius project area. Four resources are recommended as not eligible for listing on NRHP under Criteria A, B, C, or D as the resources are typical of those constructed during the early to mid-twentieth century. The NRHP and National Historic Landmarks (NHL) listed Carter's Grove (047-0001) and the Battle of Yorktown (099-5283) were considered during the Stage I Pre-Application Analysis, *Stage 1 Pre-Application Analysis for the Proposed Dominion Virginia Power Surry to Skiffes Creek 500 kV Transmission Line Project and Skiffes Creek 500-230-115 kV Switching Station Charles City, James City, and York Counties and City of Williamsburg, Virginia*, as part of the SCC process and were not resurveyed during the Phase I Survey. By letter dated March 4, 2013, DHR concurred with CRI's recommendations in the Stage 1 Pre-Application analysis that the proposed Surry – Skiffes route will have a moderate level of impacts to Carter's Grove and only minimal impacts to the Yorktown Battlefield (Appendix I). Six newly recorded resources were identified in the Phase I Survey that fall within the 0.5-mile radius. None of the six resources were recommended as eligible for individual listing on the NRHP under Criterion A, B, C, or D as these resources are typical of those constructed during the early to mid-twentieth century. CRI recommended no further architectural studies for the proposed project.

In order to comply with the criteria of the National Historic Preservation Act of 1966 (36 CFR 800), and the Abandoned Shipwreck Act of 1987 (FR Vol. 55, No. 3, December 1990), and survey guidelines requirements adopted by the State Historic Preservation Office, a remote-sensing survey was determined to be necessary to assess the potential impacts of proposed activities on submerged cultural resources within the James River. A survey was conducted to identify magnetic anomalies and acoustic signatures that could be associated with historic vessel remains, the results of which are included in the Phase I Survey, being submitted separately from this application.

9.2 Skiffes Creek – Whealton 230 kV Line

A Phase I Survey was completed by CRI for this portion of the project entitled, *A Phase I Cultural Resources Survey of the Proposed Approximately 20.2-Mile Dominion Virginia Power Skiffes to Whealton 230 kV Transmission Line in James City and York Counties, and the Cities of Newport News and Hampton, Virginia*. The Phase I Survey identified three previously recorded archaeological sites, four new archaeological sites and eleven Isolated Archaeological Finds. The Isolated Finds are, by definition, not eligible for listing in the Virginia Landmarks Register (VLR) or NRHP and no further consideration of these resources is warranted. By letter dated September 4, 2012, DHR concurs with CRI's recommendation that sites 44YO0183, 44HT0118, 44YO1129, 44YO1130 and 44YO1131 are not eligible for listing on the NRHP. However, it was DHR's opinion that consideration is warranted for sites 44JC0048, 44YO0092, and 44YO0592 (Appendix I).

These archaeological sites (44JC0048, 44YO0092 and 44YO0592) have been identified within the project area (Jurisdictional Area Impacts Map, Sheets 8, 13 and 14, Appendix B) and avoidance measures will be taken. Site 047-5333/44JC0048 is currently surrounded by a fence and as no towers are located within the fenced area, the site will be avoided during construction. A portion of the ROW around Site 44YO0092 is proposed to be cleared; however, matting will be used for access and trees will be cut above ground surface. Therefore, no ground disturbance for clearing or access is anticipated and the resource should not be impacted. Site 44YO0592 was recommended as potentially eligible for listing on the NRHP based upon the results of a Phase I Survey conducted by Circa~CRM in 2006 and 2007. However, the Phase I Survey conducted by CRI of the project site has identified only two artifact concentration areas and an earthworks within the Dominion ROW that retain any potential eligibility for listing. One existing structure proposed to be replaced, 292/586, is located within the limits of one of the artifact concentration areas. As the structure location is previously disturbed from the installation of the existing structure, the work is not expected to adversely affect this site. New towers will be located outside of the artifact areas where possible. As stated above, clearing will be done by cutting the trees above the ground surface and mats will be used for construction to avoid impacts to the sites.

Based on the results of the architectural survey, seven previously recorded resources surveyed were recommended as not individually eligible for listing on the NRHP under Criterion A, B, C or D as the resources are typically from the mid-nineteenth to mid-twentieth century with no association to important people or events. Of the 88 newly recorded resources, none are recommended as individually

eligible to the NRHP under Criterion A, B, C or D as the resources are typically from the early to mid-twentieth century with no association to important people or events. CRI recommends no further architectural studies, and by letter date September 4, 2012, DHR concurs with these findings.

10.0 100- YEAR FLOODPLAIN INFORMATION

The Surry – Skiffes 500 kV line route crosses multiple Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), including panels 51095C0230C, 510995C0230C and 51095C0210C in James City County (dated 09/28/2007), and panel 51181C0110D in Surry County, VA (dated 04/2/2009). The Skiffes Creek – Whealton 230 kV line route crosses multiple FIRMs, including panels 51095C0230C and 5195C0240C in James City County (dated 08/28/2007), panels 5101030004C, 5101030012A and 5101030010C in Newport News (dated 01/07/1986), panels 51199C0280C, 51199C0215C and 51199C0195C in York County (dated 06/16/2009) and panels 5155270116G, 5155270112G and 5155270104G in Hampton, VA (dated 08/16/2011). According to these maps, portions of the project are located within the 100-year floodplain. However, the installation of the new utility line towers and transmission infrastructure will not adversely affect the floodplain. FIRMS are available upon request.

11.0 CONCLUSION

As proposed, the Surry – Skiffes Creek – Whealton project will require the conversion of 0.71 AC of PFO wetland to PSS wetland for ROW clearing, permanent impacts to 220 SF (0.004 AC) of non-tidal wetland for pipe pile foundations, and permanent impacts to 612 SF (0.014 AC) of the river bottom for the construction of 17 towers and the fender system within the James River. The project will have approximately 22,549 LF of aerial crossings over state-owned subaqueous bottom from MLW to MLW and require encroachment over 77,044 SF (1.7 AC) of state-owned subaqueous bottom for tower and fender system construction within the James River. As total permanent impacts resulting in the loss of WOUS do not exceed 0.10 AC of wetlands or 300 LF of stream channel and no loss in wetland value or function is expected from the proposed impacts, no compensatory mitigation is proposed at this time.

This Pre-Construction Notification is being submitted for Corps authorization for work within and proposed impacts to waters of the U.S. subject to Section 404 of the Clean Water Act and to the Virginia Department of Environmental Quality for work within and proposed impacts to waters subject to

Section 401 of the Clean Water Act. Authorization from the VMRC is also requested pursuant to Section 28.2-1200 *et. seq.* of the Code of Virginia for an aerial crossings of the James River, Wood Creek, and Skiffes Creek, each of which are tidal, crossings of Lee-Hall and Harwood's Mill Reservoirs, each of which has a drainage area greater than 5 square miles at the crossing location, and for encroachment over subaqueous lands for the placement of structures within the James River.

12.0 REFERENCES

Atlantic Sturgeon Status Review (ASSRT). 2007. http://www.nero.noaa.gov/prot_res/CandidateSpeciesProgram/AtlSturgeonStatusReviewReport.pdf

Balazik, Mathew T., Garman, Greg C., Eenennaam, Joel P. Van, Mohler, Jerre, Woods III, L. Curry. 2012. Empirical Evidence of Fall Spawning by Atlantic Sturgeon in the James River, Virginia. NOAA Central Library. As cited by NOAA in a comment response provided by NOAA for a separate project.

Black & Veatch. 2008. Assessment of River Crossing Alternatives for Potomac River – Prepared for Potomac River Electric Power Company Mid Altantic Power Pathway Project.

Bushnoe, T.M., Musick, J.A. and D.S. Ha. 2005. Essential spawning and nursery habitat of Atlantic sturgeon (*Acipenser oxyrinchus*) in Virginia. Provided by Jack Musick, Virginia Institute of Marine Science, Gloucester Point, Virginia. As cited in a comment response provided by NOAA for a separate project.

Hager, C. 2011. Altantic sturgeon review: Gather data on reproducing subpopulation of Altantic sturgeon in the James River. Contract EA133F10CN0317. As cited in a comment response provided by NOAA for a separate project.

Patrick Engineering, Inc. 2010. Everglades National Park 500 kV Underground Feasibility Study. From http://parkplanning.nps.gov/document.cfm?parkID=374&projectID=37220&documentID=47638

United States Department of Agriculture Forest Service. 2006. Final Environmental Impact Report / Environmental Impact Statement for the Antelope – Pardee 500 kV Transmission Project. http://www.cpuc.ca.gov/environment/info/aspen/antelopepardee/EIR/TOC.htm

APPENDIX A

Joint Permit Application

PLEASE PRINT OR TYPE ALL ANSWERS. If a question does not apply to your project, please print N/A (not applicable) in the space provided. ***If additional space is needed, attach extra 8 ½ x 11 inch sheets of paper.***

CHECK ONE, if applicable:	Pre-Construction Notification (PCN) ☐ (*For Nationwide Permits ONLY*)	SPGP ☐

1. PROJECT LOCATION INFORMATION
(Attach a copy of a detailed map, such as a USGS topographic map or street map showing the site location and project boundary, so that it may be located for inspection. Include an arrow indicating the north direction.)

Street Address	City/County: Surry, James City and York Counties, as well as the Cities of Newport News and Hampton
Subdivision	Lot/Block/Parcel # Skiffes Creek Switching Station: Tax Map 592, DC 01, Lot 2

Name of water body(ies) within project boundaries and drainage area (acres or square miles)
James River, Woods Creek, Skiffes Creek, Lee-Hall Reservoir, & Harwood's Mill Reservoir (DA>5sq mi)
Skiffes Creek, Jones Run, Brick Kiln Creek, Newmarket Creek, & Whiteman Swamp (DA<5sq mi)

Tributary(ies) to: James River, Poquoson River and Back River

Basin: James River and Poquoson River Subbasin: Lower James/Lawnes Creek and Lynnhaven-Poquoson River

Special Standards (based on DEQ Water Quality Standards 9VAC25-260 et seq.): _____

Project type (check one) ____ Single user (private, non-commercial, residential)
__×__ Multi-user (community, commercial, industrial, government)

Latitude and longitude at center of project site: Start at Surry Nuclear Power Plant- 37°09'42.48"N 76°41'47.41"W
Terminus at Whealton Substation-37°01'59.39"N 76°25'52.95"W

USGS topographic map name: Hog Island (1964, 1985), Yorktown (1984, 1994), Poquoson West (1983, 1996), Newport News North (1965, 1986)

8- digit USGS Hydrologic Unit Code (HUC) for your project site (See http://cfpub.epa.gov/surf/locate/index.cfm): 02080206, 02080208
If known, indicate the 10-digit and 12-digit USGS HUCs (see *http://dswcapps.dcr.virginia.gov/htdocs/maps/HUExplorer.htm* :
0208020607, 0208020608, 0208020609, 0208010801 _____ 020802060704, 020802060802, 020802060901, 020801080101, 020801080102, 020802060906, - 020801080103

Name of your project (*Example: Water Creek driveway crossing*) Surry - Skiffes Creek - Whealton

Is there an access road to the project? ✕ Yes __ No. If yes, check all that apply: ✕ public ✕ private __ improved __ unimproved

Provide driving directions to your site, giving distances from the best and nearest visible landmarks or major intersections:
The project may be access from the Surry Nuclear Power Station in Surry County. This is a restricted access installation. Please contact the agent or applicant to schedule visit. The river crossing may be accessed from the James River. In James City County, the route may be accessed by Utility Rd. approximately 0.25 miles from Baseline Rd. and from the proposed Switching Station via the Dominion ROW. Follow ROW approximately 0.5 miles until intersection with another Dominion ROW. This is the southwest corner of the proposed Switching Station. The Whealton Substation may be accessed by heading west on Rt 258/ Mercury Blvd. Take right on Whealton Rd., then right on Threechopt Rd. Substation approximately 0.3 miles down on left.

Does your project site cross boundaries of two or more localities (i.e. cities/counties/towns)? ✕ Yes __ No
If so, name those localities: Surry County, James City County, York County, the City of Newport News, and the City of Hampton

FOR AGENCY USE ONLY	
	Notes:
JPA#	

2. APPLICANT, AGENT, PROPERTY OWNER, AND CONTRACTOR INFORMATION

The applicant(s) is/are the legal entity to which the permit may be issued. The applicant(s) can either be the property owner(s) or the person/people/company(ies) that intend(s) to undertake the activity. The agent is the person or company that is representing the applicant(s). If a company, please use the company name that is registered with the State Corporation Commission (SCC), or indicate no registration with the SCC.

Applicant(s) (For a company, use SCC-registered name)			Agent (if applicable) (For a company, use SCC-registered name)		
Virginia Electric & Power Co. (Dominion) Attn: Liz Harper			Williamsburg Environmental Group, Inc./Christine Conrad		
Mailing address			Mailing address		
701 E. Cary Street, 12th Floor			5209 Center Street		
City	State	Zip Code	City	State	Zip Code
Richmond	VA	23219	Williamsburg	VA	23188
Phone number w/area code	Fax		Phone number w/area code	Fax	
(804) 771-6145	(804) 819-6303		(757) 220-6869	(757) 229-4507	
Mobile/pager	E-mail		Mobile/pager	E-mail	
	liz.harper@dom.com			cconrad@wegnet.com	
State Corporation Commission ID number (if applicable)			State Corporation Commission ID number (if applicable)		
0006317-2			0357437-3		

Certain permits or permit authorizations may be provided via electronic mail. If the applicant wishes to receive their permit via electronic mail, please provide an e-mail address here: cconrad@wegnet.com

Property owner(s), if different from applicant (For a company, use SCC-registered name)			Contractor, if known (For a company, use SCC-registered name)		
N/A			N/A		
Mailing address			Mailing address		
City	State	Zip code	City	State	Zip code
Phone number w/area code	Fax		Phone number w/area code	Fax	
Mobile/pager	E-mail		Mobile/pager	E-mail	
State Corporation Commission ID number (if applicable)			State Corporation Commission ID number (if applicable)		

3. PROVIDE A DESCRIPTION OF THE PROJECT, PROJECT PRIMARY AND SECONDARY PURPOSES, PROJECT NEED, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)

- The purpose must include any new development or expansion of an existing land use and/or proposed future use of residual land
- Describe the physical alteration of surface waters
- Include a description of alternatives considered to avoid or minimize impacts to surface waters, including wetlands, to the maximum extent practicable. Include factors such as, but not limited to, alternative construction technologies, alternative project layout and design, alternative locations, local land use regulations, and existing infrastructure
- For utility crossings, include both alternative routes and alternative construction methodologies considered
- For major surface water withdrawals, public surface water supply withdrawals, or projects that will alter in-stream flows, include the water supply issues that form the basis of the proposed project.

In order to maintain reliability and keep up with increased demand in the Hampton Roads Area, Dominion proposes to construct a new 7.76 mile 500 kV line from the Surry Nuclear Power Station in Surry County to the proposed Skiffes Creek Switching Station in James City County, including construction of the Switching Station, as well as reconfigure an existing ROW from the proposed Switching Station to the existing Whealton Substation in the City of Hampton to accommodate a new 230 kV line. For this project, 17 structures and a fender system will be placed in the James River requiring encroachment over 77,044 SF of subaqueous bottom. The river structures require pipe pile foundations and will impact 612 SF of river bottom. The placement of 22 structures in wetlands will be required resulting in impacts to 220 SF. The project requires a total of 21,715 LF of aerial crossings of tidal waters (MLW to MLW) as well as 49 LF crossings of both Lee-Hall Reservoir and Harwood's Mill Reservoir, which have a drainage area greater than 5 square miles. All tidal crossings outside the James River will be spanned. Clearing and expansion of new ROW will result in selective hand clearing of 0.71 acres of Palustrine Forested (PFO) wetlands to Palustrine Scrub-Shrub (PSS) wetlands. Construction access will be provided through existing roads, timber paths and along the existing ROW. See Permit Support Document for further details.

3. PROVIDE A DESCRIPTION OF THE PROJECT (Continued)

Date of proposed commencement of work (MM/DD/YYYY)	Date of proposed completion of work (MM/DD/YYYY)
Spring 2014	Summer 2015
Are you submitting this application at the direction of any State, local, or Federal agency? _____Yes __X__No	Has any work commenced or has any portion of the project for which you are seeking a permit been completed? _____ Yes __X__ No

If you answered "yes" to either question above, give details stating when the work was completed and/or when it commenced, who performed the work, and which agency (if any) directed you to submit this application. In addition, you will need to clearly differentiate between completed work and proposed work on your project drawings.

N/A

Are you aware of any unresolved violations of environmental law or litigation involving the property? _____Yes __X__No
(If yes, please explain)

4. PREVIOUS SITE VISITS AND/OR PERMITS RELATED TO THE PROPOSED WORK (Include all Federal, State, and Local pre-application coordination or previous permits)

Agency	Activity	Permit/Project number, and explanation of non-reporting Nationwide permits previously used	Action taken ** and Date of Action	If denied, give reason for denial
Corps	Preliminary JD - 230 kV Line	NAO-2011-01096	7/26/2012	
	Preliminary JD - Switching Station Preliminary JD - 500 kV Line	NAO-2012-01096 NAO-2013-00451	6/13/2013 5/6/2013	

** Issued, denied, site visit

5. PROJECT COSTS

Approximate cost of the entire project, including materials and labor: $ 155 million

Approximate cost of only the portion of the project affecting State waters (below mean low water in tidal areas and below ordinary high water mark in nontidal areas): $ >500,000

6. PUBLIC NOTIFICATION (Attach additional sheets if necessary)

- Complete information for all property owners adjacent to the project site and across the waterway, if the waterway is less than 500 feet in width. If your project is located within a cove, you will need to provide names and mailing addresses for all property owners within the cove.
- If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.

Property owner's name	Mailing address	City	State	Zip code
Please see attached list.				

Name of newspaper having general circulation in the area of the project: Daily Press

Address and phone number (including area code) of newspaper 7505 Warwick Blvd., Newport News, VA 23607 (757) 247-4700

Have adjacent property owners been notified with forms in Appendix A? ____Yes __X__No (attach copies of distributed forms)

7. THREATENED AND ENDANGERED SPECIES INFORMATION

Please provide any information concerning the potential for your project to impact state and/or federally threatened and endangered species (listed or proposed). Attach correspondence from agencies and/or reference materials that address potential impacts, such as database search results or your Corps' waters and wetlands delineation confirmation. Contact information for the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation, Division of Natural Heritage can be found on page 4 of this package.

Please See Appendix H of Permit Support Document.

8. HISTORIC RESOURCES INFORMATION

Note: Historic properties include but are not limited to archeological sites, battlefields, Civil War earthworks, graveyards, buildings, bridges, canals, etc. Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

Please See Appendix I of Permit Support Document.

Are any historic properties located within or adjacent to the project site? X Yes ____ No _____ Uncertain
If Yes, please provide a map showing the location of the historic property within or adjacent to the project site.

Are there any buildings or structures 50 years old or older located on the project site? ____ Yes X No _____ Uncertain
If Yes, please provide a map showing the location of these buildings or structures on the project site.

Is your project located within a historic district? ____ Yes X No ____ Uncertain
If Yes, please indicate which district: _____

8. HISTORIC RESOURCES INFORMATION (Continued)

Has a survey to locate archeological sites and/or historic structures been carried out on the property?
X Yes ___ No ___ Uncertain

If Yes, please provide the following information: Date of Survey: June 2012/February 2013 and July 2012

Name of firm: Cultural Resources, Inc

Is there a report on file with the Virginia Department of Historic Resources? X Yes ____ No ___Uncertain

Title of Cultural Resources Management (CRM) report: Phase I Cultural Resource Survey of the Proposed Approximately 20.2-mile Dominion Virginia Power Skiffes Creek to Whealton 230 kV Transmission Line in James City and York Counties, and the Cities of Newport News and Hampton, VA; Phase II Evaluation Site 44JC0662 for Dominion Virginia Power Skiffes Creek Switching Station; Phase I Cultural Resources Survey of the Proposed Dominion Virginia Power Skiffes Creek to Surry 500 kV Transmission Line Alternatives in James City and Surry Counties, Virginia

Was any historic property located? X Yes ____ No ___

9. WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION

Please See Attached Impacts Table.

Report each impact site in a separate column. If needed, attach additional sheets using a similar table format. Please ensure that the associated project drawings clearly depict the location and footprint of each numbered impact site. For dredging, mining, and excavating projects, use Section 18.

	Impact site number 1	Impact site number 2	Impact site number 3
Impact description (use all that apply): F=fill EX=excavation S=Structure T=tidal NT=non-tidal TE=temporary PE=permanent PR=perennial IN=intermittent SB=subaqueous bottom DB=dune/beach IS=hydrologically isolated V=vegetated NV=non-vegetated MC=Mechanized Clearing of PFO (*Example: F, NT, PE, V)*			
Wetland/waters impact area (square feet)			
Dune/beach impact area (square feet)			
Stream dimensions at impact site (length and average width in linear feet, and area in square feet)			
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)			
Cowardin classification of impacted wetland/water or geomorphological classification of stream *Example wetland: PFO;* *Example stream: wide; bank eroding; braided channel;* *Example stream: 'C' channel*			
Average stream flow at site (flow rate under normal rainfall conditions in cubic feet per second)			
Contributing drainage area (acres or square miles)			

9. WETLANDS/WATERS IMPACT INFORMATION (Continued)

DEQ classification of impacted resource(s): Estuarine Class II Non-tidal waters Class III Mountainous zone waters Class IV Stockable trout waters Class V Natural trout waters Class VI Wetlands Class VII			

For DEQ permitting purposes, also submit as part of this section a wetland and waters boundary delineation map[4] – see the Footnotes section in the form instructions.

For DEQ permitting purposes, also submit as part of this section a written disclosure of all wetlands, open water, or streams that are located within the proposed project or compensation areas that are also under a deed restriction, conservation easement, restrictive covenant, or other land-use protective instrument.

10. APPLICANT, AGENT, OWNER, AND CONTRACTOR CERTIFICATIONS

If the Applicant(s), Agent(s), Owner(s), or Contractor(s) is/are a company, please use the company name(s) that is/are registered with the State Corporation Commission (SCC).

READ ALL OF THE FOLLOWING CAREFULLY BEFORE SIGNING

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.

CERTIFICATION: I am hereby applying for permits typically issued by the DEQ, VMRC, U.S. Army Corps of Engineers, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit.

In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Is/Are the Applicant(s) and Owner(s) the same? ___ *Yes* ___ *No*

Applicant's name & title (printed or typed) Virginia Electric & Power Company (Dominion Virginia Power)	Second applicant's name & title, if applicable (printed or typed)
Applicant's signature Elizabeth Harper for DVP	Second applicant's signature
Date May 30, 2013	Date
(Required for VMRC permit actions only) Property owner's name, if different from Applicant	*(Required for VMRC permit actions only)* Second property owner's name, if applicable
Owner's signature, if different from Applicant	Second owner's signature
Date	Date

10. APPLICANT, AGENT, OWNER, AND CONTRACTOR CERTIFICATIONS (Continued)
If the Applicant(s), Agent(s), Owner(s), or Contractor(s) is/are a company, please use the company name(s) that is/are registered with the State Corporation Commission (SCC).

CERTIFICATION OF AUTHORIZATION TO ALLOW AGENT(S) TO ACT ON APPLICANT'S(S') BEHALF (IF APPLICABLE)

I (we), Virginia Electric & Power Company (Dominion Virginia Power) _____,
APPLICANT'S NAME(S) – *complete the second blank if more than one Applicant*

hereby certify that I (we) have authorized Williamsburg Environmental Group, Inc. (and) _____
AGENT'S NAME(S) – *complete the second blank if more than one Agent*

to act on my (our) behalf and take all actions necessary to the processing, issuance, and acceptance of this permit and any and all standard and special conditions attached. I (we) hereby certify that the information submitted in this application is true and accurate to the best of my (our) knowledge.

Applicant's signature Elizabeth Harper	Second applicant's signature, if applicable
Date May 30, 2013	Date
Agent's signature and title Christin J. Crowe	Second agent's signature and title, if applicable
Date 8/8/13	Date

CONTRACTOR ACKNOWLEDGEMENT (IF APPLICABLE)

I (we), _____ (and) _____,
APPLICANT'S NAME(S) – *complete the second blank if more than one Applicant*

have contracted _____ (and) _____
CONTRACTOR'S NAME(S) – *complete the second blank if more than one Contractor*

to perform the work described in this Joint Permit Application, signed and dated _____.

I (we) will read and abide by all conditions as set forth in all Federal, State, and Local permits as required for this project. I (we) understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, State, and Local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes.

In addition, I (we) agree to make available a copy of any permit to any regulatory representative visiting the project site to ensure permit compliance. If I (we) fail to provide the applicable permit upon request, I (we) understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all of the terms and conditions.

Contractor's name or name of firm (printed/typed)	Contractor's or firm's mailing address	
Contractor's signature and title	Contractor's license number	Date
Applicant's signature	Second applicant's signature, if applicable	
Date	Date	

END OF GENERAL INFORMATION

The following sections are activity-specific. Fill out only the sections that apply to your particular project.

WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION																		
	Impact site number PU1	Impact site number PU2	Impact site number PU3	Impact site number PU4	Impact site number PU5	Impact site number PU6	Impact site number PU7	Impact site number PU8	Impact site number PU9	Impact site number PU10	Impact site number PU11	Impact site number PU12	Impact site number PU13	Impact site number PU14	Impact site number PU15	Impact site number PU16	Impact site number PU17	Impact site Fender System
Impact Description (use all that apply) F= Fill EX= excavation S= structure T=tidal NT= non-tidal TE= temporary PE= permanent PR= perennial IN= intermittent SB= subaqueous bottom DB= dune/beach I S= hydrologically isolated V=vegetated NV= non-vegetated MC= mechanized clearing of PFO	Tower 582/12 F, S, SB	Tower 582/13 F, S, SB	Tower 582/14 F, S, SB	Tower 582/15 F, S, SB	Tower 582/16 F, S, SB	Tower 582/17 F, S, SB	Tower 582/18 F, S, SB	Tower 582/19 F, S, SB	Tower 582/20 F, S, SB	Tower 582/21 F, S, SB	Tower 582/22 F, S, SB	Tower 582/23 F, S, SB	Tower 582/24 F, S, SB	Tower 582/25 F, S, SB	Tower 582/26 F, S, SB	Tower 582/27 F, S, SB	Tower 582/28 F, S, SB	Fender System S, SB
Wetland/waters impacts area (square feet)	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB=5625	F= 36 SB=5625	F= 36 SB= 3600	F= 36 SB= 3600	F= 36 SB=5625	F= 36 SB=5625	F= 36 SB= 3600	F= 36 SB= 3600	SB= 7744
Dune/Beach impact area (square feet)																		
Stream dimensions at impact site (length and average width in linear feet, and in area sq. ft.)																		
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)																		
Cowardin classification of impacted wetland/water of geomorphological classification of stream	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1
Average stream flow at site (flow rate under normal rainfall conditions) (cubic feet per second)	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.	> 5 ft^3/sec.
Contributing drainage area (acres or square miles)	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2
DEQ classification of impacted resource(s): Estuarine Class I Non-tidal waters Class III Mountainous zone water Class IV Stockable trout waters Class V Natural trout waters Class VI Wetlands Class VII	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II

WETLANDS, WATERS, AND DUNES/BEACHES IMPACT INFORMATION																						
	Impact site number PU18	Impact site number PU19	Impact site number PU20	Impact site number PU21	Impact site number PU22	Impact site number PU23	Impact site number PU24	Impact site number PU25	Impact site number PU26	Impact site number PU27	Impact site number PU28	Impact site number PU29	Impact site number PU30	Impact site number PU31	Impact site number PU32	Impact site number PU33	Impact site number PU34	Impact site number PU35	Impact site number PU36	Impact site number PU37	Impact site number PU38	Impact site number PU39
Impact Description (use all that apply) F= Fill EX= excavation S= structure T=tidal NT= non-tidal TE= temporary PE= permanent PR= perennial IN= intermittent SB= subaqueous bottom DB= dune/beach I S= hydrologically isolated V=vegetated NV= non-vegetated MC= mechanized clearing of PFO	Tower 285/463 F, S, NT, PE, V	Tower 58/276 F, S, NT, PE, V	Tower 58/277 F, S, NT, PE, V	Tower 58/278 F, S, NT, PE, V	Tower 58/279 F, S, NT, PE, V	Tower 58/280 F, S, NT, PE, V	Tower 58/281 F, S, NT, PE, V	Tower 58/282 F, S, NT, PE, V	Tower 58/287 F, S, NT, PE, V	Tower 58/288 F, S, NT, PE, V	Tower 58/289 F, S, NT, PE, V	Tower 58/290 F, S, NT, PE, V	Tower 292/595 F, S, NT, PE, V	Tower 292/596 F, S, NT, PE, V	Tower 292/599 F, S, NT, PE, V	Tower 292/607 F, S, NT, PE, V	Tower 292/608 F, S, NT, PE, V	Tower 292/613 F, S, NT, PE, V	Tower 292/626 F, S, NT, PE, V	Tower 292/627 F, S, NT, PE, V	Tower 292/628 F, S, NT, PE, V	Tower 292/629 F, S, NT, PE, V
Wetland/waters impacts area (square feet)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Dune/Beach impact area (square feet)																						
Stream dimensions at impact site (length and average width in linear feet, and in area sq. ft.)																						
Volume of fill below Mean High Water or Ordinary High Water (cubic yards)																						
Cowardin classification of impacted wetland/water of geomorphological classification of stream	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS	PEM/PSS
Average stream flow at site (flow rate under normal rainfall conditions) (cubic feet per second)																						
Contributing drainage area (acres or square miles)	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^3	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2	>5 mi^2
DEQ classification of impacted resource(s): Estuarine Class I Non-tidal waters Class III Mountainous zone water Class IV Stockable trout waters Class V Natural trout waters Class VI Wetlands Class VII	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II	Estuarine Class II

20. NONTIDAL STREAM CHANNEL MODIFICATIONS (Continued)

Will low-flow channels be maintained in the modified stream channel? _ _Yes _ _No.
Describe how:

Will any structure(s) be placed in the stream to create riffles, pools, meanders, etc.? _____Yes _ _No
If yes, please explain:

21. UTILITY CROSSINGS

Type of crossing: _ × _overhead _____trenched _____directionally-drilled

Method of clearing corridor of vegetation (check all that apply): __ __ mechanized land clearing that disturbs the soil surface
__×__ cutting vegetation above the soil surface

Describe the materials to be used in the installation of the utility line (including gravel bedding for trenched installations, bentonite slurries used during direction-drilling, etc.) and a sequence of events to detail how the installation will be accomplished (including methods used for in-stream and dry crossings).

The support structures will be a combination of new single steel pole and galvanized lattice, using different designs that vary in height depending on tower location. All materials will be delivered and assembled at each structure location in ROW. Towers have been designed using pipe pile or existing foundations. Please see Permit Support Document for further detail.

For overhead crossings over navigable waterways (including all tidal waterways), please indicate the height of other overhead crossings or bridges over the waterway relative to mean high water, mean low water, or ordinary high water mark:

Please See Appendix C for James River Crossing Plan and Profile. Average river minimum vertical clearance is 60 feet.
The 230 kV line vertical clearances will be equal to or greater than the existing lines and will be greater than 26 feet.

Nominal system voltage, if project involves power lines: 500 kV and 230 kV

Will there be an excess of excavated material? _ _Yes _×_No
If so, describe the method that will be undertaken to dispose of, and transport, the material to its permanent disposal location and give that location:

Will any excess material be stockpiled in wetlands? _____Yes _ × _No
If so, will the stockpiled material be placed on filter fabric or some other type of impervious surface? _____Yes _____No

21. UTILITY CROSSINGS (Continued)

Will permanent access roads be placed through wetlands/streams? ____Yes __×__No
If yes, will the roads be _____at grade or _____above grade (check one)?

Will the utility line through wetlands/waters be continually maintained (e.g. via mowing or herbicide)? __×__Yes _____No

If maintained, what is the maximum width? 150-250 feet

22. ROAD CROSSINGS

Have you conducted hydraulic studies to verify the adequacy of the culverts? _____Yes _____No
If so, please attach a copy of the hydraulic study/report.
Virginia Department of Transportation (VDOT) standards require that the backwater for a 100 year storm not exceed 1 foot for all road, culvert, and bridge projects within FEMA-designated floodplains.

Will the culverts be countersunk below the stream bottom? _____Yes _ × _No. If no, explain: _____

If the project entails a bridged crossing and there are similar crossings in the area, what is the vertical distance above mean high water, mean low water, or ordinary high water mark of those similar structures? _____feet above _____
For all bridges proposed over navigable waterways (including all tidal water bodies), you will be required to contact the U.S. Coast Guard to determine if a permit is required of their agency.

On separate sheets of paper, describe the materials to be used, the method of construction (including the use of cofferdams), and the sequence of construction events. Include cross sections and profile plans of the culvert crossings including wing walls or rip rap.

23. PRIVATE AND COMMERCIAL AQUACULTURE ACTIVITIES

Please review VMRC regulations related to aquaculture activities if you are completing this section. An abbreviated application is available for certain private oyster gardening activities by a riparian owner. Also, separate information is required by the VMRC Fisheries Management Division for the review of commercial projects that may qualify for the Virginia Marine Resources Commission General Permit #4 FOR TEMPORARY PROTECTIVE ENCLOSURES FOR SHELLFISH. The VMRC aquaculture regulations can be found on the agency web page at: http://www.mrc.state.va.us/regulations/regindex.shtm.
Please see regulations 4 VAC 20-335-10 et seq., 4 VAC 20-336-10 et seq., and 4 VAC 20-1130-10 et seq.

Briefly describe your proposed aquaculture activity from the time of acquisition (seed, fingerlings, etc.) to time of harvest, and indicate which species you intend to culture. Attach additional sheets if needed.

Source of the animals/plants that you want to culture: _____

Note: VMRC Regulation 4VAC 20-754 et seq. "Pertaining to the Importation of Fish, Shellfish or Crustacea" sets forth the requirements for importing organisms from out of state.

Describe below the number, type, and dimensions of the structures that will be used (e.g., 4' x 2' x 18" floats, 3' x 3' x 1' bottom cages, etc.) and the overall dimensions of the area to be occupied by the aquaculture structures (e.g., two 40-foot by 10-foot bottom plots).

APPENDIX C

Chesapeake Bay Preservation Act Information

Please answer the following questions to determine if your project is subject to the requirements of the Bay Act Regulations:

1. Is your project located within Tidewater Virginia? ___×___Yes ____No (See map on next page)
   - If the answer is "no", the Bay Act requirements do not apply; if "yes", then please continue to question #2.

2. Please indicate if the project proposes to impact any of the following Resource Protection Area (RPA) features:

   ____ tidal wetlands,

   ___×___ nontidal wetlands connected and contiguous to tidal wetlands or water bodies with perennial flow,

   ____ tidal shoreline,

   ___×___ water body with perennial flow (stream, river, creek, etc.)

   ___×___ 100-foot buffer area landward of any of the above features.

   ____ "other lands" as designated by the locality (contact the local government for specific information)

If the answer to question #1 was "yes" and any of the features listed under question #2 will be impacted, compliance with the Chesapeake Bay Preservation Act ("Bay Act") and Regulations is required. To achieve compliance with the Bay Act, the applicant may be required to submit a Water Quality Impact Assessment (WQIA) for the review and approval of the local government. Contact the appropriate local government office to determine if a WQIA is required for the proposed activity(ies).

The individual localities, not the Local Wetlands Boards, are responsible for enforcing Bay Act requirements and, therefore, local permits for land disturbance are not issued through this JPA process. **Approval of this wetlands permit does not constitute compliance with the Bay Act regulations nor does it guarantee that the local government will issue land-disturbing permits for this project**. The requirements of the Bay Act may affect the ultimate design and construction of projects. In order to ensure that these requirements are considered early in the permitting process, and to avoid unnecessary and costly delays, applicants should contact their local government as early in the process as possible. Individual localities may request information regarding existing vegetation within the RPA as well as a description and site drawings of any proposed land disturbance, construction, or vegetation clearing. Locality staff charged with ensuring compliance with the Bay Act will then evaluate project proposals and advise their Local Wetlands Boards or other appropriate parties of applicable Bay Act issues.

Notes for all projects in RPAs

1. Development, construction, land disturbance, or placement of fill within RPA features requires a review from the locality and may require an exception or variance from the local Bay Act program or zoning ordinance. Please contact the appropriate local government to determine the types of development or land uses that are permitted within RPAs.
2. Pursuant to § 9VAC 10-20-105, on-site delineation of the RPA is required for all projects in CBPA localities. Because USGS maps are not always indicative of actual "in-field" conditions, they may not be used to determine the site-specific boundaries of the RPA.

Notes for shoreline erosion control projects in RPAs

Re-establishment of woody vegetation in the buffer may be required to mitigate for the removal or disturbance of buffer vegetation associated with your proposed project. Please contact the local government to determine the mitigation requirements for impacts to the 100-foot RPA buffer.

Pursuant to § 9VAC 10-20-130.5.a(4), § 9VAC 10-20-130.1, and § 9VAC 10-20-120 of the Virginia Administrative Code, the locality will use the information provided in this Appendix and in the project drawings, along with other information in this permit application, to make a determination that:

1. Any proposed shoreline erosion control measures are necessary and consistent with the nature of the erosion occurring on the site, and the measures have employed the "best available technical advice"
2. Indigenous vegetation will be preserved to the maximum extent practicable
3. Proposed land disturbance has been minimized
4. Appropriate mitigation plantings will provide the required water quality functions of the buffer (§ 9VAC 10-20-130.3)
5. The project is consistent with the locality's comprehensive plan
6. Access to the project will be provided with the minimum disturbance necessary.