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Dominion®

September 30, 2010

Mr. Rick Weeks
Chief Deputy Director
Virginia Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

RE: North Anna Power Station Proposed Unit 3:
Supplemental Coastal Zone Management Act Federal Consistency Certification

Dear Mr. Weeks:

Enclosed is Dominion's federal consistency certification and necessary data and information under the Coastal Zone Management Act (CZMA) for issuance of a combined license (COL) by the Nuclear Regulatory Commission (NRC), for construction and operation of a proposed new nuclear unit (Unit 3) at the North Anna Power Station, and for the issuance of the U.S. Army Corps of Engineers Clean Water Act (CWA) Section 404 and Rivers and Harbors Act Section 10 permits for this project. Dominion has not yet committed to building Unit 3, but is making this certification at this time so that we can build and operate the new unit on schedule if we choose to move forward.

Please note that, due to their size, we are providing the attachments to this certification in electronic format. Hardcopies of these documents can be provided upon request.

If you have any questions or need additional information about this submittal, please contact Ken Roller at (804) 273-3494 or kenneth.roller@dom.com.

Sincerely,

Pamela F. Faggert

Pamela F. Faggert

Attachment

cc: Ms. Tamsen Dozier
U.S. Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

Ms. Carolyn Cannella
U.S. Army Corps of Engineers
Norfolk District
515 East Liberty Street
Wytheville, VA 24382

FEDERAL CONSISTENCY CERTIFICATION FOR A COMBINED LICENSE (COL) AND UNITED STATES ARMY CORPS OF ENGINEERS PERMIT FOR NORTH ANNA POWER STATION UNIT 3: Supplement to November 21, 2006 VDEQ Conditional Concurrence for Early Site Permit (ESP)

Submitted to:
Virginia Department of Environmental Quality

Prepared by:
Virginia Electric and Power Company
d/b/a Dominion Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

30 September 2010

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ACRONYM AND ABBREVIATION LIST

APE	Area of Potential Effect
BMP	Best Management Practice
BTA	Best Technology Available
CFR	Code of Federal Regulations
cf	Cubic Feet
cfs	Cubic Feet per Second
CIRC	Circulating Water System
COL	Combined License
COLA	Combined License Application
CWA	Clean Water Act
cy	Cubic Yard
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
EC	Energy Conservation
EIS	Environmental Impact Statement
ER	Environmental Report
ESP	Early Site Permit
FEMA	Federal Emergency Management Agency
ft	Feet
gpm	gallons per minute
IFIM	Instream Flow Incremental Methodology
JD	Jurisdictional Determination
kV	kilovolt
LBG	Louis Berger Group
LCTR	Large Component Transport Route
MOA	Memorandum of Agreement
msl	Mean Sea Level
MWC	Maximum Water Conservation
MWe	megawatts electric
NAPS	North Anna Power Station
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service

NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
PHABSIM	Physical Habitat Simulation Model
SEIS	Supplemental Environmental Impact Statement
STP	Sewage Treatment Plant
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USM	Unified Stream Methodology
VCP	Virginia Coastal Program
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDHR	Virginia Department of Historic Resources
VDOT	Virginia Department of Transportation
VMRC	Virginia Marine Resources Commission
VPDES	Virginia Pollutant Discharge Elimination System
VWP	Virginia Water Protection
WHTF	Waste Heat Treatment Facility
WUA	Weighted Usable Area

FEDERAL CONSISTENCY CERTIFICATION FOR A COMBINED LICENSE (COL), AND CWA §404 AND RIVERS AND HARBORS ACT §10 PERMITS FOR NORTH ANNA POWER STATION UNIT 3

This document provides the Commonwealth of Virginia with the Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) Consistency Certification and necessary data and information under Coastal Zone Management Act (CZMA) §307(c)(3)(A) and 15 Code of Federal Regulations (CFR) Part 930, sub-part D, for issuance of a combined license (COL) by the U.S. Nuclear Regulatory Commission (NRC), for construction and operation of a proposed new nuclear unit (Unit 3) at the North Anna Power Station (NAPS) site in Louisa County, Virginia, and for the issuance by the U.S. Army Corps of Engineers (USACE) of a Clean Water Act (CWA) Section 404 permit and Rivers and Harbors Act Section 10 permit for this project.

CZMA CONSISTENCY CERTIFICATION

Dominion certifies that the proposed activity, the construction and operation of the proposed Unit 3, complies with the enforceable policies of Virginia's` Coastal Zone Management Program (CZMP) and will be conducted in a manner consistent with Virginia's CZMP.

NECESSARY DATA AND INFORMATION

This consistency certification follows the outline suggested on Virginia Department of Environmental Quality's (VDEQ) website (VDEQ 2010). *See* http://www.deq.virginia.gov/eir/federal.html. See also 15 CFR Part 930. Section 1 of this consistency certification addresses both the NRC license and the USACE permit being requested, Section 2 provides additional information on the project, and Section 3 describes each of the relevant "enforceable policies" comprising Virginia's CRMP, as well as the State's "advisory policies" and other comments previously submitted by state agencies. Section 4 incorporates the results of the Instream Flow Incremental Methodology (IFIM) study that was conducted and completed in December 2009 to address comments made previously by Virginia Department of Game and Inland Fisheries (VDGIF), Virginia Department of Conservation and Recreation (VDCR), and VDEQ. Section 5 summarizes the findings relating the probable coastal effects of the proposed project and its associated facilities to the relevant enforceable policies of Virginia's CZMP, including the consistency certification.

1. FEDERAL LICENSE AND PERMIT REQUESTED

Dominion is proposing to construct and operate a third nuclear unit (Unit 3) at the existing NAPS site in Louisa County, Virginia.[1] The proposed project requires issuance

[1] Dominion has not yet committed to building Unit 3, but is making this certification at this time so that we can build and operate the new unit on schedule if we choose to move forward.

of a COL from the NRC pursuant to 10 CFR Part 52, Subpart C. The COL will authorize construction of Unit 3 (beyond certain site preparation activities previously authorized by an NRC Early Site Permit (ESP), as discussed below), and operation of the new Unit. The proposed project also requires the issuance of federal permits from the USACE pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Dominion submitted a Joint Permit Application (JPA) on July 16, 2010 to the Virginia Marine Resources Commission (VMRC) (with a copy to the USACE and VDEQ) to obtain authorization for activities related to Unit 3 that affect wetlands and streams, including USACE authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (USACE Permit).

In November 2007, the NRC issued an ESP for the North Anna site, which determined the site is suitable for construction of new units and authorized site preparation activities, including but not limited to:

- Site preparation for construction of the facility (including clearing, grading, construction of temporary access roads, and preparation of borrow areas);
- Installation of temporary construction support facilities (including warehouses, shops, concrete mixing plants, utilities, docking and unloading facilities, and construction support buildings);
- Excavation for facility structures;
- Construction of service facilities (including items such as roadways, paving, railroad spurs, fencing, exterior utility and lighting systems, switchyard interconnects, and sanitary sewage treatment facilities); and
- Construction of cooling towers, intake and discharge structures, and circulating water lines as well as fire protection equipment, switchyard and other interconnections, and microwave towers.

As part of the ESP process, Dominion previously submitted a consistency certification to VDEQ on March 21, 2005, certifying that the activities described above would be permitted by NRC's issuance of an ESP and comply with the enforceable policies of, and will be conducted in a manner consistent with, the Commonwealth of Virginia's coastal zone management program. On November 21, 2006, the VDEQ provided a conditional concurrence with this certification (Attachment A), stating:

> *Dominion has certified that "the activities that would be permitted by NRC issuance of an ESP would comply with enforceable policies of, and will be conducted in a manner consistent with, the Commonwealth of Virginia's federally [approved] coastal zone management program."*
>
> *Based on the comments submitted by the agencies administering the Enforceable Policies of the Virginia Coastal Program [VCP], we concur that this proposal is consistent with the VCP provided that the following two conditions, discussed in more detail below, are satisfied:*

> *1) that prior to construction and operation of one or both of the proposed new units, including any site preparation and preliminary construction activities, Dominion shall obtain all required permits and approvals not yet secured for the activities to be performed that are applicable to the VCP's Enforceable Policies and that Dominion also adheres to all the conditions contained therein; and,*
>
> *2) that should the U.S. Nuclear Regulatory Commission later approve Dominion's application and ultimately issue an Early Site Permit for the referenced project, in accordance with 15 CFR Part 930 §930.4(a)(3), the NRC shall include in the application approval and in the ESP the additional permit condition submitted by Dominion on November 10, 2006, at the request of the Department of Game and Inland Fisheries, which pertains to the completion of an Instream Flow Incremental Methodology study....*
>
> *As stated above, we are aware that another federal consistency certification submission and review will be required should Dominion later decide to apply to the NRC for a combined construction and operating license."*

In fulfillment of the requirements of Condition 1 above, prior to initiating any activity associated with Unit 3 requiring a permit(s) and/or approval(s) applicable to the VCP's Enforceable Policies, Dominion will timely obtain such permit(s) and/or approval(s) and will adhere to the conditions contained therein. Table 1 provides a list of permits and approvals that Dominion anticipates will be required for the Unit 3 project. With respect to Condition 2 above, Dominion designed and carried out an IFIM study in consultation with VDEQ, VDGIF and VDCR. Section 4 addresses the IFIM study results, conclusions, and related Dominion commitments.

While the ESP constitutes NRC's authorization for Dominion to conduct site preparation activities described herein, some site preparation activities and site separation activities in the ESP affect wetlands and streams and thus require separate authorization from the USACE, Virginia Marine Resources Commission ("VMRC") and VDEQ. As previously mentioned, Dominion submitted a JPA seeking this authorization on July 16, 2010.

Dominion certifies that the additional construction activities and operation authorized by the COL and USACE Permit would comply with the enforceable policies of, and will be conducted in a manner consistent with, the Commonwealth of Virginia's coastal zone management program. In support of this certification being submitted to VDEQ for concurrence, the following data and information are provided.

2. ADDITIONAL INFORMATION REQUIRED BY STATE, INCLUDING PROPOSED PROJECT ACTIVITY

Dominion currently operates two nuclear units on the NAPS site. Unit 1 began commercial operation in June 1978 and Unit 2 followed in December 1980. On March 20, 2003 the NRC renewed the operating licenses for NAPS. Unit 1 and Unit 2 are licensed to operate until April 2038 and August 2040, respectively. The original NAPS

site design included four nuclear units and construction began with NRC authorization for those units. However, Units 3 and 4 were cancelled before construction was completed. The proposed Unit 3 would be located within the NAPS site, adjacent to the existing Units 1 and 2. A portion of the proposed Unit 3 will occupy the footprint of the previously authorized, but not constructed, Units 3 and 4. Some support facilities associated with the existing Units 1 and 2 are located within the footprint of the proposed Unit 3, and consequently, will need to be relocated prior to construction of Unit 3.

NAPS is located near the town of Mineral in Louisa County, Virginia (Figure 1). The existing facility is situated on a peninsula of land along the southern shore of Lake Anna, approximately 5 miles upstream of the Lake Anna Dam. The North Anna River was dammed to form the 9,600-acre Lake Anna and 3,400-acre Waste Heat Treatment Facility (WHTF). Lake Anna is approximately 17 miles long with approximately 272 miles of shoreline.

The proposed project would construct and operate a third nuclear unit (Unit 3) at the NAPS site. An ESP from the NRC was received in November 2007 indicating that the site is suitable for new nuclear generation. The proposed Unit 3 project includes the power generation unit and associated infrastructure, including, but not limited to, cooling towers, stormwater management facilities, excavated soil and construction laydown areas, raising the lake elevation by three inches, breaching of an existing berm at the intake channel, transmission line, and a haul route for large component transport. The project also involves site separation activities that are needed prior to, but are not directly related to, the construction and operation of Unit 3 (i.e., construction of parking lots, bypass road, and relocation of an existing paint shop, vehicle maintenance shop, workshops, communications tower, and sally port/security building).

The activities which may require a USACE permit are the breaching portion of the berm for the intake structure and the construction of portions of the cooling towers, paint shop, parking lots, bypass road, stormwater basins, construction laydown areas, and the off-load location for heavy equipment.

The sections below discuss the background of the project (Section 2.1), purpose of the proposed activity (Section 2.2), and description of the proposed activity (Section 2.3).

2.1 Project Background (NRC Licensing, USACE Permitting, and ESP CZMA Consistency Certification)

In 2003, Dominion applied to the NRC for an ESP to determine the suitability of its North Anna Power Station site for additional nuclear units. An integral part of the ESP application was an Environmental Report (ER), which evaluated the impacts of constructing and operating additional nuclear units at North Anna. In December 2006, NRC in carrying out its obligations under the National Environmental Policy Act (NEPA), published its Final Environmental Impact Statement (EIS) on Dominion's ESP application, which supported issuance of the ESP, concluded that alternative sites are

not obviously superior, and concluded that certain site preparation activities would not result in significant environmental impacts that could not be redressed.

On March 21, 2005, Dominion provided VDEQ with a CZMA consistency certification in connection with activities that could be authorized by the ESP. VDEQ subsequently concurred with Dominion's certification on November 21, 2006; however, the concurrence was conditioned on addressing concerns related to potential operational water use impacts to Lake Anna and the North Anna River downstream from the dam. On November 27, 2007, the NRC issued the ESP indicating that the site is suitable for new nuclear generation. To satisfy DEQ's conditional certification requirements, the ESP contained a requirement for Dominion to conduct an IFIM study designed and implemented in cooperation and consultation with the VDGIF and the VDEQ, to address potential impacts of the proposed units upon the fishes and other aquatic resources of Lake Anna and downstream waters. The ESP also states that "Dominion agrees to consult with VDGIF and VDEQ regarding analysis and interpretation of the results of that study, and to abide by surface water management, release, and instream flow conditions prescribed by VDGIF and VDEQ upon review of the completed IFIM study, and implemented through appropriate State or Federal permits or licenses." Subsequent to issuance of the ESP, Dominion designed and implemented an IFIM study in accordance with the ESP requirements, and in consultation with VDGIF and VDEQ. The completed IFIM study results and related Dominion commitments are discussed in Section 4 of this Consistency Certification.

Dominion applied to the NRC for a COL for North Anna Unit 3 on November 27, 2007, which again included the required ER The COL Application (COLA) referenced the General Electric-Hitachi ESBWR technology. In February 2010, NRC published a Final Supplemental Environmental Impact Statement (SEIS) addressing construction and operation impacts of the proposed Unit 3. In May 2010, following an extensive competitive bidding process for a North Anna Unit 3 reactor technology, Dominion notified NRC that it had selected the Mitsubishi Heavy Industries, Ltd. U.S. Advanced Pressurized Water Reactor (US-APWR). On June 29, 2010 Dominion submitted to NRC a revised COLA that reflected the change in reactor technology. The change in reactor technology does not substantially change the environmental impacts of the proposed project that are related to Virginia's CZMP's enforceable or advisory policies.

In July 2010, Dominion submitted a Joint Permit Application (JPA) to VMRC (with copies to USACE and VDEQ) for wetland and stream impacts that will result from all aspects of the Unit 3 project: site-separation, site-preparation, and construction. All impacts to wetlands and streams resulting from the proposed Unit 3 project were considered during the ESP proceeding except for those impacts associated with site-separation, adjacent property known as the Route 700 parcels, the NAPS-to-Ladysmith Transmission Line, the Mattaponi River large component off-loading area, and the three inch rise in Lake Anna water level. In response to the JPA, Dominion anticipates issuance of a permit from USACE, a Virginia Water Protection (VWP) permit (including 401 Certification) for wetland and stream impacts from DEQ, a habitat (subaqueous) permit from VMRC, and a wetland/stream permit from the King William County Wetland Board. As part of its review of the JPA, the USACE will determine whether a Section 10

Rivers and Harbors Act permit is required for construction of the Mattaponi River barge off-loading facility and for stream crossing as part of the transmission line activities.

This consistency certification will cover issues that are applicable to both the NRC COL and the USACE Permit and are beyond the scope of the DEQ's ESP CZMA consistency concurrence. As such, it will identify activities beyond those authorized by the ESP including any new information and/or project changes that are related to the enforceable policies comprising Virginia's CZMP and that have occurred since the DEQ issued its conditional concurrence with Dominion's ESP coastal zone consistency certification. Dominion's ESP Consistency Certification and DEQ's conditional concurrence are attached for reference (Attachment A). Table 2 specifically identifies (1) the activities covered by the prior concurrence and which ones are subject to USACE permitting; (2) the new activities subject to the new certification and which ones are subject to USACE permitting; and (3) of these new activities, those limited activities affecting the coastal zone.

Dominion's NAPS COL application to NRC, NRC's ESP EIS, COL Final SEIS, revised COLA-ER (to reflect US-APWR reactor technology) and Dominion's JPA for wetlands, stream, and bottom impacts are provided on the enclosed compact disc in Attachment D. These items are also available online and weblinks to the documents are provided below. Sections of these documents are referenced throughout this certification.

Date	Document	Website Addresses
Dec-06	ESP EIS	http://www.nrc.gov/reactors/new-reactors/col/north-anna/documents.html
Nov-07	COLA-ER (Revision 0)	
Feb-10	COL SEIS	
Jun-10	COLA – ER (Revision 3)	
Jul-10	JPA	http://www.dom.com/about/stations/nuclear/north-anna/north-anna-3.jsp

2.2 Purpose of Proposed Activity

Currently, NAPS has the capacity to generate 1,786 megawatts electric (MWe) from its existing two units. This production generates enough electricity to power approximately 450,000 homes. The primary purpose of the proposed Unit 3 is to provide additional nuclear baseload generating capacity to supply the state's growing demand for electricity. Unit 3 will produce an estimated net electrical power output of between 1,425 MWe and 1,510 MWe to power an additional 360,000 to 380,000 homes. Secondary purposes of the proposed Unit 3 are to maintain fuel diversity, to reduce Virginia's dependence on imported fuel for power plants, and to provide an emission-

free power source to the region. The purpose of the fill activities to be authorized by the USACE Permit is to construct portions of certain ancillary components for Unit 3.

2.3 Description of the Proposed Activity

Activities associated with the proposed Unit 3 project can be divided into five different components: (1) construction of Unit 3 at the NAPS site, including site separation activities that will occur prior to the construction of Unit 3, (2) additions to the existing NAPS-to-Ladysmith transmission line, (3) modifications to the large component transport route (LCTR), (4) the placement of construction material on the Route 700 parcels near the entrance to the NAPS site, and (5) operation of Unit 3. Figures 2 and 3 depict the proposed project locations. Activities associated with each of the five Unit 3 project components are described below, and their relationships to the enforceable policies of Virginia's CMZP are presented in Section 3 and in Table 2.

The Unit 3 site is not located in Tidewater, Virginia as defined by VDEQ (Code of Virginia §28.2-100); however, other components of the project (transmission line and LCTR and Mattaponi river barge roll-off in Walkerton, VA) are located within Tidewater, Virginia. The NAPS site and Route 700 parcels are owned by Dominion and located in Louisa County. Lake Anna, which is adjacent to the NAPS site and supports operation of the existing plant, is bordered by Louisa, Spotsylvania, and Orange Counties. The transmission line corridor traverses Louisa, Spotsylvania, and Caroline Counties. The LCTR traverses King William, Caroline, Hanover and Louisa Counties. The following counties included in the overall project area are within Virginia's coastal zone: Caroline, Hanover, King William, Spotsylvania. While the Unit 3 site and the Route 700 parcels are not within the coastal zone, a portion of the shore of Lake Anna across from the NAPS site is located within Spotsylvania County, which is part of Virginia's coastal zone.

Construction of Unit 3

The construction of Unit 3 within the NAPS property includes the power generation unit and associated infrastructure, including, but not limited to, cooling towers, stormwater management facilities, and breaching of an existing berm at the intake channel. The proposed construction site is located on the west side of existing Units 1 and 2, beginning approximately 600 feet west of the center of the Unit 1 containment building (Figure 4).

A number of activities will be undertaken prior to construction of Unit 3 in order to ensure the continued operation of Units 1 and 2 will not be affected during the construction of Unit 3. These site separation activities include construction of parking lots, and a bypass road, and relocation of an existing paint shop, vehicle maintenance shop, workshops, communications tower, and sally port/security building,

During construction, it may be necessary to relocate several existing, currently permitted Unit 1 and Unit 2 outfalls [Virginia Pollutant Discharge Elimination System (VPDES) permit # VA0052451]. During initial construction, sewage generated by the

construction workforce may be handled through the use of portable facilities in accordance with Virginia Department of Health sewage handling regulations, or will be routed to the station's existing sewage treatment plant (STP), which has enough capacity under the existing VPDES permit to handle the additional influent of this smaller workforce. In the latter stages of construction, a temporary package STP will be constructed for this purpose. Changes to existing outfalls and the addition of new STP outfalls will be addressed in accordance with Virginia's VPDES Permit Regulation.

Construction activity that would occur within the lake floodplain would be limited to the new Unit 3 water intake structure, and culvert additions for relocated discharges. The floodplain along the Lake Anna shoreline has been determined using the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FEMA 1997). Based on this FEMA map, flooding that might occur during construction of the new unit would be limited to areas immediately adjacent to the lake shoreline (i.e., below elevations of 255 feet mean sea level (msl)).

NAPS-to-Ladysmith Transmission Line Activities

As part of the Unit 3 project, Dominion proposes to construct a new 500-kilovolt (kV) transmission line from the North Anna Substation to the Ladysmith Switching Substation, located east of the NAPS site in Caroline County. The proposed NAPS-to-Ladysmith transmission line will be located entirely within Dominion's existing transmission corridor which extends 15 miles east of the NAPS site and is approximately 275 feet wide. This corridor was originally designed to accommodate transmission lines from four nuclear units and there are presently only transmission lines from the two existing units within the corridor. The addition of Unit 3 is within the original design plan. The proposed additional transmission towers will be constructed adjacent to the existing transmission towers, but will be 10 to 20 feet higher than the existing towers, and will completely avoid filling of wetland and stream resources within the existing corridor.

Large Component Transport Route Activities

The large component transport route is the road network proposed to transport the reactor pressure vessel and other oversized/overweight equipment necessary for Unit 3. Certain areas and existing facilities will require modifications to safely unload and transport the large components. The new reactor and other oversized and/or overweight components are proposed to be transferred from an ocean-going vessel at the Port of Newport News to a barge that will navigate the York River and Mattaponi River. The equipment will be barged to the roll-off location. The proposed roll-off site is located in King William County, adjacent to the Walkerton Bridge (VA Route 629), which crosses the Mattaponi River.

The loads to be rolled-off will be too large to facilitate a typical unloading operation (where the barge is beached and the load rolled off the end). To facilitate the off-loading operations, the barge will be moored offshore with a short bridge connecting the

barge to the shore. The proposed roll-off location will require a temporary cofferdam within the Mattaponi River and construction of a temporary roll-on/roll-off ramp.

After unloading materials and equipment from a barge at the roll-off location, the material and equipment will be moved west on VA Route 30 by truck. The proposed route will cross over I-95 by using an existing entrance ramp at Exit 98. The route will travel north on I-95, turning at an emergency crossing and using an existing off-ramp at Exit 98. The off-ramp will require new construction and improvements to the existing ramps and roads. From Route 30, the proposed route follows Route 1, turning east on Doswell Road following an unnamed road north to Verdon Road. From Verdon Road, the proposed route follows State and County Roads to NAPS site. Portions of the proposed route were previously used for heavy haul of large components to support the construction and operation of Units 1 and 2.

A temporary structure will be constructed to span the North Anna River at Route 30. After the equipment has been hauled, the structure will be demolished and removed. Existing roadway culverts and pipes along the proposed LCTR have been surveyed and evaluated. In locations where culverts and pipes require additional protection to support the loads, steel plating or crane mats will be used. Replacement or improvement of existing culverts and pipes is not expected.

Placement of Material at Route 700 Parcels

Material excavated from the NAPS site to facilitate construction will be placed at the Route 700 Parcels. The Route 700 Parcels are southwest of NAPS, but contiguous with, and near the entrance to the NAPS site. The parcels are adjacent to Haley Drive and Kentucky Springs Road and are the proposed location for placement of the material excavated to support the construction of Unit 3. The construction of Unit 3 and associated facilities will require excavation of approximately two million cubic yards (cy) [27 million cubic feet (cf)] of soil and organics. This excess material will be placed on the Route 700 Parcels to create a suitable laydown area to support the various construction activities associated with of Unit 3.

Operation of Unit 3

The proposed Unit 3 will use a US-APWR reactor design. The reactor power conversion system will consist of a reactor, a turbine-generator set, and auxiliary equipment. The cooling system for Unit 3 will be a closed-cycle, hybrid wet and dry cooling tower system for the circulating water system (CIRC) with makeup water supplied from Lake Anna. The dry tower will be designed with the capability to reject a minimum of one third of the condenser heat loading at design ambient conditions. This fraction of the heat rejection quantity would increase with decreasing ambient air temperature. The dry tower will operate in a manner to conserve water when the lake level is below normal, resulting in a minimal impact on Lake Anna water levels. During periods when the lake water level is at normal levels, operation of the dry tower will be restricted to minimize the auxiliary power demand of the cooling tower and maximize electrical output available to consumers. As described in the COLA, the hybrid cooling

3.1.1 Fisheries Management

The IFIM study required as part of the "conditional approval" of the consistency certification was successfully developed and completed under the guidance of the state resource agencies (VDEQ, VDGIF, VDCR). Additional information on the IFIM study, including mitigation measures, is provided in detail in Section 4.0 and Attachment B.

Dominion has monitored fish populations in Lake Anna and the North Anna River for over 25 years. No federally-listed or state-listed fish species has been collected in any of these monitoring studies, nor has any listed species been observed in creel surveys or occasional special studies conducted by Dominion biologists. No federally-listed or state-listed fish species' ranges include Lake Anna or the North Anna River, and none is believed to occur in counties adjacent to Lake Anna or the North Anna River (i.e., Caroline, Hanover, Louisa, Orange, and Spotsylvania counties).

None of the activities undertaken by Dominion at the site are subject to the components of the Fisheries Management enforceable policy relating to the State Tributyltin Regulatory Program (Va. Code Section 3.1-249.59 through 3.1-249.62).

Unit 3 Construction/Operation

To connect Lake Anna and the Unit 3 intake channel, breaching of an existing berm is required. Based on the conceptual design for penetration of the berm, the quantity of material to be removed will be approximately 2,025 cy (54,675 cf). This material is composed of 637 cy (17,199 cf) of sediment that will be dredged from within the lake and 1,388 cy (37,476 cf) of material from the existing berm. The current berm provides a dry area for the construction of the new Unit 3 intake structure; however, it will eventually be breached by multiple pre-cast culverts to allow flow of the lake water into the intake channel. Best Management Practices ("BMPs") will be employed to prevent sediment laden water created by the dewatering process from entering the lake.

Because of the limited quantity of water required for the operation of proposed Unit 3, no major modifications to the existing shoreline will be made. Only minor dredging in the intake approach channel will be required. This may temporarily affect finfish and/or shellfish resources located in Lake Anna during the dredging activities. Disturbance of benthic habitat, increased turbidity, and overall level of human and mechanical activity may cause fish populations to avoid the construction area. The increase in turbidity may lead to a localized reduction in primary productivity in the intake channel. These impacts would be temporary and localized. The near-shore aquatic environment is expected to recover completely after these temporary construction activities in the intake channel have finished.

Dominion has consulted with VDGIF regarding Unit 3 construction and operation impacts to lake and downstream fisheries as part of the IFIM study. With the use of the proposed wet/dry cooling system for Unit 3, the amount of heated water in the lake would not be increased, and there would be no substantive permanent changes to

water system of the new unit would have an insignificant impact on the WHTF or Lake Anna temperatures, resulting in no incremental thermal impacts to aquatic life.

Make-up water will be withdrawn from Lake Anna through a new intake structure located on a cove on the south shore of the lake. The intake structure will be located adjacent to the existing intake structure for Units 1 and 2, within an area designated for the two previously planned but never-constructed generating units. The water intake structure for the proposed Unit 3 would comply with Section 316(b) of the CWA and the implementing regulations, as applicable. The new intake structure would withdraw make-up water for the plant cooling water systems from Lake Anna at a flow rate of up to 2.23×10^4 gallons per minute (gpm) [49.6 cubic feet per second (cfs)].

Cooling system discharges for the existing units and the Unit 3 wet cooling tower blowdown will be sent to the WHTF via the existing discharge canal. Make-up water to the cooling tower will be treated for biofouling, scaling, and suspended matter with acceptable biocides, anti-scalants, and dispersants

Potential coastal zone impacts from Unit 3 operational activities would be primarily water-related - primarily water withdrawals from Lake Anna, and wastewater discharges to the WHTF. Based on extensive interaction with state resource agencies, the proposed cooling method for Unit 3 has been designed to reduce water demands and produce a discharge with a thermal load that should not be discernable in Lake Anna. During periods of relative water surplus in Lake Anna, the wet hybrid towers would be used. During dry or drought periods, the dry cooling tower would be placed into service, reducing the overall evaporation rate of the system. In addition, Dominion has agreed to implement the recommendation of the IFIM study to raise the normal full-pool elevation of Lake Anna by 3 inches (to 250.25 feet msl) to mitigate the impact on lake level and downstream flow, particularly during drought conditions. Similarly, water levels in the WHTF also would be raised by 3 inches.

3. EVALUATION AND FINDINGS RELATING TO PROBABLE COASTAL EFFECTS OF THE PROPOSED PROJECT

Potential effects of the proposed Unit 3 project on the coastal zone are described below. Section 3.1 addresses impacts related to Virginia CZMP's "enforceable policies," and Section 3.2 addresses impacts related to advisory policies or other concerns. Table 2 provides information concerning each of the Unit 3 project components, how the components impact the coastal zone enforceable policies, and the rationale for CZMP consistency.

3.1 Environmental Impacts - Enforceable Policies

This section addresses the potential impacts of the proposed Unit 3 project on each of the nine enforceable policies comprising Virginia's CZMP. Where applicable, each component of the project is discussed separately (i.e., Unit 3 Construction, NAPS-to-Ladysmith Transmission Line, LCTR, Route 700 Parcels, Unit 3 Operation).

aquatic habitats in the lake. Based on this, VDGIF indicated that it does not expect changes to striped bass (*Morone saxtilis*) habitat in Lake Anna. Specific questions raised by VDGIF related to the intake structure are addressed in Section 3.2.1- Intake Structure, and downstream North Anna and Pamunkey River fisheries are discussed in detail in Section 4.0- IFIM study.

Large Component Transport Route

Dominion will temporarily affect finfish, shellfish, and/or benthic organisms at the proposed roll-off location in the Mattaponi River. These impacts would be localized and may cause fish to avoid the area and temporarily relocate to other areas. The disturbance would be temporary and fish and invertebrate communities would be expected to return to normal after construction of the roll-off ramp is completed. Increase in turbidity may occur due to construction activities, but these impacts will be localized and temporary. No impacts to the North Anna River are anticipated by the construction of a proposed bridge on Route 30, so no impacts to the finfish, shellfish, and/or benthic community are expected. These issues would be addressed in cooperation with appropriate agencies [e.g., Virginia Department of Transportation (VDOT), VMRC, VDEQ, VDCR, VDGIF] such that they will comply with all Virginia regulations and permitting requirements. Overall, these actions are not expected to adversely impact any commercial or recreational coastal fisheries.

NAPS-to-Ladysmith Transmission Line

The proposed towers will be located to avoid filling of wetland and stream resources, there would be no impact to in-water areas, and, therefore, no impacts to coastal fishery resources will occur as a result of the proposed transmission line activities.

Route 700 Parcels

The activities required to place and grade approximately two million cy of subsurface material on the Route 700 Parcels would fill approximately 3.16 acres of wetlands and approximately 3,742 linear feet of streams on this Dominion-owned property. These impacts were included in the JPA submitted in July 2010. Dominion is working with VDEQ and USACE staff to identify the preferred mitigation approach to fully meet federal and State requirements (e.g., purchase credits from an agency-approved mitigation bank).

3.1.2 Subaqueous Lands Management

Temporary impacts to Virginia's subaqueous lands will occur during construction of the Mattaponi roll-off ramp associated with the LCTR. Temporary impacts to subaqueous lands may also result from shading of the North Anna River bottom following placement of the LCTR structure that will span the North Anna River at the Route 30 crossing. In addition, the proposed NAPS-to-Ladysmith transmission line will cross the main channel of the North Anna River within Lake Anna; however, no construction in subaqueous lands will result from this activity. Also, subaqueous lands within Lake Anna will be

disturbed when the existing berm is breached to install the culverts needed to establish the hydraulic connection between Lake Anna and the intake structure for Unit 3. Each of the above impacts were included in the Joint Permit Application that was submitted to VMRC on July 16, 2010, and no impacts to Virginia subaqueous lands will occur as part of the Unit 3 project without receiving the appropriate regulatory authorization.

3.1.3 Wetlands Management

All expected impacts to wetlands and streams were identified in the JPA submitted to VMRC in July 2010, and the JPA Addendum that was submitted in September 2010. Impacts described in the certification submitted for the ESP would still occur, unless specifically noted. The Large Component Transport Route, the 3-inch rise in water surface elevation, Site Separation activities and the Route 700 Parcel are new project components that change anticipated wetland and stream impacts because these activities have been identified since the completion of the ESP process.[2]

The proposed LCTR construction at the Walkerton roll-off location would temporarily affect tidal wetlands. Potential impacts to non-tidal wetlands are described for each action area in the following subsections. Dominion is continuing to work with the USACE and VDEQ regarding potential wetland impacts associated with the Unit 3 project.

Permanent impacts to wetlands would occur as a result of constructing the proposed project. A total of 12.93 acres of wetlands (Wetlands Class VII) would be permanently affected by the construction of the cooling towers, spoil material placement, parking lots, access roads, stormwater basins, and a 3-inch rise in water surface elevation within Lake Anna and the WHTF. An additional 0.71 acres of temporary wetland impacts are associated with the proposed LCTR and intake structure. Wetland impacts for each of these project components are discussed in more detail below.

Unit 3 Construction/Operation

NAPS site excavation, fill, and grading operations that will occur during construction of proposed Unit 3 would alter streams and jurisdictional wetlands on the NAPS site. Wetland and stream surveys of the NAPS property were conducted in 2006 and 2007 and jurisdictional determinations (JDs) for the wetland determinations were received from USACE-Norfolk District in September 2006 and August 2008 (Attachment C). The proposed project would permanently impact approximately 1.55 acres of wetlands and 2,572 linear feet of streams on the NAPS property. Dominion is working with VDEQ and USACE staff to identify the preferred mitigation approach to fully meet the USACE's and State's requirements. Dominion is proposing to mitigate for stream and wetland loss through the combination of an approved mitigation bank and stream preservation.

The proposed cooling towers associated with Unit 3 will use make-up water supplied from Lake Anna. Although the Unit 3 cooling system will withdraw less water as compared to the existing Units 1 and 2, it will still involve consumptive use of water from

[2] Although the 3-inch rise in water surface elevation will not result in impacts to jurisdictional wetlands, Dominion has agreed to include the 3-inch rise in its JPA application and to mitigate for resulting impacts.

Lake Anna. As a result, and in accordance with the results of the IFIM study, Dominion proposes to raise the normal full-pool elevation of Lake Anna by 3 inches (to 250.25 feet msl) to mitigate the impact on lake level and downstream flow, particularly during drought conditions. Similarly, water levels in the WHTF also would be raised by 3 inches. The proposal to raise the Lake and WHTF surface water level are the result of Condition 2 of the prior concurrence and discussions with VDEQ and VDGIF. A desktop wetland delineation was provided to the USACE in July 2009. The USACE issued a JD dated July 20, 2009 (Attachment C). The 3-inch increase will result in the unavoidable inundation of 8.14 acres of wetland areas located along the perimeter of Lake Anna and the WHTF to be replaced by an approximately equivalent increase in new wetlands after the shoreline adjusts to the new elevation. In addition to the expected replacement, the wetlands impacted by the unavoidable inundation along the perimeter of Lake Anna and the WHTF will be mitigated. This mitigation will be for a change in wetland function, expected to be temporary, not a loss of wetland area.

NAPS-to-Ladysmith Transmission Line

The new 500 kV transmission line would be installed within the existing NAPS-to-Ladysmith transmission line right-of-way. A wetland delineation was conducted along the NAPS-to-Ladysmith transmission line corridor in August 2008. Based upon a field analysis of the vegetation, soils, and hydrology conducted in accordance with the "Corps of Engineers Wetlands Delineation Manual" (1987 Manual), 39 potential non-tidal wetland areas were flagged. The wetland areas observed totaled 34.99 acres, and the majority of wetland areas were located in valleys within intermittent or perennial streams that generally flowed south towards Lake Anna, North Anna River, Northeast Creek, Arnolds Creek and tributaries to the South River. Wetland boundaries, as defined by regulations, were verified by the USACE as indicated in a letter dated September 2008, which contains a jurisdictional determination (Attachment C).

The current design plan for construction of the new transmission line is to place the proposed towers adjacent to existing towers. Out of the 72 potential tower locations identified, one wetland area was located within a proposed tower footprint and one wetland area was located immediately adjacent to a proposed tower location. No other wetland areas were identified within the footprints of the remaining towers. The proposed towers related to Unit 3 will be located in such a manner as to avoid those identified wetland areas and in accordance with existing regulations, procedures, and/or BMPs.

A number of BMPs would be used to minimize any potential transmission corridor impacts. These BMPs include: the hand clearing of trees and brush, avoiding disturbance of soil (to the extent possible) within 100 feet of a stream or ditch, and employing erosion and sediment control measures. No construction of culverts or bridges would be required for construction of the NAPS-to-Ladysmith transmission line. Access to the transmission line would be available through existing roads and access routes. Once construction of the transmission line for Unit 3 has been completed, Dominion would restore disturbed areas by means such as: 1) rehabilitating land by discing, fertilizing, seeding, and installing erosion control devices (e.g., water bars and

mulch); 2) properly removing and disposing debris left or caused by construction; and 3) restoring property to its original condition.

Large Component Transport Route

Wetland delineations were conducted along the LCTR in November 2008 and May 2009. A JD was provided by USACE on June 29, 2009 (Attachment C). Wetland impacts related to the LCTR are expected to be of relatively small scale and result from construction at the roll-off location along the Mattaponi River. Although some details of the LCTR are not yet determined, preliminary wetland and stream impacts have been calculated. The LCTR component of the proposed project will temporarily impact approximately 0.21 acres of wetlands at the Walkerton Landing roll-off location. Temporary stream impacts, associated with the proposed roll-off location on the Mattaponi, include approximately 515 linear feet. Dominion is proposing to mitigate for stream and wetland loss through the combination of an approved mitigation bank and stream preservation.

Route 700 Parcels

A wetland delineation was conducted in 2008 to delineate and quantify wetlands on the Route 700 Parcels). A JD was issued by USACE on August 27, 2008 (Attachment C). This survey identified eight potential non-tidal wetland areas, totaling 4.0 acres. Additionally, a stream survey was conducted in 2009 to identify and quantify stream impacts on the Route 700 Parcels using the unified stream methodology (USM) developed by the USACE and VDEQ. Streams identified totaled 3,644 linear feet within Louisa County. The activities required at the Route 700 Parcels include grading and placing approximately two million cy of subsurface material on the Route 700 Parcels. Permanent wetland and stream impacts would occur as a result of the project activities. Dominion is proposing to mitigate for stream and wetland loss through the combination of an approved mitigation bank and stream preservation. Permanent wetland impacts would total 3.25 acres and permanent stream impact would total 3,808 linear feet. Dominion is working with VDEQ and USACE staff to identify the preferred mitigation approach to fully meet federal and State requirements (e.g., purchase credits from an agency-approved mitigation bank and/or stream preservation).

3.1.4 Dunes Management

The proposed Unit 3 project will not impact coastal dunes. Dominion has no plans to undertake any development in coastal dunes for this project.

3.1.5 Non-point Source Pollution Control

Virginia requires land disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemicals, nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the state. According to VDCR regulations, any land disturbance exceeding an area of 2,500 square feet must comply with the

Virginia Erosion and Sediment Control Law, which requires that the applicant prepare and submit an Erosion and Sediment Control Plan.

Unit 3 Construction/Operation

During future construction activities that involve land disturbance, Dominion would employ BMPs described in the Virginia Erosion and Sediment Control Handbook (VDCR 1992) to control erosion and minimize the sediment load to the project area in accordance with an approved Erosion and Sediment Control Plan. BMPs implemented on the NAPS site may include sediment basins, sediment barriers, vegetative stabilization and filter strips, culvert inlet protection, storm drain inlet protection, rip rap, rock filter berms, and mulching. Visual inspections of erosion control measures would be performed to monitor the effectiveness of the control measures and to aid in determining if additional mitigation measures are necessary.

The DCR01 General Permit is required for all projects that disturb one or more acres of total land area. To obtain coverage under the DCR01 General Permit, Dominion will submit a complete and accurate Registration Statement before construction activities on the NAPS site begin as indicated in 4 VAC50-60-1150.A. A Louisa County-approved Erosion and Sediment Control Plan will be included or referenced in the Stormwater Pollution Prevention Plan prior to issuance of the registration statement.

Large Component Transport Route

The proposed project will involve unloading large equipment (components) from a barge at the roll-off location. To facilitate the offloading operations, the barge will be moored offshore with a short bridge connecting the barge to the shore. The proposed roll-off location will require a temporary cofferdam within the Mattaponi River and construction of a temporary roll-on/roll-off ramp. Additionally, a temporary structure will be constructed to span the North Anna River at Route 30. After the equipment has been hauled to the NAPS site, the structure will be demolished and removed. The proposed route will cross over I-95 by using an existing entrance ramp at Exit 98. The route will travel north on I-95, turning at an emergency crossing and using an existing off-ramp at Exit 98. The off-ramp will require new construction and improvements to the existing ramps and roads. The proposed route follows state and county roads to NAPS and may cause impacts to culverts. In locations where culverts and pipes require additional protection to support the loads, steel plating or crane mats will be used. Replacement or improvement of existing culverts and pipes is not expected to be necessary.

The proposed project will cause temporary, small scale, non-point source releases of sediments and associated nutrients to adjacent surface waters along the LCTR.

NAPS-to-Ladysmith Transmission Line

During the construction of the new transmission line, small-scale temporary soil disturbing activities will take place along the 15-mile NAPS-to-Ladysmith corridor. These activities will be conducted to fully comply with Virginia's Erosion and Sediment

Control Law as administered by VDCR (Virginia Code § 10.1-560 *et.seq.*). During construction activities that involve land disturbance, Dominion would employ BMPs described in the Virginia Erosion and Sediment Control Handbook (VDCR 1992) to control erosion and minimize the sediment load to the project area in accordance with an approved Erosion and Sediment Control Plan. The DCR01 General Permit is required for all projects that disturb one or more acres of total land area. Dominion would obtain a DCR01 permit for the transmission line prior to construction.

Route 700 Parcels

The proposed project will include grading and placement of approximately two million cy of subsurface material on the Route 700 Parcels, which would substantially alter the surface of this land parcel, and require substantive sediment erosion and sediment control actions to minimize non-point source sediment inputs to adjacent surface waters. During placement and construction activities, Dominion would employ BMPs described in the Virginia Erosion and Sediment Control Handbook (VDCR 1992) to control erosion and minimize sediment and nutrient loadings to adjacent surface waters in accordance with an approved Erosion and Sediment Control Plan. The erosion and sediment control plan will comply with all applicable Virginia State and Louisa County regulations and requirements. The plan will also consider the steep slopes shown on the Construction Facilities Rough Grading Plan and the time required to establish stabilized surfaces via vegetation or other engineered means on these slopes to prevent sediment from migrating offsite. As the erosion and sediment control plan will be developed as part of the construction plan, current grading drawings do not depict these erosion and sediment control plan measures.

Once construction is complete, the area will be inspected to ensure that all stabilization measures have been installed and that ground surfaces are stable before the removal of erosion and sediment control measures. The final surface condition of the area will be a vegetative cover similar to the existing vegetative cover. Stormwater measures including basins, vegetated swales and ditches, culverts, and rip rap energy dissipaters have been designed to achieve peak discharges at or below pre-development levels. Thus, the downstream channels will be protected against both sediment deposition and erosion as a result of grading alterations associated with the placement of soil and the spoil piles in Route 700 Parcels area.

The DCR01 General Permit is required for all projects that disturb one or more acres of total land area. To obtain coverage under the DCR01 General Permit, Dominion will submit a complete and accurate Registration Statement before construction activities on the 700 parcels begin as indicated in 4 VAC50-60-1150.A. A Louisa County-approved Erosion and Sediment Control Plan will be included or referenced in the Stormwater Pollution Prevention Plan prior to issuance of the registration statement.

3.1.6 Point Source Pollution Control

The point source pollution control program is administered by the State Water Control Board pursuant to Virginia Code § 62.1-44.15 of the *Code of Virginia*. Point source

pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to §402 of the CWA and administered in Virginia as the VPDES permit program. NAPS has a VPDES permit (VA 0052541) covering the existing site operations.

Unit 3 Construction/Operation

In the operational phase, the effluent from Unit 3 will include circulating water and service water system blowdown, (which have been concentrated due to evaporation from the hybrid cooling tower systems), in addition to other small volume wastestreams (e.g., system backwashes, reject water and drains). Effluent wastestreams from Unit 3 will be directed to the cooling tower blowdown sump. Effluent from the sump will then be routed to the head of the existing discharge canal where it will mix with large volumes of circulating water used for cooling Units 1 and 2, prior to discharge to the WHTF. Effluent from the WHTF is ultimately returned to Lake Anna through a six-bay skimmer wall discharge structure built within Dike 3.

The results of effluent modeling analyses indicate that, for all postulated operating condition combinations, Unit 3 effluent constituent concentrations discharged to the WHTF would be within the existing VPDES permit limits, and below Virginia's existing water quality criteria, with the possible exception of two constituents: copper and tributyltin. Both were measured in one or more samples of ambient lake water at concentrations equal to or greater than VDEQ's water quality criteria The presence of both of these constituents in Lake Anna is unrelated to the operation of existing Units 1 and 2. In addition, it is important to recognize that the concentrations of copper and tributyltin attributable to Unit 3 in the final discharge to the WHTF would not be measurable using current VDEQ-approved analytical methods.

Unit 3 effluent streams will also contain small concentrations of chemicals and/or biocides that are currently permitted, and commonly used for water treatment (e.g., for chlorination/dechlorination, antiscaling, and corrosion protection). Dominion routinely monitors NAPS discharges as required by Dominion's VPDES permit for Units 1 and 2. Similar sampling and analyses would be performed in accordance with the modified VPDES permit that would include all Unit 3 operations.

During plant construction, until a new or temporary sanitary waste treatment facility is functional, additional sewage treatment capacity and approved supplemental means of handling sanitary wastes would be employed. Typically, this supplemental capacity would be met by using modern portable sanitary facilities. These facilities could include a centralized restroom and hand-wash trailer(s) in addition to single restroom units located throughout the site, as necessary. The wastes collected in these temporary facilities would be properly managed by a licensed sanitary waste disposal contractor as required by Virginia Department of Health's Sewage Handling Regulations. Dominion may also elect to treat the smaller volume of sanitary wastewater from the initial construction workforce in the existing NAPS sewage treatment plant. The existing STP has permitted capacity that is not currently being utilized with the existing workforce. VDEQ will be consulted and necessary regulatory approvals obtained prior to the

introduction of additional wastewater to the existing STP. If a temporary or permanent package plant is installed for the construction workforce, a VPDES permit modification for the new STP discharge outfall would be obtained prior to discharge.

Dominion's plans include an upgrade of the existing sewage treatment plant for Units 1 and 2, as well as an additional new sewage treatment plant for Unit 3. A permanent sanitary waste system for Unit 3 will be designed to collect and transfer sanitary waste and used potable water to the sewage treatment plant. The sewage treatment plant will be a standard industry design packaged unit(s) designed to process the sanitary waste to meet local and state regulations for effluent quality in accordance with the VPDES permit. Treated water from the Unit 3 sewage treatment plant will be routed to the cooling tower blowdown sump, then into the discharge canal and to the WHTF. The biosolids generated by the treatment facility would be transported offsite to a licensed sanitary waste landfill for disposal. Dominion will obtain VPDES permit modifications to cover each of these point source changes.

To address the issue of thermal discharges to the lake, the proposed cooling method for Unit 3 involves a closed-cycle, hybrid wet and dry cooling system that is designed to reduce water demands during dry and drought conditions and to produce a discharge with no detectable heat added, as measured at the end of the discharge canal. During periods of relative water surplus, the wet/dry hybrid tower would be used. During dry or drought periods a dry cooling tower would be placed in service, substantially reducing the water consumption by evaporation. With this hybrid system, the only heat added is from blowdown flow. Since the blowdown flow is insignificant when compared to the existing cooling water flow from Units 1 and 2 to the discharge canal, added heat from Unit 3 operation will be undetectable in the WHTF.

Dominion will request a VPDES permit modification to include Unit 3 discharges, and will obtain the appropriate regulatory approvals prior to any new discharges resulting from construction or operation of Unit 3.

Large Component Transport Route

There would be no point source discharges to surface waters from planned activities related to the LCTR used to bring heavy and oversized equipment to the NAPS site.

NAPS-to-Ladysmith Transmission Line

There would be no point source discharges to surface waters from planned activities related to the construction of the new 500-kV transmission line within the existing transmission corridor from the North Anna Substation to the Ladysmith Switching Substation.

Route 700 Parcels

There would be no industrial point source discharge from the Route 700 Parcel after placement of construction soils on the property, but storm water management ponds

and subsequent point source releases from those ponds to adjacent surface waters are expected. These activities would be covered by a Construction General Storm Water Permit and would fully comply with Virginia's Erosion and Sediment Control Law as administered by VDCR. Overall, when properly permitted and managed, discharges from the Route 700 parcels are not expected to impair coastal surface waters.

3.1.7 Shoreline Sanitation

The proposed activity will not involve the use of septic tanks.

3.1.8 Air Pollution Control

In the NRC's final Supplemental EIS (NRC 2010), the Commission concluded that "*cumulative air quality impacts are discussed in Section 7.2 of the ESP EIS (NRC 2006). The staff did not identify information that was both new and significant through its evaluation of information provided by Dominion and its own independent review related to cumulative air quality impacts. Accordingly, the staff concludes that cumulative air quality impacts would remain SMALL, and mitigation is not warranted*" (NRC 2008)

Dominion holds permits and annually re-registers several air emission sources at NAPS. Most of these current sources are emergency equipment (e.g., generators) for safe plant operation in case of the loss of other power sources. As such, the existing sources generally operate for minimal periods of time for required testing purposes.

For construction and operation of Unit 3, Dominion will obtain all necessary air permits (see Table 1). Dominion will develop and implement a dust control plan during construction. Dominion will also develop and implement a traffic management plan during construction to minimize traffic related emissions on site. In a letter dated November 7, 2008, VDEQ indicated that no air permit would be necessary during site separation construction activities.

NAPS-to-Ladysmith Transmission Line

Since preparation of the ESP EIS, Dominion has determined that additional transmission lines will be required to support the operation of the proposed Unit 3, which is considered new information. The impact of new transmission lines on air quality was addressed in Section 5.2 of the ESP EIS (NRC 2006), and in the final Supplemental EIS (NRC 2010) the Commission determined that the "*impact on air quality is not considered to be significant given the anticipated size of the additional lines, the length of the lines, and the results of a previous evaluation of transmission lines on air quality.*"

3.1.9 Coastal Lands Management

As presented in the ESP certification, and according to the VDCR's Division of Chesapeake Bay Local Assistance, the NAPS property, located in Louisa County, is not within Virginia's coastal zone. In addition, the Route 700 Parcels are also located in

Louisa County, outside of the coastal zone. The LCTR and the NAPS-to-Ladysmith transmission corridor, however, are within Virginia's coastal zone. Required permits and approvals, including accompanying mitigation plans, would be obtained prior to conducting activities associated with the transmission lines and large component transport route. These activities are not expected to adversely impact the quality of State coastal waters or Virginia's coastal zone.

3.2 Environmental Impacts - Advisory Policies and Other Stated Concerns

This section addresses issues that were brought up during the ESP certification review and were addressed through that process or have been subsequently resolved as a result of that process.

3.2.1 Intake Structure

Dominion has conducted intake structure studies of fish entrainment, impingement and heat shock for Units 1 and 2 operation under the direction of the State and, in issuing the plant's current VPDES discharge permit, the State has approved the plant's existing intake structure as best technology available (BTA) to minimize adverse environmental impacts. Dominion has concluded that impacts to aquatic systems are negligible during current operations, and does not expect any operational changes that would alter this conclusion.

Construction of the Unit 3 intake structure is subject to Virginia's VWP program requirements and VPDES permit conditions which are consistent with CWA §316(b) and which give the State authority to determine that the location, design, construction and capacity of the intake structure reflect BTA for minimizing adverse environmental impacts. Dominion has submitted a JPA for a CWA 404 permit and VWP permit authorizing dredge and fill activities associated with construction of the Unit 3 intake, and §316(b) cooling water intake conditions will be addressed when the station's VPDES permit is modified to incorporate Unit 3.

The proposed Unit 3 intake structure and closed-cycle cooling system were included in, or were contemplated by, the CZMA consistency certification and DEQ concurrence for the ESP and employ the BTA in compliance with State and federal §316(b) regulations, including a 2-mm mesh size and 0.5 ft/sec flow velocity, which was recommended by VDGIF.

3.2.2 Water Withdrawal

For the proposed Unit 3 intake system, water will be withdrawn from Lake Anna to supply circulating water (initial fill), makeup water, fire-protection water, and demineralized water. Water usage will be influenced by cooling tower operational modes, which will be dependent on the water level in Lake Anna. During the Energy Conservation (EC) mode, when lake levels are at or above normal pool elevation, a wet hybrid tower will be used saving the energy required by the dry tower but using more water. During drier periods, when lake level drops below the normal pool elevation the

Maximum Water Conservation (MWC) mode will be employed and the dry tower will be added, which will require more energy but substantially reduce water usage.

VDEQ and VDGIF concerns with the cooling tower operational modes, how these operational modes will be employed based on lake elevation, and their effect on water usage have been addressed in agreements resulting from the IFIM study (see Section 4.0).

3.2.3 Wildlife Habitat, Endangered Species Impacts

Consultation History

Endangered species consultation has occurred between the NRC and Dominion and appropriate federal and state agencies since 2003. A detailed description of the threatened and endangered terrestrial species in the vicinity of the NAPS site is presented in Section 2.4 of the ESP ER, Section 2.7.1 of the ESP EIS, and the Final SEIS.

Because documentation of rare, threatened and endangered species is constantly evolving based on population recoveries, extirpations, new observations, and discoveries, and the proposed expansion of NAPS is a lengthy process, consultation on endangered species will continue to evolve as related to the project. It is expected that additions and deletions to the list of occurring or potentially occurring species would continue. Dominion will assess habitat requirements and survey as necessary for listed species prior to planned activity in appropriate habitats. For other species on the list, consultation and as applicable habitat assessments and/or surveys have occurred. A brief review of consultations and related actions are described in the paragraphs below.

In response to Dominion's ESP CZMA consistency certification, comments were received from VDCR via VDEQ in a letter dated February 10, 2004. VDCR searched its Biotics Data System for occurrences of natural heritage resources in the project area. "Natural heritage resources" are defined as the habitat of rare, threatened, or endangered plants and animals, unique or exemplary natural communities, significant geologic formations, and similar features of scientific interest. VDCR reported that natural heritage resources had not been documented in the project area. According to VDCR's records, the proposed Unit 3 would not affect any documented state-listed plants or insects. Additional consultation has occurred in 2006 and 2008.

Aquatic species

The NRC initiated informal consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) in 2003 for the ESP on Unit 3. NRC received a response from NMFS that indicated "no federally listed or proposed threatened or endangered species under the jurisdiction of National Oceanic and Atmospheric Administration (NOAA) Fisheries are known to exist in the vicinity of the existing North Anna Power Station." No further consultation with NMFS was required.

In addition, the NRC, in coordination with Dominion, has contacted state resource agencies in support of NRC's NEPA document for the Final ESP EIS.

Dominion has monitored fish populations in Lake Anna and the North Anna River for over 25 years. No federally- or state- listed fish species has been observed during the monitoring studies.

Three species of freshwater mussels were considered to have the potential to occur in counties adjacent to or downstream of Lake Anna: the dwarf wedgemussel (*Alasmidonta heterdon*), the James River spinymussel (*Pleurobema collina*), and the Atlantic pigtoe (*Fusconaia masoni*). More recently, consultation with the VDCR/VDGIF has added green floater mussel (*Lasmigona subviridis*) and Virginia Piedmont water boatman (aquatic insect; *Sigara depressa*) to the list of potentially occurring aquatic species.

The USFWS responded to NRC in 2004 and noted that dwarf wedgemussel, a federal and state-listed endangered species under the jurisdiction of the USFWS may occur within the project area. NRC responded to USFWS in 2005 with a biological assessment for this species, and determined that the Proposed Project would not affect the dwarf wedgemussel because habitat for dwarf wedgemussel is not present in the project area. USFWS issued their concurrence on May 20, 2005.

The James River spinymussel and the Atlantic pigtoe are both state-listed endangered species. The James River spinymussel is also federally-listed as endangered and is found in the upper James and Dan rivers in Virginia where it utilizes free-flowing streams with a variety of substrates, though it requires substrates that are silt free (USFWS 2003). The Atlantic pigtoe is a federal species of concern that prefers coarse sand and gravel substrate along the downstream edge of riffles.

The green floater mussel is a Virginia state-listed threatened species that is found in small to medium streams where there are quiet pools and eddies and a sand or gravel substrate in fairly fast-flowing, oxygenated streams in pristine habitats (SC DNR 2005).

The Virginia Piedmont water boatman is listed as endangered aquatic insect in Virginia and is designated as a species of concern by the USFWS. It is known from only five locations in Virginia. Little is known about the species life history. Habitat where it has been found includes streams with a matrix of riffles, runs and pools (VDGIF 2005). This species is has been identified as occurring in the upper Pamunkey River watershed.

Terrestrial Species

A list of federally and/or state listed terrestrial species known or likely to occur in counties adjacent to or downstream from Lake Anna (Louisa, Orange, Spotsylvania, Caroline, and Hanover counties) was developed for inclusion in the SEIS and updates the original list provided in the ESP EIS (NRC 2006) for the vicinity of the NAPS site and the Ladysmith transmission line corridor based on more recent consultation and documented observations within the counties surrounding NAPS.

The new list deletes cerulean warbler (*Dendroica cerulea*), Dismal Swamp southeastern shrew (*Sorex longirostris fisheri*), and regal fritillary butterfly (*Speyeria idaia*) and adds: canebrake rattlesnake (*Crotalus horridus atriculatus*) and the New Jersey rush (*Juncus caesariensis*). The cerulean warbler and regal fritillary were deleted because they were removed from the FWS list of species of concern for Virginia in 2008; the shrew was deleted because the VDGIF no longer has any records of its occurrence from Caroline County where it had previously been documented. The canebrake rattlesnake was added to the list based on recent documented occurrence records in Hanover County downstream from Lake Anna, and the New Jersey rush was added based on occurrence records from Caroline County (SEIS 2010).

Amphibians and Reptiles

Tiger salamanders (*Ambystoma tigrinum*) have been documented in Hanover County, Virginia downstream of Lake Anna. The species is the largest mole salamander found in Virginia and uses limestone sinkhole pools and vernal pool habitats associated with wetlands for breeding and bottomland hardwood forest or fields as adult habitat (VDCR 2010a).

The canebrake rattlesnake is a subspecies of timber rattlesnake which has been documented in Hanover County downstream from Lake Anna. Canebrake rattlesnakes inhabit hardwood and mixed hardwood-pine forests (VDCR 2010b).

Birds

The USFWS responded to NRC in 2004 and noted that the bald eagle under the jurisdiction of the USFWS may occur within the project area. NRC responded to USFWS in 2005 with a biological assessment for the species, and determined that the Proposed Project may affect, but was not likely to adversely affect the bald eagle. USFWS issued their concurrence on May 20, 2005. At the time of the consultation and development of the biological assessment, the bald eagle was federally listed as threatened. The bald eagle was federally delisted in 2007, and is no longer protected under the Endangered Species Act; however, it remains federally protected under the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act. The bald eagle continues to be listed as threatened by the Commonwealth of Virginia (SEIS 2010).

In the May 20, 2005 letter, USFWS stated that VDGIF documented that bald eagles forage in areas of Lake Anna and up to six transient bald eagles have been observed along the forested shoreline. Bald eagles continue to be observed on occasion along Lake Anna with a maximum of seven observed during the 2007-2008 National Audubon Society sponsored Christmas Bird Count (National Audubon Society 2008).

USFWS also noted that two nesting territories had been located within the area, but they were not in proximity to the proposed project site. Dominion has consulted with the

USFWS and VDGIF regarding these nests. On May 18, 2006, Dominion confirmed the presence of two bald eagle nests reported in the Noah's Landing and Contrary Creek developments. The closest nesting site for the bald eagle is approximately 2.5 miles north of the proposed site. Dominion has consulted with the USFWS and VDGIF regarding these nests. In Virginia, a 0.25-mile buffer zone is required around all bald eagle nests. There are currently no bald eagle nests on the NAPS site. Bald eagles may use or fly over the site, but it is unlikely that the bald eagle will be negatively impacted by the Proposed Project. Dominion complies with all state and federal Bald and Golden Eagle requirements, management guidelines, and conservation measures.

Other species of birds listed in Virginia that have the potential to occur in the NAPS vicinity including the transmission line corridor are: loggerhead shrike (*Lanius ludovicianus*), the upland sandpiper (*Bartramia longicauda*), Bachman's sparrow (*Aimophila aestivalis*), and red-cockaded woodpecker (*Picoides borealis*). A rare, threatened, and endangered species habitat survey for avian species was conducted on the Route 700 Parcels in May 2008. Davis Environmental Consultants, Inc. assessed four habitat types to evaluate the property for potential use by the bald eagle, cerulean warbler (*Dendroica cerulean*), upland sandpiper and loggerhead shrike. No suitable nesting habitat for the four avian species was found on the property and no avian species of special interest were observed during the survey. In a Jurisdictional Determination letter dated August 27, 2008, the USACE confirmed that a search of DCR's data revealed that no known populations of federally-listed threatened or endangered species are located on the Route 700 Parcels (see Attachment C).

The loggerhead shrike is listed as threatened in Virginia and is likely to occur in the vicinity of NAPS but nesting near the NAPS site or the transmission line Right-of-Way, has not been recorded. Upland sandpiper, also a Virginia state-listed threatened species may occasionally migrate through the area during spring and fall migrations. Bachman's sparrow (Virginia state listed as threatened) and red-cockaded woodpecker (federally and state-listed as endangered) have been reported in Carolina County; however, these species occurrence at the NAPS site are unlikely because reported observation sites are not near the transmission line corridor and portions of the North Anna River potentially affected by construction and operation of the proposed Unit 3 at NAPS (SEIS 2010).

Mammals

The eastern big-eared bat (*Plecotus rafinesquii macrotis*) also known as Rafinesque's big-eared bat, has been reported from Hanover County, Virginia downstream from Lake Anna. This species is widespread in the southeastern United States and in Virginia, forages along mature hardwood floodplain forests especially along rivers and permanent waterbodies (VDGIF 2010c).

Plants

The SEIS prepared for the license renewal of NAPS Units 1 and 2 described three federally listed plant species that could potentially occur in the North Anna transmission line rights-of-way: the small whorled pogonia (*Isotria medeoloides*), swamp pink (*Helonias bullata*), and the sensitive joint-vetch (*Aeschynomene virginica*). In addition, the New Jersey rush was added to the list based on occurrences documented in the Mattaponi watershed in Carolina County and Epling's hedge-nettle (*Stachys eplingii*) was added during consultation in 2009 because of its occurrence within the Blanton's Powerline Conservation Site located within the proposed NAPS to Ladysmith transmission line corridor (SEIS 2010).

In Virginia, the federally-listed threatened and state-listed endangered swamp pink occurs in perennially saturated, spring-fed, nutrient poor, shrub swamps and forested wetlands. The species is known from Caroline County and potentially occurs in Spotsylvania County, east of Interstate 95.(SEIS 2010).

Sensitive joint-vetch is a large annual member of the pea family that occurs in the slightly brackish tidal marshes of the mid-Atlantic states. It is federally listed as threatened, and In Virginia it is known to occur in the lower reaches of several of the major river systems, including the Mattaponi and Pamunkey Rivers. USFWS considers sensitive joint-vetch as potentially occurring in Hanover and Caroline counties because it is present in adjacent counties (SEIS 2010).

New Jersey rush habitat in Virginia occurs in very acidic, sphagnous springs or seeps that are wet, but without standing water. This federally listed species of concern and Virginia listed threatened species is known to occur in the Mattaponi watershed in Caroline County (SEIS 2010).

In a letter dated September 29, 2009, VDCR stated that they conducted a search on the Department's Biotics Data System for occurrences of natural heritage resources within the project site, staging area (Route 700 Parcels), and transmission line corridor.

According to VDCR's files, the North Anna Site and Route 700 Parcels may support habitat appropriate for small whorled pogonia. VDCR recommended that Dominion conduct small whorled pogonia surveys within the NAPS site, Route 700 Parcels, and within the Blantons Powerline Conservation Site. In addition, VDCR's files indicated that the Blantons Powerline Conservation Site, an approximate 49-acre site located within the transmission line corridor, has been given a biodiversity significance ranking of B5, representing a site of general significance. The resource of concern at this site is the Epling's hedge-nettle.

Small whorled pogonia is a perennial orchid that occupies a very specific habitat: semi-mature to mature, mixed hardwood, upland forests with generally open understory conditions; minimal aggressive ground cover plant species; level to moderate sloping land within shallow upland draws usually with northerly or easterly exposure; scattered

sunlight, and acidic, loamy soils. Decomposing woody debris and a well-developed detritus layer tend to be present. The plant is conspicuous in late spring to mid-summer and USFWS will only accept detailed survey data collected within a specific time frame (usually approximately 01 June through 20 July, in Caroline County, Virginia.

Epling's hedge-nettle is a perennial herb in the mint family found in a variety of habitats. The species is most conspicuous when it flowers in June or July. The species is morphometrically similar to other hedge-nettle species but can be distinguished by specific features (short or absent petioles, leaf shape, and structure of hairs along the stem). Epling's hedge-nettle can be found in a variety of habitats and as a result, is sporadically distributed in the southeastern United States. It is documented in Caroline County, Virginia.

In response to VDCR's request, a habitat investigation was conducted in November 2009 for small whorled pogonia on the NAPS site, adjacent Route 700 Parcels, and within the Blantons Conservation Site. Investigation for the Epling's hedge-nettle was conducted within the Blantons Conservation Site USFWS-endorsed personnel from the Williamsburg Environmental Group, Inc conducted the habitat surveys on November 5, 2009 at the Blandons Powerline Conservation Site. Potential habitat for small whorled pogonia and Epling's hedge-nettle was found to exist within the Blantons Powerline Conservation Site and a memo report was issued:

> *Habitat Survey for the Epling's Hedge-nettle (Stachys eplingii) and Small-whorled Pogonia (Isotria medeoloides) Blantons Powerline Conservation Site, Caroline County, Virginia. Williamsburg Environmental Group, Inc. Dated November 16, 2009*

Detailed in-season surveys for both plant species were recommended as a result of the identification of potential habitat. A detailed small whorled pogonia survey was conducted May 25-27, 2010. The dates of the survey were approved by USFWS based on observation of emerged small whorled pogonia in May 2010 at locations in Virginia north of Louisa County. Small whorled pogonia was not identified during the surveys conducted in the areas of marginal and potential suitable habitat.

Epling's hedge-nettle was observed near a previously identified population of the species documented by VDCR. The plants found by the Williamsburg Environmental Group were located in the same drainage swale, but closer to the bottom of the drainage, near the southern edge of the transmission line corridor. The report suggested that plants can be avoided during construction, since there is an established easement road crossing the swale, about 50 feet above the plant locations. VDCR recommended avoidance of the Epling's hedge-nettle during project construction and maintenance activities within the transmission line corridor.

Two memo reports were issued by Williamsburg Environmental Group, Inc. detailing the findings of the 2010 surveys:

1. *Summary Report: Detailed Survey for the Small Whorled Pogonia (Isoteria medeoloides) North Anna Power Station, Louisa County, Virginia. Williamsburg Environmental Group, Inc. Dated June 4, 2010.*

2. *Summary Report: Detailed Survey for the Small Whorled Pogonia (Isoteria medeoloides) Blantons Powerline Conservation Site, Caroline County, Virginia. Williamsburg Environmental Group, Inc. Dated June 25, 2010.*

In connection with Dominion's application to construct and operate Unit 3, NRC Staff issued a Final SEIS for the COL in February 2010 (NRC 2010)

3.2.4 Public Recreation Impacts

Lake Anna was created specifically to meet the water requirements for the NAPS. In 1972, work began on the acquisition and development of a water-oriented state park, and Lake Anna State Park officially opened in 1983. The lake now supports a significant amount of recreational activity, including boating, fishing, hiking and camping. The state park, located approximately four miles north of the NAPS site, is a particularly good example of public investment to expand recreational uses of the Lake. Lake Anna State Park is open to the public, and is operated by VDCR.

NAPS Site

Construction of a new water intake structure for Unit 3 would be limited to activity along a small portion of the Lake Anna shoreline, several hundred meters from the existing intake for Units 1 and 2 and on the opposite side of the lake from the State Park. Activities related to the construction and operation of Unit 3 are not expected to adversely affect recreational use of Lake Anna. Any work conducted immediately adjacent to the lake would be performed in areas not accessible to the public, and in accordance with applicable federal, state, and local laws and regulations, permits, and authorizations. VDCR concerns with recreational impacts to Lake Anna and downstream river uses due to operation of Unit 3 have been addressed in the IFIM study, and subsequently by agreements discussed in Section 4.5. In addition, the proposed cooling method for Unit 3 has been designed to produce a discharge with a thermal load that should not be discernable in Lake Anna.

NAPS-to-Ladysmith Transmission Line

As a precaution to ensure the safety of recreational users of Lake Anna, access to the work areas would be temporarily restricted from recreational use during installation of the new 500 kV transmission line across Lake Anna and the other waterways. Although this would limit the areas that are fully accessible to the public for recreational use, the restriction would be temporary in nature, and full use would be restored once this portion of the transmission line installation has been completed.

North Anna River & Lake Anna

During the ESP review, VDCR stated that the proposed new generation may reduce the water available for other downstream uses (on the North Anna and Pamunkey Rivers). VDCR further commented that the North Anna River is a scenic and remote canoeing river with excellent fishing. Between State Route 601 and U.S. Route 301, the North Anna River is recreationally used because it presents some of the most beautiful and remote paddling opportunities in the mid-Atlantic region. During drought periods, VDCR commented that the proposed releases from the Lake Anna Dam are less than what is needed to support pleasurable recreational boating on the river. VDCR recommended that discharge rates from the Lake Anna Dam should be adequate to meet minimum in-stream flows needed for recreational boating from State Route 601 to U.S. Route 301.

VDCR concerns with recreational impacts to Lake Anna and downstream river uses due to operation of Unit 3 have been addressed in the IFIM study, and subsequently by agreements discussed in Section 4.5.

3.2.5 Historic Resources

Unit 3 Construction/Operation

Multiple surveys have been completed to locate archeological sites and historic structures on the property proposed for development as part of the proposed ESP and COL. The Louis Berger Group (LBG) completed surveys in 2006 and 2007 and issued the following two reports:

> *1. Archeological Survey, Dominion Early Site Permit, North Anna Power Station, Louisa County, Virginia (September 2006 - survey conducted May 1-6, 2006).*
>
> *2. Supplemental Archaeological Survey, Dominion Combined License Project, North Anna Power Station, Louisa County, Virginia (October 2007 – survey conducted September 4-7, 2007).*

The Commonwealth of Virginia's Department of Historic Resources (VDHR) issued their concurrence with the findings of the September 2006 report and the measures proposed to avoid potential impacts to identified historic resources in a letter dated October 20, 2006.

> *"The Area of Potential Effect (APE) contains two known historic-era cemeteries recorded as sites 44LS221 and 44LS222. No additional archaeological resources were identified within the APE. The consultant recommends that these cemeteries are potentially eligible for listing on the National Register of Historic Places and that additional archaeological evaluation is necessary to determine eligibility. We concur with these recommendations. We further recommend that these sites be avoided. If avoided, this project would likely have no negative impact on these resources."*

Further, VDHR issued their concurrence with the findings of the October 2007 report and the measures proposed to avoid potential impacts to identified historic resources in a letter dated November 7, 2007.

> *"Considering our earlier comments to the Nuclear Regulatory Commission dated October 20, 2006, the results of this study, and Dominion's letter to our office dated October 11, 2007, we concur with your conclusion that this project will not negatively impact historic properties provided that the following resources are avoided and adequately protected during construction and operation of the facility: 44LS0221, 44LS0222, 44LS0226, and 44LS0227/054-5035."*

The 2006 survey and VDHR conclusions were included in the CZMA consistency certification and DEQ concurrence for the ESP. The supplemental 2007 survey and related VDHR conclusions were not contemplated during the prior concurrence.

NAPS-to-Ladysmith Transmission Line

Phase 1 surveys of the proposed NAPS-to-Ladysmith transmission corridor were conducted by LBG in 2008, and the findings were summarized in the following two reports:

> *1. Archaeological Survey as Part of a Cultural Resource Survey of the Proposed North Anna-Ladysmith 500kV Transmission Line; Louisa, Spotsylvania and Caroline Counties, Virginia, VDHR File No. 2009-0430 (June 2009 – surveys conducted March 16-20, 2009; August 26-28, 2009).*
>
> *2. Architectural Survey of the Proposed North Anna-Ladysmith 500kV Transmission Line; Louisa, Spotsylvania and Caroline Counties, Virginia, VDHR File No. 2009-0430 (June 2009 – surveys conducted March 16-20, 2009; August 26-28, 2009).*

The transmission line corridor surveys identified four previously unrecorded archaeological sites and three artifact locations. One of these sites has the potential to yield significant archaeological information (Site 44SP0618). If the site cannot be avoided, LBG recommended additional research to determine site eligibility for inclusion in the National Register. The LBG transmission line surveys also identified 36 previously unrecorded architectural resources. One newly surveyed resource (016-5042/ Farm, Blantons Road) was recommended by LBG as eligible for inclusion in the National Register.

In a letter dated November 9, 2009, VDHR concurred with the recommendation that site 44SP0618 is potentially eligible for listing in the National Register. No further archaeological investigations are warranted unless additional ground disturbance of intact soils occurs. In addition, VDHR concurred that the Farm, Blantons Road (DHR ID# 016-5042) is potentially eligible for listing in the National Register.

Large Component Transport Route

A cultural resource assessment was conducted along the proposed LCTR in 2009. The assessment identified multiple locations where proposed project activities have the potential to impact cultural resources. The assessment was conducted by LBG and the findings were summarized in the following report:

> *Cultural Resource Assessment of a Proposed Heavy Haul Route to the North Anna Power Station ESP Site, VDHR File No. 2000-1210 (June 2009 – survey conducted May 14, 2009).*

The majority of the minor modifications (e.g., temporary placement of fill and steel plates at sharp corners and narrow passes along the route) along the LTCR have little potential to affect cultural resources. Three project modifications, however, may impact cultural resources at the following locations.

- The train depot in the town of Beaverdam. The Beaver Dam Depot (VDHR No. 042-0081) was built in1866 and has been recommended eligible for inclusion in the National Register.

- The historic ferry landing near Walkerton. The ferry landing is immediately adjacent to a multi-component prehistoric and historic archaeological site (44KW0081). Recorded in 1991, Site 44KW0081 was evaluated in 1993 and recommended eligible for inclusion in the National Register.

- The North Anna River. The proposed construction of a bridge may impact a previously recorded archaeological site (44CE0010). Five additional archaeological sites (44CE0457, 44CE0458, 44CE0459, 44C0460, and 44CE0501) and one architectural resource (Meadow Farm, VDHR No. 016-0016) have been identified along the eastern bank of the North Anna River in the vicinity of the existing Route 30 bridges. Four of the archaeological sites (44CE0458, 44CE00457, 44CE0459, and 44CE0460) and Meadow Farm have been evaluated for National Register eligibility.

In a letter dated November 9, 2009, VDHR concurred with the recommendations regarding the need for additional cultural resource studies in support of the LTCR. VDHR stated that consultation is important in regard to the Mattaponi River and Upper Mattaponi River on impacts to the historic ferry and archaeological sites along the North Anna River.

VDHR also stated that three properties in Spotsylvania County, adjacent to the LTCR, may be potentially eligible for listing in the National Register and warrant additional consideration. These properties include Pine Forest (DHR ID# 088-054), Langollen property (DHR ID# 088-0126), and Bel-Air property (DHR ID# 088-0133).

Route 700 Parcels

In 2008, six potential archaeological sites were identified on the Route 700 Parcels by LBG and documented in the following report:

Archaeological Survey - Dominion Combined License Project-North Anna Power Station, (June 2009 – survey conducted April 1, 2008).

LBG recommended one archaeological site, 44LS0233, as eligible for inclusion in the National Register of Historic Places (National Register). They recommend avoidance and preservation in place, if feasible, for this archaeological site. This was communicated to VDHR in a letter from Dominion to VDHR dated November 4, 2008 with a commitment to preserve and avoid this or other sites deemed eligible for inclusion in the National Register. In addition, a tree buffer will be provided for the potential archaeological site proposed as eligible for inclusion in the National Register.

In a letter dated November 9, 2009, VDHR concurred with the recommendation that site 44LS0233 is potentially eligible for listing in the National Register. VDHR re-stated that the site will be avoided and preserved in place throughout construction and operation of the new generation unit. In addition, in a previous agreement four other sites (44LS0221, 44LS0222, 44LS0226, and 44LS0227) will be avoided during construction and operation. VDHR does not recommend further evaluation at this time unless avoidance of these five sites is deemed impractical.

3.2.6 Surface Water Discharge to Lake Anna

A modification to Dominion's existing VPDES permit (VA0052451) will be required to address surface water discharges from the operation of proposed Unit 3, including cooling tower blowdown discharges. The permit modification, which has been discussed with VDEQ staff, will address effluent guidelines specified in federal regulations (40 CFR Part 423), and compliance with VDEQ's water quality standards.

Thermal discharges to Lake Anna for Unit 3 are discussed in Section 3.1.6, Point Source Pollution Control. With the proposed cooling system, no added heat from Unit 3 will be detectable in the WHTF or Lake Anna.

3.2.7 Traffic Impacts

Construction / Operation of Unit 3

As part of the process leading to VDEQ's issuance of the November 2006 ESP conditional concurrence, VDOT provided responses to comments from citizens pertaining to road and transportation issues. In its responses, VDOT indicated it would work with Dominion to ensure the roads in the vicinity of the NAPS site are maintained and necessary improvements are in place prior to any major activities at the project site. VDOT has requested a traffic impact analysis from Dominion; this analysis would compare the current background traffic levels in the area with future traffic, including

traffic during construction ("total traffic"), and would identify areas of potential impacts. The impacts, which would include both temporary (construction) and permanent impacts, are the responsibility of Dominion. The traffic impact analysis will provide mitigation measures to reduce the impacts. In accordance with the VDOT responses, Dominion would develop and implement a construction management traffic plan to reduce roadway congestion in the vicinity of the NAPS site and coordinate with VDOT and local jurisdictions on transportation related issues.

Large Component Transport Route

Dominion anticipates that the reactor pressure vessel and other large components (e.g., the main generator and large plant modules) would be transported by barge up the Mattaponi River to an off-loading location in the town of Walkerton, Virginia. To facilitate the offloading operations, the barge will be moored offshore with a short bridge connecting the barge to the shore. The proposed roll-off location will require the construction of a temporary cofferdam within the Mattaponi River and construction of a temporary roll-on/roll-off ramp. The loads will travel west on Route 30. A temporary structure will be constructed to span the North Anna River at Route 30. After the equipment has been hauled, the Route 30 structure will be demolished and removed. The proposed route will cross over I-95 by using an existing entrance ramp at Exit 98. The route will travel north on I-95, turning at an emergency crossing and using an existing off-ramp at Exit 98. The off-ramp will require new construction and improvements to the existing ramps and roads. From Doswell Road, the proposed route follows State and county roads to NAPS. Portions of the proposed route were used for heavy haul to support the construction and operation of Units 1 and 2.

Existing roadway culverts and pipes along the proposed large component transport route have been surveyed and evaluated. In locations where culverts and pipes require additional protection to support the loads, steel plating or crane mats will be used. Replacement or improvement of existing culverts and pipes is not expected. Temporary removal of overhead and/or lateral interferences (e.g., wires, signs, etc.) would also be required. Transport operations for the large components, including the road/rail modifications described above, would be coordinated with state and local officials to minimize transportation impacts. Upon completion of these transport activities, temporary structures would be removed, interferences would be re-installed, and disturbed areas would be restored. Permanent changes, if any, are anticipated to be limited in scope and would be fully coordinated with state and local officials.

As noted in the final SEIS (NRC 2010)

> "*The impact from heavy hauling also should be significantly less* [than presented in the ESP-EIS], *because the proposed Unit 3 would require roughly half the materials and structures be hauled during the construction period. The amount of equipment needed probably would be less but not half, because only one unit would be built but the original concept contemplated reuse of some equipment on the second unit as the first proceeded to completion. The staff believes that the*

impact would be less than that described in the ESP EIS and would remain SMALL and temporary." (p. 4-15)

4. Instream Flow Incremental Methodology (IFIM) Study

As required by Dominion's ESP Coastal Zone Consistency Determination (see Section 1.0), an IFIM study was conducted to address potential impacts of water consumption by proposed Unit 3 on aquatic resources downstream. The scope of the IFIM study was developed in consultation with the VDEQ, VDGIF, and VDCR. The agency-approved "*North Anna IFIM Study Plan*" (dated 28 March 2007) included components that evaluated how the addition of a third unit would potentially affect habitat for fish and other aquatic organisms, as well as recreation on the North Anna and Pamunkey Rivers. Wetlands, boat docks, and ramps on Lake Anna were also studied to address a potential rise in lake level. The final report titled "*Instream Flow Incremental Methodology (IFIM) Studies on the North Anna and Pamunkey Rivers, Virginia*" (dated October 2009) is attached as Appendix B. A summary of the IFIM study findings is presented in the sections below.

4.1 Cooling Tower Operational Modes

The proposed cooling system for Unit 3 is a closed loop system that includes a hybrid (wet/dry) cooling tower, which uses make-up water from Lake Anna and was selected to balance water conservation and energy use. The key benefits of this hybrid system are that it will (1) prevent the addition of heat to Lake Anna from the operation of Unit 3, and (2) withdraw a substantially smaller portion of water from Lake Anna when compared to Units 1 and 2. The wet/dry tower design allows for operational flexibility during different times of the year. More specifically, operation of the wet cooling tower alone requires the most water but conserves energy, and is referred to as the Energy Conservation or EC mode. Operation of the dry cooling tower, in addition to the wet cooling tower (referred to as the Maximum Water Conservation or MWC mode), would save water but consume additional energy that would otherwise be provided to the electric grid.

Based upon extensive discussions with the natural resource agencies, the IFIM study focused on comparing three station operating scenarios:

- Existing Condition - the current operation of Units 1 and 2 and associated lake management practices.
- Lake Anna at 250.0 ft with Unit 3 Scenario – Dominion's proposed operations with three units and a year around target lake elevation of 250.0 ft. The cooling system would be operated in MWC mode below a lake elevation of 250.0 ft (Lake Anna at 250.0 ft).
- Lake Anna at 250.25 ft with Unit 3 Scenario – An alternative operating scenario with three units and a year around target lake elevation of 250.25 ft. The cooling system would be operated in MWC mode below a lake elevation of 250.0 ft.

4.2 Dam Releases

There were two primary concerns expressed by the natural resource agencies: (1) the frequency of 20 cfs drought flows downstream and (2) habitat changes during non-drought flows in late spring. The study addressed 15 target species that are representative of the aquatic communities in these rivers, in addition to recreation. Predicted flows, water depths, and river bottom conditions were identified under each of the operating scenarios and compared to the preferences for the target fish and invertebrate species at different times of the year.

It was demonstrated that the alternative operating scenario (EC/MWC at 250.25 ft year around) would result in a seasonal pattern of 40-cfs releases that is similar to the current operation of Units 1 and 2. Flows at 20 cfs would occur 5.5 percent of the time compared to 6.3 percent predicted for Dominion's other EC/MWC scenario at 250.0 ft. The frequency of 20-cfs flows under existing conditions is 4.6 percent.

A 3-inch increase in lake storage capacity would maintain lake water surface elevation above existing conditions approximately 75 percent of the time, and better protect river aquatic habitat and recreation, particularly during dry periods. The 3 inch rise would be accomplished by operation of the dam. With such an increase in lake level, Dominion has recommended the following operating and release scenarios:

- At lake elevations greater than or equal to 250.25 ft, operate the cooling towers in the EC mode with dam releases greater than 40 cfs.
- At lake elevations greater than or equal to 250.0 and less than 250.25 ft, operate the cooling towers in the EC mode with a minimum dam release of 40 cfs;
- At lake elevations greater than 248.0 and less than 250.0 ft, operate the cooling towers in the MWC mode with a minimum dam release of 40 cfs; and
- At lake elevations less than or equal to 248.0 ft, operate the cooling towers in the MWC mode with a minimum dam release of 20 cfs (The drop from 40 cfs to 20 cfs releases would be achieved in 5 cfs increments).

4.3 Aquatic Habitat Availability

Based on the USFWS Physical Habitat Simulation Model (PHABSIM), IFIM modeling was completed based on the operating scenarios to determine the effect of the different scenarios on the habitats available for aquatic life. A key recommendation by the resource agencies was to focus on a subset of the initial list of 15 species/lifestages where potential habitat effects might be better seen. After initial assessments of the entire "weighted usable area" (WUA) data, VDGIF and VDEQ staff recommended more detailed evaluation of the following subset of selected species:

- Habitat for adult and spawning northern hogsucker (*Hypentelium nigricans*)
- Habitat for freshwater mussels, *L. radiata* and *E. complanata*

- Coastal Plain habitat for spawning and juvenile American shad (*Alosa sapidissima*)

Using the entire 15 species/lifestage dataset, habitat quantity comparisons between the alternative scenario (EC/MWC at 250.25 ft) and the existing condition (current operating mode for Units 1 and 2) indicate gains and losses depending upon the species and season. In no case were habitat losses for the species examined in the North Anna River more than 10 percent on an annual basis and most gains were in the same percentage range (though a few gains exceeded 10 percent). For the Pamunkey River, slight habitat gains are predicted for most species. In general, habitat decreases for the species and lifestages of concern tend to be greater during summer and fall months than winter and spring months relative to existing conditions.

4.4 Lake Level Increase

Due to consideration of an increase in the lake level, the IFIM program evaluated five coves along the shores of Lake Anna to assess the effect of lake elevation increases on wetlands along Lake Anna. Under the Lake Anna at 250.25 ft with Unit 3 scenario, there would be an increase in lake level elevation of up to 3 inches, which would occur approximately 75 percent of the time compared to the existing conditions. This increase in lake elevation would result in a temporary loss of function of approximately 8.14 acres of wetlands, which will be replaced by an approximately equivalent number of new wetlands after the shoreline adjusts to the new elevation. The median increase in lake elevation during the growing season months of July to October, however, would not exceed 0.1 ft. These minor increases in water surface elevation are unlikely to result in changes to the distribution of wetland types or the areal coverage of existing wetlands along the fringes of Lake Anna, because the proposed changes vary little from the range of lake elevations that currently occur under existing conditions (typically 248.0 ft – 251.5 ft). The wetland plant species observed tolerate the existing inundation depths and frequencies and are generally tolerant of lake level fluctuations.

Fifteen publicly accessible boat docks and eleven boat ramps were surveyed on Lake Anna to evaluate the potential effect of increased lake level on these facilities. No change in accessibility would occur under the Lake Anna at 250.0 ft with Unit 3 scenario. Under the Lake Anna at 250.25 ft scenario, increases in lake level would occur most of the time. The small elevation differences associated with the Lake Anna at 250.25 ft are not expected to adversely affect functionality of boat ramps or safe access to boats from docks.

4.5 Recreational Releases

A recreational flow analysis of water depth and velocity in shallow runs and riffles in the North Anna River, and review of anecdotal information about river stages for recreational canoeing, indicates that flows of 100-200 cfs at the North Anna Dam would benefit recreational use of the Piedmont and Fall Zone by novice to intermediate canoeists. Recreational use is more constrained by flows in the Fall Zone than in the Piedmont. A release of 177 cfs at the dam for 17 hours would provide approximately 12

hrs of flows in excess of 200 cfs through the Fall Zone, and is expected to have less than a 0.2-inch impact on water level in Lake Anna per event.

4.6 Dominion Proposals to Address IFIM Study Results

Based upon the above findings, Dominion has agreed to undertake the following mitigation measures in conjunction with the construction of Unit 3:

1. A three-inch targeted lake level increase to balance stakeholder interests in recreational lake uses, and water for downstream beneficial uses (e.g., habitat enhancement and recreation). Dominion has also proposed to mitigate for the 8.14 acres of wetland function that will be temporarily lost during the initial 3-inch increase in lake surface level.
2. Provision of recreational flow releases of approximately 177 cfs to the North Anna River for one day each weekend during the months of June and/or July when lake elevations exceed 250.0 ft. Calculations demonstrate that this proposal would have minimal impacts to lake levels.
3. Provision of funds to enhance aquatic habitat in the North Anna watershed to help offset any potential habitat losses in the North Anna River, Dominion finalized a Memorandum of Agreement (MOA) between Dominion and VDGIF.

5. OVERALL FINDINGS

1. Based on information provided in Sections 3 and 4, Dominion has determined that impacts to Virginia coastal resources from construction and operation of proposed Unit 3, the construction of the NAPS-to-Ladysmith transmission line, the Large Component Transport Route activities, and the placement of material at the Route 700 parcels would be small and would be further mitigated through implementation of certain procedures agreed upon during discussions with federal and state agencies.
2. Dominion is in compliance with current Virginia licensing and permitting requirements and will obtain all necessary permits and approvals not yet secured for construction and operation of the Unit 3 project, the construction of the NAPS-to-Ladysmith transmission line, the Large Component Transport Route activities, and the placement of material at the Route 700 parcels (See Table 1).
3. NRC issuance of a COL and USACE issuance of a 404 and Rivers and Harbors Act Section 10 permit would be consistent with the enforceable policies of the Virginia CZMP.

STATE NOTIFICATION

By this certification that NRC's issuance of a COL and the U.S. Army Corps of Engineer's issuance of a CWA Section 404 and Rivers and Harbors Act Section 10 permit are consistent with Virginia's Coastal Resources Management Program, Virginia is notified that it has six months from receipt of this letter and accompanying information in which to concur with or object to Dominion's certification. Pursuant to 15 CFR §

930.63(b), if Virginia has not issued a decision within three months following commencement of State agency review, it shall notify Dominion and the federal agencies of the status of the matter and the basis for further delay. The State's concurrence, objection, or notification of review status shall be sent to:

Tamsen Dozier
US Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

Tony Banks
Dominion Resources Services, Inc.
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060

Robert Hare
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Carolyn Cannella
US Army Corps of Engineers
Norfolk District
515 East Liberty Street
Wytheville, VA 24382

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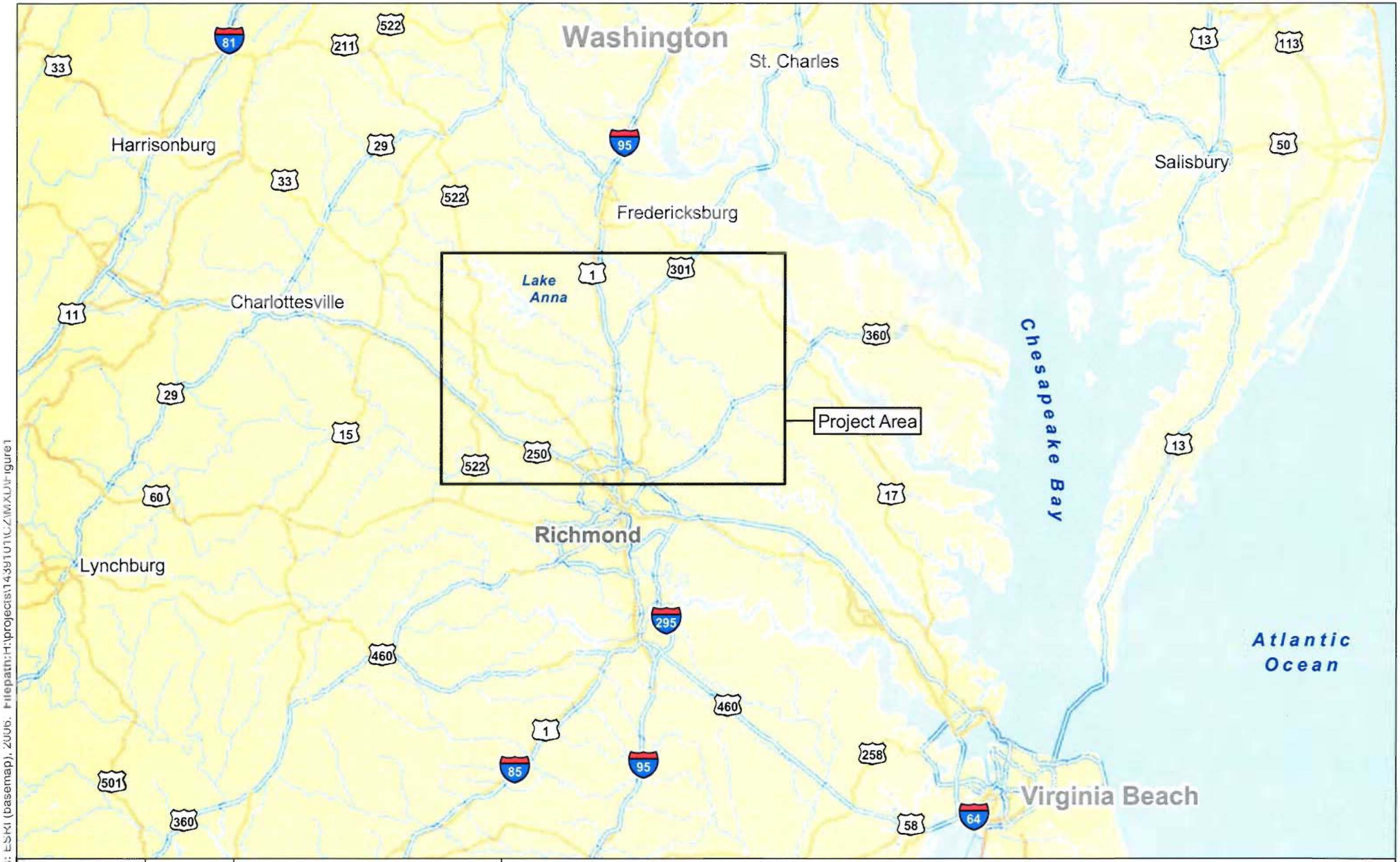
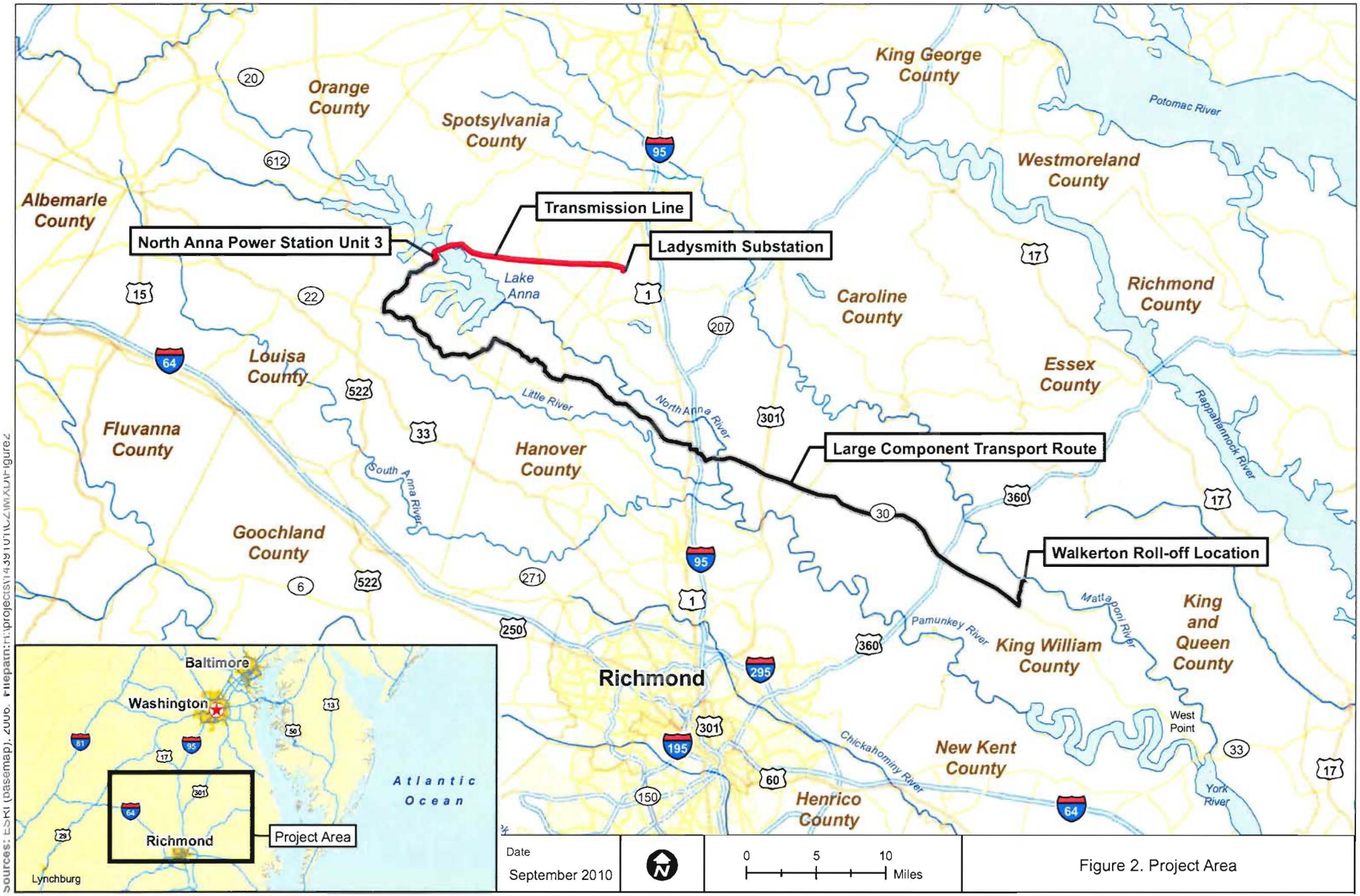


Sources: ESRI (basemap), 2008. Filepath: H:\projects\14391010\GIS\MXD\Figure1

Date
September 2010

0 10 20 Miles

Figure 1. General Vicinity Map


Transmission Line
North Anna Power Station Unit 3
Ladysmith Substation
Large Component Transport Route
Walkerton Roll-off Location
Albemarle County
Orange County
Spotsylvania County
King George County
Westmoreland County
Caroline County
Richmond County
Essex County
Louisa County
Fluvanna County
Hanover County
Goochland County
King William County
King and Queen County
New Kent County
Henrico County
Richmond
Lake Anna
Little River
North Anna River
South Anna River
Pamunkey River
Mattaponi River
Chickahominy River
Rappahannock River
Potomac River
York River
West Point
Baltimore
Washington
Atlantic Ocean
Project Area
Lynchburg
Date
September 2010
0 5 10
Miles
Figure 2. Project Area

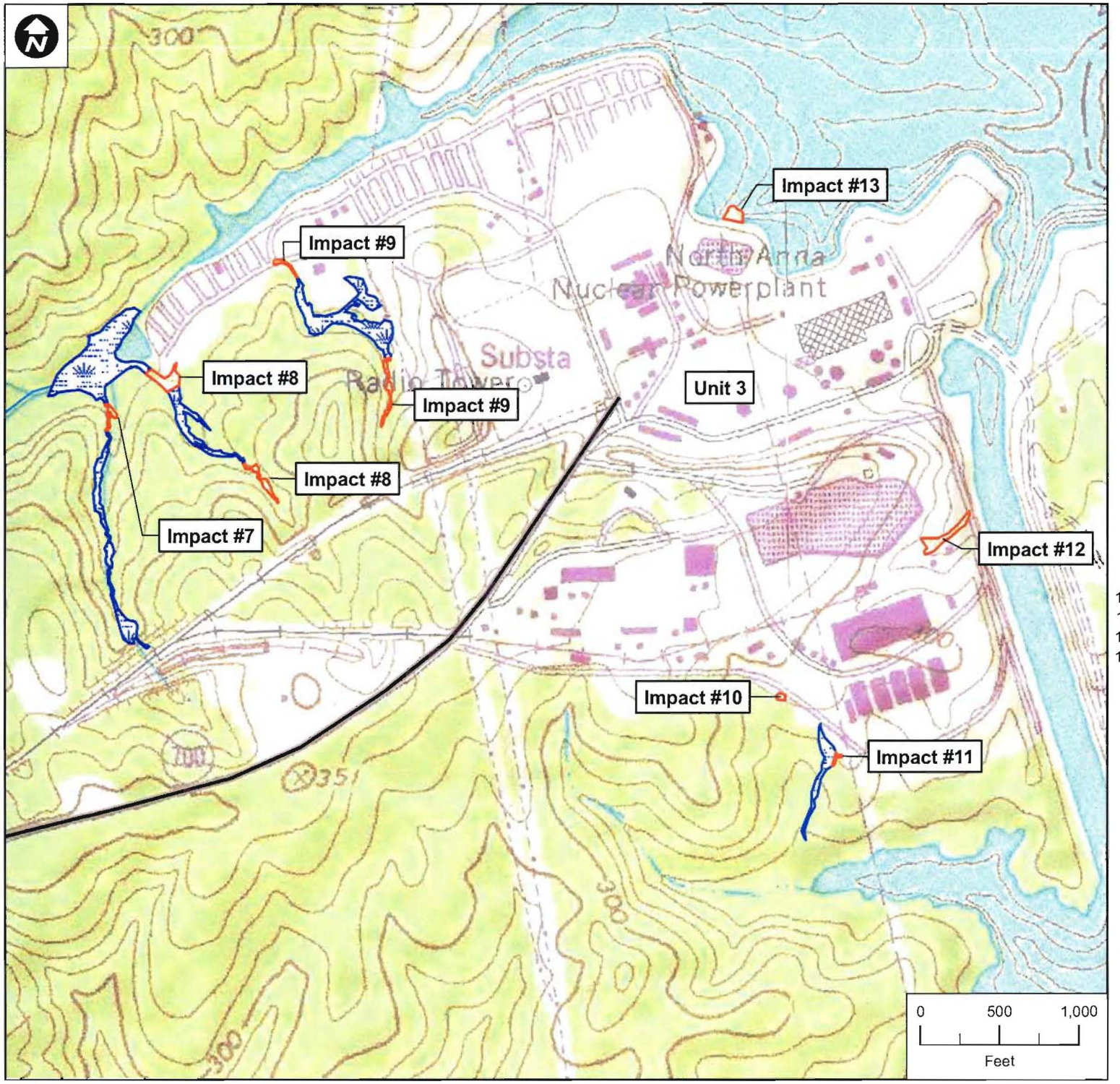


Figure 3-1

Wetland and Stream Impacts in the Vicinity of the North Anna Power Station

Legend

- Large Component Transport Route
- Wetland/Stream Impacts
- Wetland System

Latitude/Longitude of Wetland/Stream Impacts

7: 38° 3' 34.737" N, 77° 48' 22.433" W
8: 38° 3' 34.858" N, 77° 48' 15.518" W
9: 38° 3' 38.112" N, 77° 48' 2.515" W
10: 38° 3' 17.146" N, 77° 47' 29.650" W
11: 38° 3' 13.361" N, 77° 47' 25.342" W
12: 38° 3' 26.857" N, 77° 47' 16.803" W
13: 38° 3' 46.714" N, 77° 47' 33.029" W

Sources
ESRI (basemap), 2006;
USDA-NRCS (topographic mosaic), 2002

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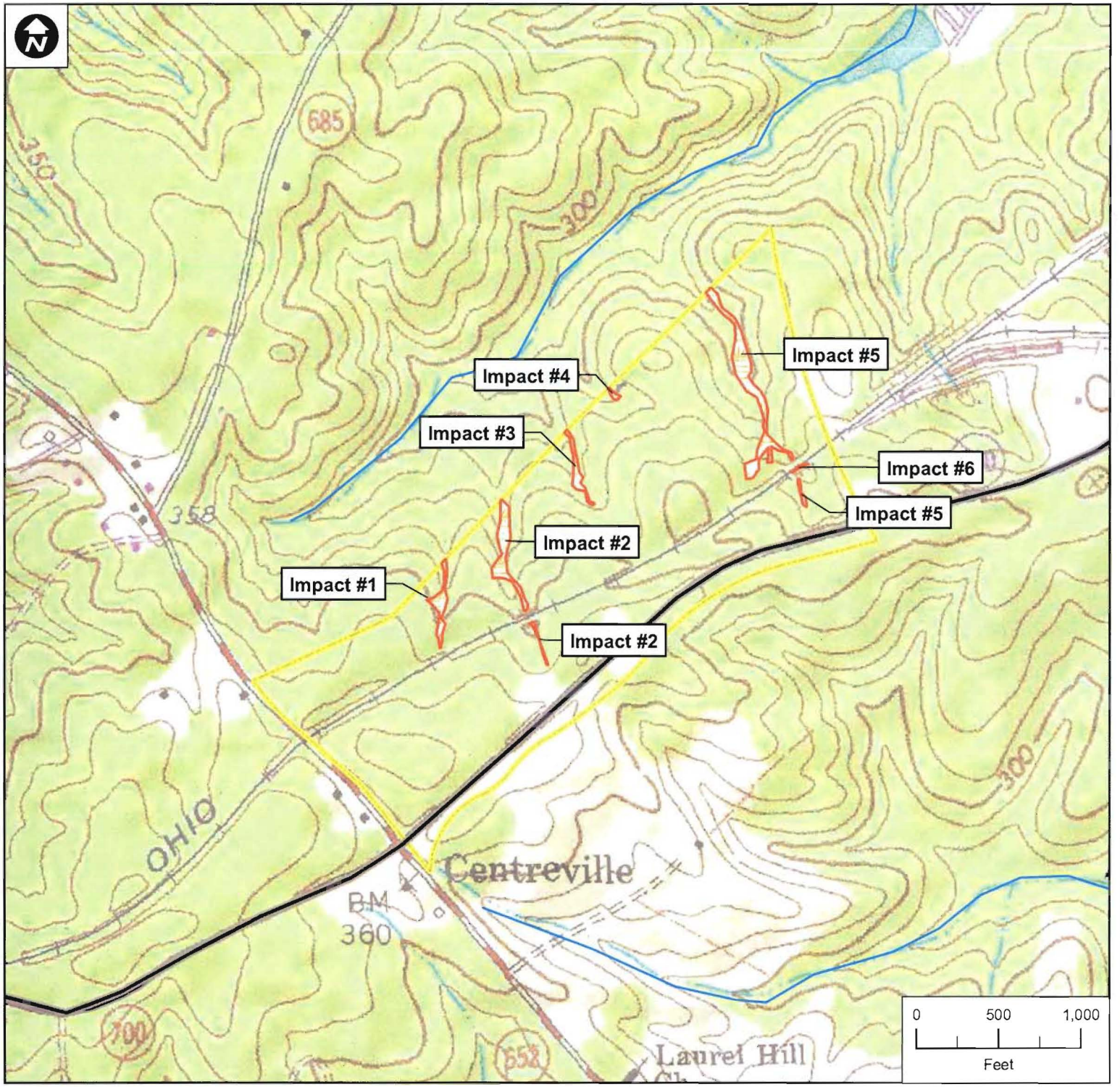

Figure 3-2

Wetland and Stream Impacts in the Vicinity of the Route 700 Parcels

Legend

Large Component Transport Route

Route 700 Parcel Area

Wetland/Stream Impacts

Latitude/Longitude of Wetland/Stream Impacts

1: 38° 3' 5.500" N, 77° 48' 57.327" W
2: 38° 3' 6.390" N, 77° 48' 51.462" W
3: 38° 3' 13.413" N, 77° 48' 46.911" W
4: 38° 3' 17.849" N, 77° 48' 44.073" W
5: 38° 3' 17.271" N, 77° 48' 32.849" W
6: 38° 3' 13.489" N, 77° 48' 30.006" W

Sources

ESRI (basemap), 2006;
USDA-NRCS (topographic mosaic), 2002

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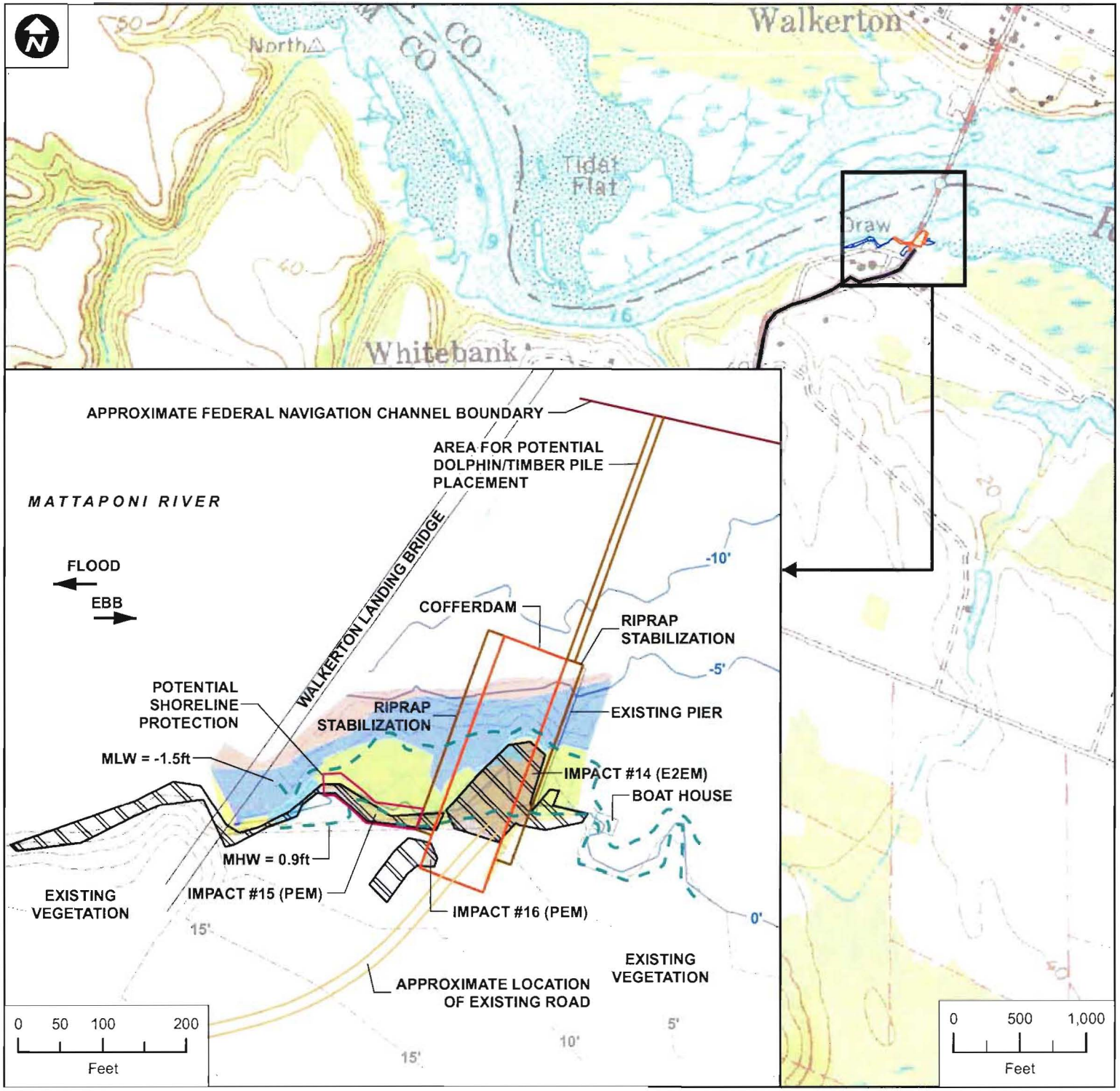


Figure 3-3

Wetland and Stream Impacts Along the Large Component Transport Route

Legend

- Large Component Transport Route
- Wetland/Stream Impacts
- Wetland System

SAV Areas

- Dense SAV
- Intertidal Beach Community
- Sparse SAV
- Sparse SAV and Yellow Pondlilly Community
- Dense SAV and Mixed Flat Community
- Mixed Freshwater Community

Latitude/Longitude of Impacted Wetland Systems

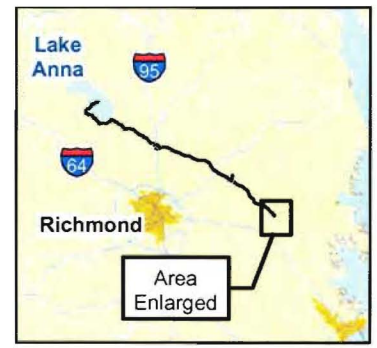
14: 37° 43' 19.474" N, 77° 1' 31.569" W
15: 37° 43' 19.259" N, 77° 1' 32.028" W
16: 37° 43' 18.849" N, 77° 1' 32.141" W

Note

The alignment of the Walkerton Bridge shown on the topographic map does not reflect the actual location of the bridge. It has been realigned since the topographic map was created in 1972. A more accurate representation is shown in the bottom left inset.

Sources

ESRI, 2006;
Geometrics GPS, Inc., 2010;
USDA-NRCS (topographic mosaic), 2002;
Wetland Studies and Solutions, Inc., 2010



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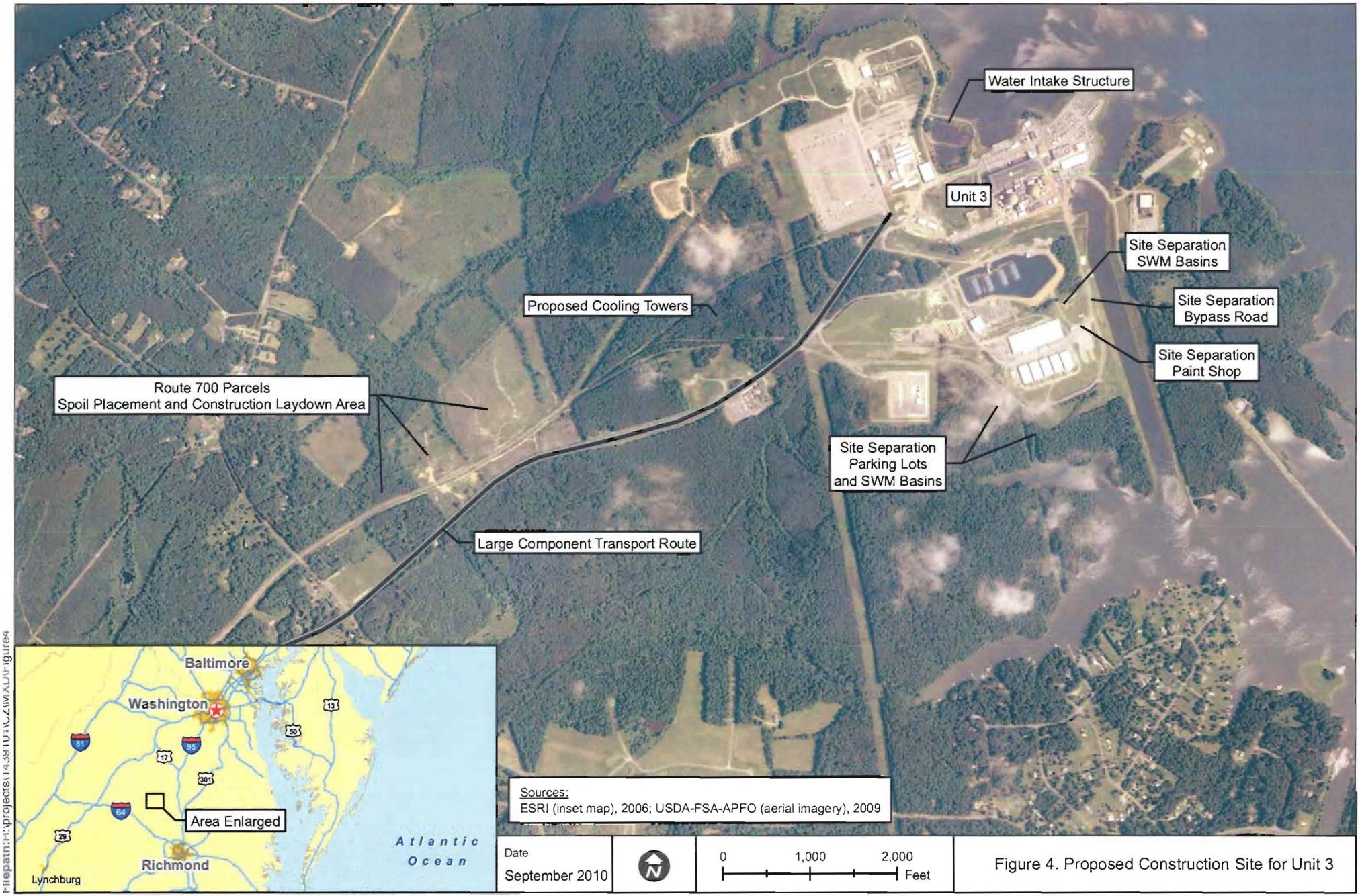

Figure 4. Proposed Construction Site for Unit 3

Table 1. Proposed NAPS Unit 3 Environmental Permit List and Schedule

Type	*Agency*	*Permit/Certification*	*Application Submittal Schedule*
Federal	*Army Corps of Engineers*	*Clean Water Act Section 404 (Individual Permit)*	*July 16, 2010*
	Army Corps of Engineers	*Section 10 Rivers and Harbors Act Permit*	*July 16, 2010*
State	*Virginia Department of Environmental Quality (VDEQ)*	*Clean Water Act Section 401 (Individual Permit - VWP)*	*July 16, 2010*
	VDEQ	*VPDES Discharge - Construction*	*2010*
	VDEQ	*VPDES Discharge - Unit 3*	*2011*
	VDEQ	*VPDES Nutrient General Discharge -- Construction*	*2010*
	VDEQ	*VPDES Nutrient General Discharge – Unit 3*	*2011*
	VDEQ	*Certificates to Construct and Operate Sewage Treatment Plant*	*2015 & 2016*
	Virginia Marine Resources Commission	*Habitat (subaqueous) Permit*	*July 16, 2010*
	VDEQ (multi-agency)	*Coastal Zone Management Act Certification*	*2010*
	VDEQ	*Minor Source Air Permit (Construct & Operate)*	*2011*
	VDEQ	*Hydrostatic Discharge Permit from DEQ*	*2011*
	VDH	*Water Supply Wells for site preparation*	*2010*
	Virginia Department of Conservation and Recreation (DCR)	*Stormwater Construction Permit (site separation) – permit received July 2009*	*N/A*
	DCR	*Stormwater Construction Permit (site preparation)*	*2011*

Type	*Agency*	*Permit/Certification*	*Application Submittal Schedule*
Local	*Louisa County*	*Water Supply Well for site separation*	*2010*
	Louisa County	*Stormwater Construction Permit (site separation) – permit received September 2009*	*N/A*
	Louisa County	*Stormwater Construction Permit (site preparation)*	*2010*
	King William County Wetlands Board	*King William County Wetlands Board Wetland Disturbance Permit*	*July 16, 2010*

Table 2. North Anna Power Station Unit 3 Compliance with CZMP Enforceable Policies

Key to CZMP Status:
A = Activity covered by the November 21, 2006 CZMA Consistency Certification Concurrence
B = Activity not covered by the November 21, 2006 CZMA Consistency Certification Concurrence
C = Activity subject to USACE permitting
D = Some or all of activity, or related impact, will occur in a Coastal County
E = Impact addressed by IFIM resulting from November 21, 2006 Consistency Certification Concurrence
F = Subject to state and/or local permitting
N/A = Not Applicable

Construction/Operation of Unit 3			
Enforceable CZMP Policies	**CZMP STATUS**	**Potential Coastal Zone Effect**	**Consistency with CZMP**
Fisheries Management	D, E	Consumptive water use in-plant processes could potentially impact water level in Lake Anna and also affect the amount of water released to the North Anna river downstream from the dam.	Dominion performed an In-stream Flow Incremental Methodology (IFIM) study to determine potential impacts of the consumptive water use to Lake Anna and the North Anna River. The study was designed and carried out with input from VDEQ, VDGIF, and VDCR. The results and recommendations of the IFIM study will be used by DEQ, in consultation with DGIF, DCR and other stakeholders, to develop appropriate conditions for inclusion in the VPDES and/or VWP permits that will be obtained by Dominion for construction and operation of Unit 3. Dominion has committed to the following should Unit 3 be constructed: 1) increase the average Lake Level by 3 inches to offset consumptive use, 2) provide recreational releases to the NAR, and 3) obtain all required VWP and VPDES permits prior to operating Unit 3.
	A, C, F	Intake structure construction will have temporary impacts to benthic habitat and displacement or loss of benthic organisms.	A Joint Permit Application that includes impacts associated with construction of the intake structure was submitted to VMRC on July 16, 2010. A Virginia Water Protection (VWP) permit will be obtained prior to disturbing Lake Anna shoreline or bottom.

Construction/Operation of Unit 3			
Enforceable CZMP Policies	**CZMP STATUS**	**Potential Coastal Zone Effect**	**Consistency with CZMP**
	A, D, F	Operation of the water withdrawal intake structure could entrain or impinge aquatic organisms.	The intake structure has been designed to minimize impingement and entrainment of fish, and will be equipped with 2 mm screens and attain 0.5 fps flow-by as recommended by DGIF. Dominion will obtain all Virginia Water Protection permits necessary for the construction and operation of the water withdrawal.
Subaqueous Lands Management	N/A	None	Activities associated with the construction and operation of Unit 3 within or adjacent to the North Anna Power Station property will not impact Virginia subaqueous lands.
Wetlands Management	A, C, F	Construction of the cooling tower associated with Unit 3 as well as construction of haul road crossings will impact approximately 0.85 acres of wetlands and 2,572 linear feet of stream..	A Joint Permit Application that includes all impacts to wetlands and streams associated with the construction and operation of Unit 3 was submitted to VMRC on July 15, 2010, and a JPA Addendum was submitted in September 2010. A Virginia Water Protection (VWP) permit, CWA §404 permit and VMRC subaqueous permit will be obtained prior to commencement of any activities impacting wetlands or streams.
	B, C, F	Potential permanent impacts to approximately 0.08 acres of forested wetlands and 0.36 acres of emergent wetlands from construction of paint shop and parking lots as part of Site Separation	
	B, C, D, E, F	Raising the water level in Lake Anna 3 inches will result in a temporary loss of 8.14 acres of wetlands in Lake Anna and the WHTF to be replaced by an approximately equivalent increase in new wetlands after the shoreline adjusts to the new elevation.	A Joint Permit Application that includes impacts associated with raising the lake level 3 inches was submitted to VMRC. A Virginia Water Protection (VWP) permit will be obtained prior to commencement of any activities impacting wetlands or streams. Dominion will mitigate for temporary wetland impacts due to the 3-inch increase.
Dunes Management	N/A	None	Construction and operation of Unit 3 will not impact dunes.
Non-point Source Pollution Control	B, F	Potential erosion and/or release of sediment to surface waters resulting from temporary land disturbance and the placement of fill material due to Site Separation activities.	Land disturbing activities will be conducted in accordance with Virginia's Erosion and Sediment Control Program. Erosion and Sediment Control (ESC) plans will be developed to comply with program requirements, will be approved as required by the appropriate regulatory agencies, and will be properly executed.
	A, F	Potential erosion and/or release of sediment to surface waters resulting from temporary land disturbance and the placement of fill material due to activities other than Site Separation.	

Construction/Operation of Unit 3			
Enforceable CZMP Policies	**CZMP STATUS**	**Potential Coastal Zone Effect**	**Consistency with CZMP**
Point Source Pollution Control	B, F	Potential temporary discharge of construction related pollutants in storm water from Site Separation activities.	Dominion will obtain coverage under a General Permit (VAR 10) for discharges of storm water from construction activities, and will ensure that the site is managed in compliance with the permit.
	A, F	Potential temporary discharge of construction related pollutants in storm water. from activities other than Site Separation	
	A, D, F	Discharge of sanitary wastewater generated by construction workforce	Dominion will obtain required VPDES permits (both individual and nutrient general) prior to discharging construction workforce sanitary wastewaters.
	A, D, F	Discharge of process wastewater associated with operation of Unit 3 (e.g., cooling tower blowdown, sanitary wastewaters, industrial storm water)	Dominion will modify the VPDES permit for the North Anna Power Station to incorporate the process wastewater discharges associated with Unit 3. A Nutrient General Permit will also be obtained prior to discharging from the new Unit 3 Sewage Treatment Plant.
Shoreline Sanitation	N/A	None	There are no activities associated with construction or operation of Unit 3 that will impact shoreline sanitation.
Air Pollution	B	Potential release of particulates due to soil disturbance and vehicular traffic due to Site Separation acitivities.	Dust control and traffic management plans will be developed and implemented in a manner to minimize dust.
	A	Potential release of particulates due to soil disturbance and vehicular traffic due to activities other than Site Separation.	
	A, D, F	Air emissions from cooling tower, and periodic emissions from auxiliary boilers and generators supporting Unit 3.	All required air permits will be obtained prior to construction and operation of air emissions sources.
Coastal Lands Management	N/A	None	The activities associated with the North Anna Power Station property are in Louisa County and, therefore, are not within a locality subject to the Chesapeake Bay Preservation Act.

Large Component Transport Route			
Enforceable CZMP Policies	**CZMP STATUS**	**Potential Coastal Zone Effect**	**Consistency with CZMP**
Fisheries Management	B, C, D, F	Potential for temporary and minor impacts to finfish, shellfish, and benthic organisms at the Mattaponi landing area during construction of the off-loading area.	A Joint Permit Application (JPA) that includes impacts associated with the Large Component Transport Route was submitted to VMRC. A Virginia Water Protection (VWP) permit will be obtained prior to commencement of any activities impacting wetlands or streams. BMPs will be employed during construction to minimize the release of sediment to the water column. Time of year restrictions, if applicable, will be complied with.
Subaqueous Lands Management	B, C, D, F	Construction of the Mattaponi offloading facility will have a minor and temporary impact on Virginia subaqueous lands.	A JPA that includes impacts associated with the Large Component Transport Route was submitted to VMRC, USACE and VDEQ. No construction on Virginia subaqueous land will occur until the appropriate permits are obtained.
Wetlands Management	B, C, D, F	Temporary impacts to approximately 0.21 acres of emergent wetlands due to construction of offloading area.	A JPA that includes impacts associated with the Large Component Transport Route was submitted to VMRC. A Virginia Water Protection (VWP) permit, and subaqueous permit, will be obtained prior to commencement of any activities impacting wetlands.
Dunes Management	N/A	None	No impacts to dunes will occur due to heavy haul road-related activities.
Non-point Source Pollution Control	B, D, F	Temporary and minor impacts during construction and demolition of the Mattaponi off-loading facility.	Temporary minor impacts will be minimized and in compliance with applicable VDEQ permit requirements.
Point Source Pollution Control	N/A	None	There are no point source discharges associated with the heavy haul route.
Shoreline Sanitation	N/A	None	There are no activities associated with the heavy haul route that will impact shoreline sanitation.
Air Pollution	N/A	None	No air quality impacts are expected to result from activities associated with the heavy haul route.
Coastal Lands Management	B, D, F	Construction of offloading facility on Mattaponi River	Construction of the off-loading facility will occur in a locality subject to the Chesapeake Bay Preservation Act. Appropriate permits will be acquired and work will be performed in accordance with CBPA requirements.

NAPS-to-Ladysmith Transmission Line			
Enforceable CZMP Policies	**CZMP STATUS**	**Potential Coastal Zone Effect**	**Consistency with CZMP**
Fisheries Management	N/A	None	Activities associated with the Transmission Line will not have an impact to coastal fisheries.
Subaqueous Lands Management	B, D, F	The transmission line will cross the main channel of the North Anna River within Lake Anna. No other impacts to subaqueous lands are expected due to construction of transmission line.	The JPA submitted to VMRC on July 16, 2010 included the NAPS-to Ladysmith Transmission Line. All required permits will be obtained from VMRC prior to performing any work that will impact state river bottoms.
Wetlands Management	B, D	None	Transmission lines will be installed on new towers to be placed in an existing and cleared right-of-way. The work will be accomplished to completely avoid wetland impacts.
Dunes Management	N/A	None	Construction of the transmission line will not impact dunes.
Non-point Source Pollution Control	B, D, F	Potential erosion and/or release of sediment to surface waters resulting from temporary land disturbance and the placement of fill material.	Land disturbing activities will be conducted in accordance with Virginia's Erosion and Sediment Control Program. Erosion and Sediment Control (ESC) plans will be developed to comply with program requirements, will be approved as required by the appropriate regulatory agencies, and will be properly executed.
Point Source Pollution Control	B, D, F	Potential temporary discharge of construction related pollutants in storm water.	Dominion will obtain coverage under a General Permit (VAR 10) for discharges of storm water from construction activities, and will ensure that the site is managed in compliance with the permit.
Shoreline Sanitation	N/A	None	There are no activities associated with transmission line construction that will impact shoreline sanitation.
Air Pollution	N/A	None	No air quality impacts are expected to result from construction of the transmission lines.
Coastal Lands Management	B, D, F	None	Construction of the transmission lines will occur in localities that are subject to the Chesapeake Bay Preservation Act. Appropriate permits will be acquired and work will be performed in accordance with CBPA requirements.

Route 700 Parcels			
Enforceable CZMP Policies	**CZMP STATUS**	**Potential Coastal Zone Effect**	**Consistency with CZMP**
Fisheries Management	N/A	None	Activities associated with the placement of fill material, and use of the laydown area will not have an impact to coastal fisheries.
Subaqueous Lands Management	N/A	None	Activities associated with the placement of fill material, and use of the laydown area will not impact coastal subaqueous lands.
Wetlands Management	B, C, F	Potential permanent impacts to approximately 3.21 acres of forested wetlands, 0.04 acres of emergent wetlands, and 3,808 linear feet of streams by placement of fill material to create lay-down area and haul road.	A Joint Permit Application that includes impacts associated with the Route 700 parcels was submitted to VMRC. A Virginia Water Protection (VWP) permit will be obtained prior to commencement of any activities impacting wetlands or streams.
Dunes Management	N/A	None	Activities associated with the Route 700 parcel will not impact dunes.
Non-point Source Pollution Control	B, F	Potential erosion and/or release of sediment to surface waters resulting from temporary land disturbance and the placement of fill material.	Land disturbing activities will be conducted in accordance with Virginia's Erosion and Sediment Control Program. Erosion and Sediment Control (ESC) plans will be developed to comply with program requirements, will be approved as required by the appropriate regulatory agencies, and will be properly executed.
Point Source Pollution Control	B, F	Potential temporary discharge of construction related pollutants in storm water.	Dominion will obtain coverage under a General Permit (VAR 10) for discharges of storm water from construction activities, and will ensure that the site is managed in compliance with the permit.
Shoreline Sanitation	N/A	None	There are no activities associated with the Route 700 parcel that will impact shoreline sanitation.
Air Pollution	B	Potential release of particulates due to soil disturbance and vehicular traffic.	Dust control and traffic management plans will be developed and implemented in a manner to minimize dust.
Coastal Lands Management	B, F	None	The Route 700 parcels are not located within a locality subject to the Chesapeake Bay Preservation Act.

ATTACHMENT A

Early Site Permit Coastal Zone Consistency Determination and Certification

ATTACHMENT B

Instream Flow Incremental Methodology (IFIM) Report

ATTACHMENT C

Jurisdictional Determinations

ATTACHMENT D

Nuclear Regulatory Commission's Documents

D-1 Early Site Permit Environmental Report

D-2 Nuclear Regulatory Commission's Early Site Permit Final Environmental Impact Statement

D-3 Combined Operating License Application Environmental Report

D-4 Nuclear Regulatory Commission's Final Supplemental Environmental Impact Statement