



**Dominion<sup>®</sup>**

**Surry - Skiffes Creek - Whealton 500kV/230kV Line  
Draft Mitigation Plan Outline**

3<sup>rd</sup> Consulting Parties Meeting  
June 24, 2015

# USACE Effects Determination

- USACE issued third Public Notice on May 21, 2015 stating that the undertaking will have an overall adverse effect on historic resources
- The following outlines avoidance and minimization measures, as well as potential mitigation opportunities for these historic resources during this consultation

# Effects Summary

- Surry – Skiffes Creek 500kV Segment
  - Jamestown-Hog Island Cultural Landscape through direct tower placement and viewshed impacts
  - Visual impacts to surrounding viewsheds of
    - Carter’s Grove (National Historic Landmark)
    - Colonial National Historic Parkway
    - Hog Island Wildlife Management Area
    - Jamestown Island (Black Point)
- Switching Station Site
  - Archeological site 44JC0662
- Skiffes Creek – Whealton 230kV Segment
  - No adverse effects

# Avoidance – Archeological Resources

- 19 resources within the land-based portion of the project and 76 submerged anomalies within the river considered for effects determination
- Avoidance of all submerged anomalies through application of buffer zones where no construction activity or mooring will occur
- Construction access routes will avoid all known resources - use of timber matting, fencing and flagging in vicinity of known sites
- Tower replacement within previously disturbed areas

# Avoidance – Architectural Resources

- 37 architectural resources considered for effects determination, including Jamestown-Hog Island Cultural Landscape
- Routing across James River constrained by Felker Airfield
- Line located as far from sensitive resources as possible while maintaining required navigational clearances and adhering to height restrictions; crossing located near the downstream boundary of the Jamestown – Hog Island Cultural Landscape
- Utilized existing right-of-way and existing structures where practicable
- Minimized height increases to the extent practicable

# Minimization

- Overland construction utilizes existing roads and right of way where possible
- Utilize existing towers, minimize overall increases in height along existing lines
- Tower height across river minimized within existing constraints
- Coordinate with FAA, USCG to provide minimum lighting while maintaining required safety standards (11 structures required to be lit)
- Galvanized steel lattice towers minimize reflection and blend with water and sky over distance<sup>1</sup>

<sup>1</sup>Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands (BLM 2013)

# Proposed Mitigation Approach



# Proposed Mitigation – Protecting Historic Properties & Landscapes

- Conservation of properties important to the historical setting of the Colonial National Historic Park, Historic Jamestowne and the Captain John Smith Trail
- Contribute resources to establish land preservation fund
  - Administered by appropriate state agency or non-profit entity with expertise in land conservation
  - Acquisition of critical properties or easements yet to be identified through coordination with consulting parties



# Proposed Mitigation – Expanding Archeological Knowledge Base

## Hog Island Wildlife Management Area

- Propose identification of significant cultural resources associated with prehistoric and historic occupation
- Conduct a Phase 1 Archeological survey on Hog Island within areas not previously surveyed
- Potential to sponsor additional Phase 2 studies
- May provide further information that is potentially significant to the Jamestown-Hog Island Cultural Landscape

# Proposed Mitigation – Expanding Archeological Knowledge Base

## Switching Station Site 44JC0662

- Dominion would prepare a treatment plan to ensure documentation of archeological resources in accordance with federal and state guidelines and recommendations on preservation in place
- Phase III Data Recovery proposed for any unavoidable impacts

# Proposed Mitigation – Expanding Archeological Knowledge Base

## Submerged Archeological Sites

- No direct effects to identified submerged anomalies
- Propose additional underwater archeological surveys for potential new sites within the limits of the Jamestown – Hog Island Cultural Landscape as defined by the USACE
- Further investigation of anomalies previously identified within the vicinity of the proposed project

# Proposed Mitigation – Enhancing Visitor Experience

- Interpretative signage developed and installed detailing the historic and cultural significance of resources
  - Potential sites may include Hog Island Wildlife Management Area, Jamestown, locations along Captain John Smith Trail
  - Locations would be coordinated with individual property owners
- Support programs and initiatives that contribute to enhancement of facilities and visitor experience on public lands (e.g., lands managed by the Department of Conservation and Recreation or James City County)

# Proposed Mitigation – Implementing Shoreline Protection

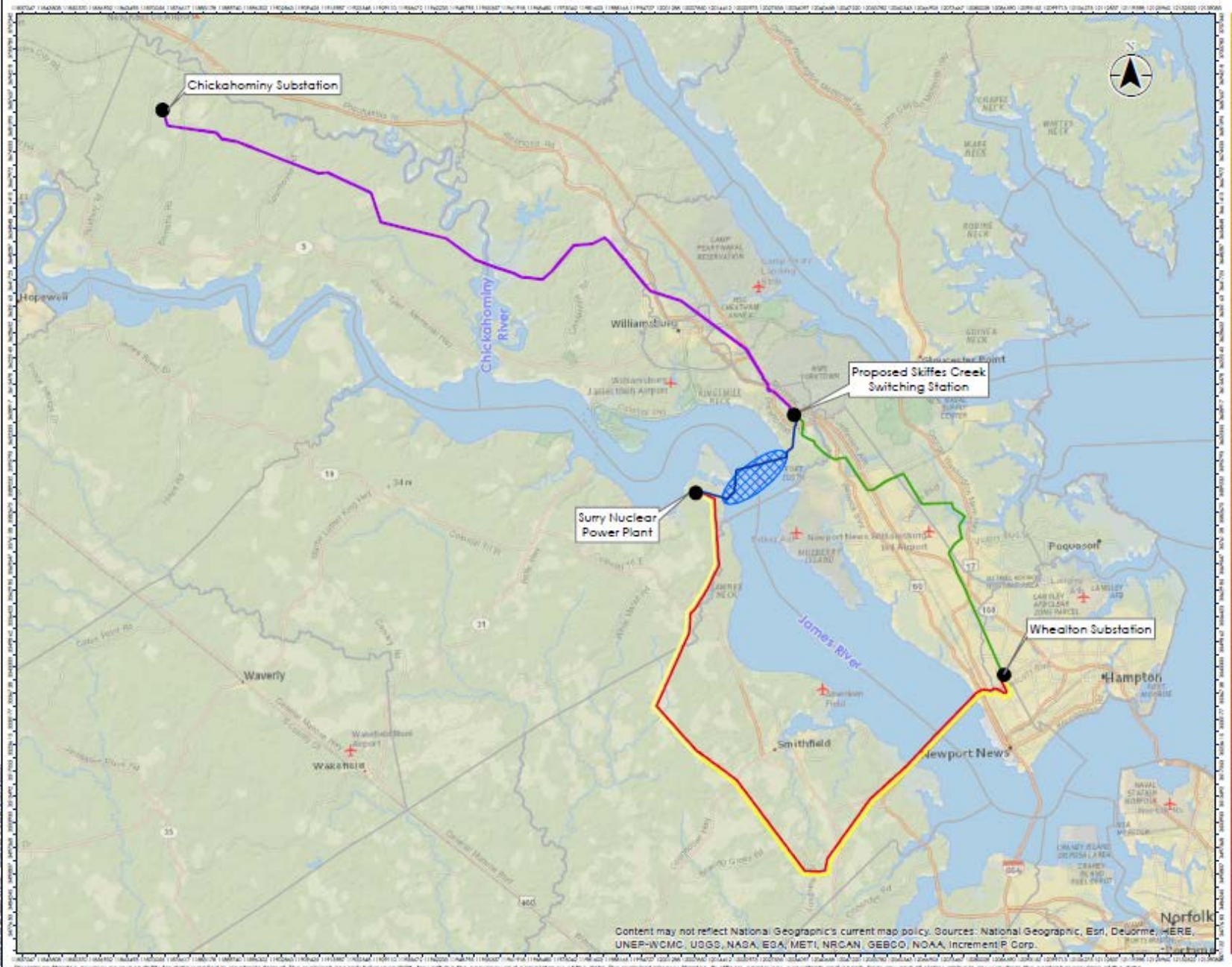
- Identification of properties in coordination with consulting parties and subject to property owner approval
- Protect historic properties and restore evocative landscape
  - Shoreline erosion control
    - Decrease erosion and sedimentation to river for improved water quality
  - Habitat restoration
    - Restore habitat that is evocative of the 17<sup>th</sup> century along the James River
    - Planting of vegetative material where appropriate

# Proposed Mitigation – Reducing Carbon Footprint

- Sponsor solar generation projects in cooperation with Colonial National Historical Park, Colonial National Historical Parkway and Historic Jamestowne
  - President’s *Executive Order – Planning for Federal Sustainability in the Next Decade*, March 19, 2015

# Discussion





Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Disclaimer: StateArc deems no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases StateArc, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

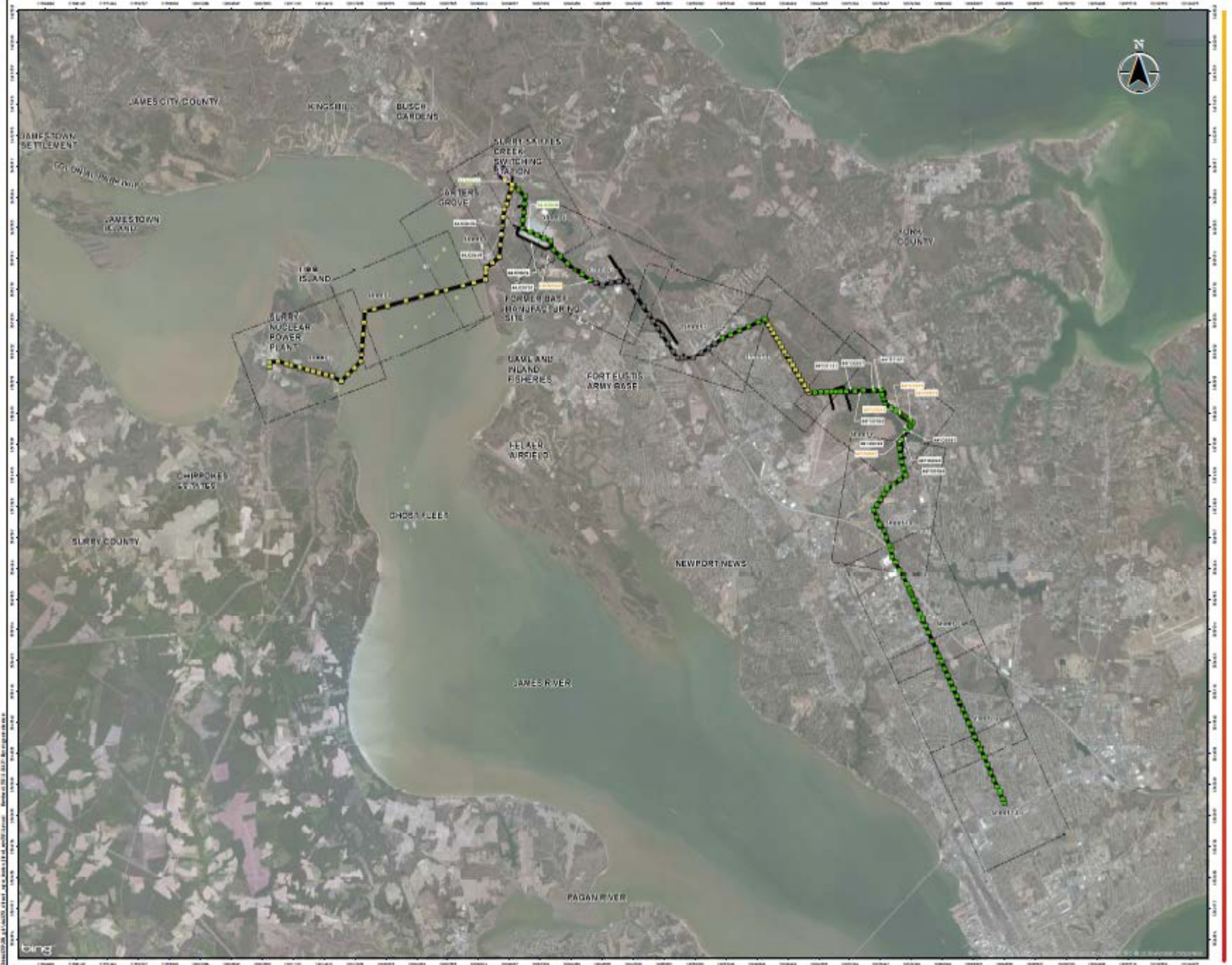


Table 3-1. Additional Analyses Summary Results

	A	B	C		D		E		F		G		H	I
			Alternative A <sup>1</sup> - 230kV		Alternative B <sup>2</sup> - 230kV		Alternative C <sup>3</sup> - 230kV							
	Proposed Project including 500 kV Updated Proposed Route	Overhead 500 kV Chickahominy Alternative	Transmission Only	Transmission Plus Generation <sup>4</sup>	Transmission Only	Transmission Plus Generation <sup>4</sup>	Transmission Only	Transmission Plus Generation <sup>4</sup>	Transmission Only	Transmission Plus Generation <sup>4</sup>	Stand Alone Generation Option <sup>4,5</sup>			
1	Does project electrically address 2015 NERC Reliability Violations?	YES	YES	NO	YES <sup>5</sup>	NO	YES <sup>5</sup>	NO	YES <sup>5</sup>	NO	YES <sup>5</sup>	NO	YES <sup>5</sup>	YES <sup>5</sup>
2	COST	\$155.4 M	\$213.2 M	\$273.8 M	\$623.8 M	\$440.4 M	\$540.4 M	\$144.8 M	\$494.8 M	\$633.0 M				
3	If "NO" in Line 1, what is the cost of additional transmission facilities to fully resolve 2015 NERC Reliability Violations?	∅	∅	\$214.8 M	∅	\$48.2 M	∅	\$ 82.1 M	∅	∅				
4	Total COST to fully resolve 2015 NERC Reliability Violations	\$155.4 M	\$213.2 M	\$488.6 M	\$623.8 M	\$488.6 M	\$540.4 M	\$ 226.9 M	\$494.8 M	\$633.0 M				
5	Can construction necessary to fully resolve 2015 NERC Reliability Violations be completed by June 1, 2015? <sup>6</sup>	YES	YES **	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
6	Can construction necessary to fully resolve 2015 NERC Reliability Violations be completed by April 16, 2017? <sup>7</sup>	YES	YES **	NO	YES **	NO	NO	NO <sup>8</sup>	NO	NO	YES **			
7	Additional COST to fully resolve 2021 NERC Reliability Violations	\$17.3 M	\$17.3 M	\$26.7 M	\$577.0 M	\$26.7 M	\$577.0 M	\$181.9 M	\$577.0 M	\$712.0 M				
8	Total COST to fully resolve 2021 NERC Reliability Violations	\$172.7 M	\$230.5 M	\$515.3 M	\$1,200.8 M	\$515.3 M	\$1,117.4 M	\$ 408.8 M	\$1071.8 M	\$1,345.0 M				
9	Completion date for facilities to address 2015 NERC Reliability Violations	2015	2015	2018	2017	2018	2018	N/A <sup>8</sup>	2021	2016				







Disclaimer: This document contains no responsibility for any content in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases, waives, and holds harmless, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.