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JUN 07 2016

**US Army Corps of
Engineers
Norfolk District
Regulatory Office
Received by: RLS
Date: June 7, 2016**

William T. (Tom) Walker
Chief, Regulatory Branch
USACE, Norfolk District
803 Front Street
Norfolk, VA 23510

Dear Mr. Walker:

The U.S. Army Corps of Engineers (USACE) received a joint application for Federal and State permits from Virginia Electric and Power Company / Dominion Virginia Power (Dominion) in August 2013. Dominion proposed "to construct a new electrical transmission powerline and associated infrastructure, known as Surry - Skiffes Creek – Whealton project, consistent with the North American Electric Reliability Corporation (NERC) standards. The proposed project involves construction of a new 7.76-mile 500kV overhead transmission powerline from Surry nuclear power plant to the proposed Skiffes Creek 500kV-230kV-115kV switching station, on 51 acres of private and commercial property in James City County, followed by the construction of 20.2 miles of new 230kV overhead transmission powerlines from the switching station to Whealton substation in Hampton."¹

The USACE stated in its notice that its decision will be "to determine whether to issue, modify, condition or deny a permit for this proposal."²

Because this project has the potential to impact resources and values of numerous protected sites along the James River, the National Park Service (NPS) has been engaged in this project since early 2014. Units of the National Park System and their affiliated resources and values, are held in trust by the NPS and protected for the American public and future generations. The NPS has participated in coordination and consultation under the National Historic Preservation Act (NHPA). The NPS has also provided both informal and formal comments on the project and the review process, most recently but not limited to our letters dated: October 22, 2015; December 11, 2015; January 29, 2016; February 11, 2016 and March 15, 2016. The NPS stands by, and incorporates by reference, its previous comments on the project as yet unresolved.

In providing its comments, the NPS has reviewed the April 12, 2016 updated filing with the Virginia State Corporation Commission, including the April 5, 2016 letter from USACE to the Advisory Council on Historic Preservation (ACHP) that responds to some of the earlier concerns raised by multiple agencies and organizations. The NPS still has a number of questions and concerns about the proposed

¹ U.S. Army Corps of Engineers Federal Public Notice NAO-2012-00080; 13-V0408; CENAO-WR-R, posted 8/28/2013 and accessed May 3, 2016 at

<http://www.nao.usace.army.mil/Media/PublicNotices/tabid/3060/Article/489026/nao-2012-00080-13-v0408.aspx>

² *Ibid.*

Dominion Surry-Skiffes Creek-Wheaton Permit Application and the accuracy of the analysis based on current conditions, which we detail below. The NPS defers to other agencies and entities on their expertise regarding electric transmission reliability standards. Notwithstanding, we maintain that the range of available alternatives may be broader than has been proposed, due to a changing set of conditions and the ability of the USACE to modify or condition its permit. The necessity of this project as proposed and the appropriate range of alternatives are germane to the NPS because different routing or project designs could reduce adverse impacts to units of the National Park System and other special status areas under NPS administration.

Project Purpose and Need

With regards to the purpose and need for the proposed project, USACE has stated, “It is our duty to balance the electrical reliability benefits of this project against any foreseen detrimental impacts to our region’s natural and cultural resources and reach a permit decision based on a weighing of the public interest factors and 404(b)(1) Guidelines.”³ As such, accurate determination of the supply of electricity needed and the likely amount of growth in demand over time are key to identifying the appropriate range of alternatives that could satisfy these goals. If less electricity is needed to satisfy demand, less environmentally impactful alternatives may be viable, possibly leading to the identification of a different least environmentally damaging practicable alternative (LEDPA) under USACE guidelines.

The USACE Preliminary Alternatives Conclusions White Paper⁴ (White Paper) provided more information on the project purpose and need:

“Project Need: Dominion currently supplies power to the North Hampton Roads Load Area (NHRLA) via generation from the Yorktown Power Station (approximately 1,141 Mw) and 3 transmission corridors that deliver power into the service area... Yorktown Power Station is comprised of 2 Coal fired plants (Yorktown 1 & 2) that produce approximately 323Mw and 1 oil fired plant (Yorktown 3) that produces 818Mw. Due to environmental restrictions Dominion can only operate Yorktown 3 intermittently (8% of year) and the unit has an approximately 3 day start up time. Additionally, Dominion anticipates retiring Yorktown 3 by 2020.

With current configurations and without additional power input into the service area by 2019, Dominion would be unable to maintain compliance with the North American Electric Reliability Corporation (NERC) standards. The NHRLA is currently dependent on power generated from the Yorktown Power Station (approximately 1,141 Mw) and 2 transmission corridors that deliver power into the service area. Dominion’s power flow studies project the demand for electricity in this area will grow by 8% between 2015 and 2020. This increase will cause a load growth that will exceed Dominion’s ability to remain compliant with NERC standards given the current configuration. NERC has confirmed that these standards are absolute requirements that have no

³ From May 21, 2015 COE Federal Public Notice, available at: <http://www.nao.usace.army.mil/Media/PublicNotices/tabid/3060/Article/589487/nao-2012-00080-13-v0408-skiffes-creek-section-106-nhpa-effects.aspx>.

⁴ USACE Preliminary Alternatives Conclusions White Paper, RE: NAO-2012-0080 / 13-V0408, October 1, 2015.

waiver provision. NERC has the authority to impose fines of up to \$1 million per day, per violation.”⁵

“Project Purpose:

(1) Basic: To continue providing the North Hampton Roads Load Area (NHRLA) with reliable, cost effective, bulk electrical service consistent with mandatory North American Electric Reliability Corporation (NERC) Reliability Standards for transmission facilities and planning criteria.

(2) Overall: Provide sustainable electrical capacity into the NHRLA in a manner that addresses future load growth deficiencies, replaces aging infrastructure, complies with Federal regulations, including MATS, and maintains compliance with NERC Reliability Standards.”⁶

The White Paper appears to provide the basis of USACE analysis of the project to date. According to the Council on Environmental Quality, the “purpose and need of the proposed action is the heart of the NEPA.”⁷ Because the purpose and need for agency action drives the reasonable range of alternatives under NEPA, it is critical that this is well articulated to be well understood by all parties. Moreover, although USACE issued the White Paper in October 2015, it is unclear whether it reflects the changed conditions since USACE first received and began to analyze Dominion’s proposal. This potential information gap goes to the accuracy of the information being relied upon as part of the NEPA process.

Changed Conditions

The Role of Yorktown Unit 3

The USACE’s White Paper appears to argue that the output of Yorktown Unit 3 is a critical element of the need for the project: “The North Hampton Roads Load Area (NHRLA) is currently dependent on power generated from the Yorktown Power Station (approximately 1,141 Mw)” of which 818 MW is supplied by Unit 3; and that its output is severely constrained: “Due to environmental restrictions Dominion can only operate Yorktown 3 intermittently (8% of year) and the unit has an approximately 3 day start up time.” What is the role of Yorktown Unit 3 in the Purpose and Need? Does the project need require that 1,141 MW be replaced or just the 323 MW from Units 1 and 2? The NPS requests that the Corps clarify this element of the project. Other aspects need clarification. Unit 3 has a 3 day start up time, but appears to have only been used in the past few years as a peaking plant during times of increased power need. How many MW must be replaced under the project need? Is the need for those MW consistent over time or only needed during peak use?

USACE appears to have based its analysis on the permanent shuttering of Unit 3, “Dominion anticipates retiring Yorktown 3 by 2020.” However, this too appears to be in flux since USACE began its analysis. Dominion produces an Integrated Resource Plan (IRP) each year to submit to the Virginia State Corporation Commission and the North Carolina Utilities Commission. Each annual plan addresses a fifteen year planning period. The 2016 Integrated Resource Plan covers the fifteen year planning period

⁵ *Ibid.*, pages 1-2.

⁶ *Ibid.*, page 2.

⁷ Council on Environmental Quality, “A Citizen’s Guide to the NEPA: Having Your Voice Heard,” December 2007. Available at: https://ceq.doe.gov/nepa/Citizens_Guide_Dec07.pdf.

2017-2031 and describes “the potential retirement of Yorktown Unit 3.”⁸ Dominion’s 2015 IRP included similar language and the footnote, “Retiring this generation prior to the start date of the CPP may prove to be premature pending the final CPP rules.”⁹

Dominion can retire units as it sees fit within the structure imposed by its membership within the PJM Interconnection Regional Transmission Organization (RTO). It is, however, important that the USACE present an accurate project purpose and need as a foundation for screening potential project alternatives, so that it can fulfill its “duty to balance the electrical reliability benefits of this project against any foreseen detrimental impacts to our region’s natural and cultural resources and reach a permit decision based on a weighing of the public interest factors and 404(b)(1) Guidelines.” If the need is overestimated (1,141 MW vs. 323 MW) or conditions have changed (e.g., if or when Unit 3 would shut down), USACE has a responsibility to re-evaluate, as warranted, the range of reasonable alternatives that would satisfy the purpose and need. Likewise, the NPS, and its partners and visitors, have an interest in understanding the purpose and need and overall context under which USACE will make its decision. As such, NPS requests that USACE explain the purpose and need in more detail so that NPS may understand the bulk electrical service and sustainable electrical capacity USACE is trying to ensure under its decision.

NERC Reliability Standards

The USACE’s White Paper states, “Loss of the generation capacity of Yorktown 1 and 2 creates violations of NERC Category B, C and D.”¹⁰ North American Electric Reliability Corporation (NERC) potential violations must be understood in the context of the standard numbering scheme and associated topical areas in the NERC standards. Please clarify which topical areas are the subject of these potential violations.

The USACE also suggests that the result of these NERC violations will require “pre-contingency load shedding (i.e. rolling blackouts) in the NHRLA to prevent the possibility of cascading outages impacting the reliability of the interconnected transmission system.”¹¹ NPS requests more thorough analysis of the likely outcomes. NERC violations are most often self-reported; concern lack of training, documentation or procedure; and rarely result in fines. NPS requests more information to understand the exact nature of potential violations and how they might occur. Given the nature of most NERC violations, and the significant adverse impacts to NPS units and program lands under the current proposal, it is critical that NPS understands the extent of the trade off in adverse impacts it is being asked to allow to ensure reliability.

⁸ Dominion Virginia Power’s and Dominion North Carolina Power’s Report of Its Integrated Resource Plan, Public Version, Case No. PUE-2016-00049; Docket No. E-100, Sub 147, Filed: April 29, 2016. Available at: <https://www.dom.com/corporate/what-we-do/electricity/generation/2016-integrated-resource-planning>.

⁹ Integrated Resource Plan - Dominion Virginia Power and Dominion North Carolina Power, Before the Virginia State Corporation Commission and the North Carolina Utilities Commission, Filed: July 1, 2015. Page 11, footnote 2.

¹⁰ USACE Preliminary Alternatives Conclusions White Paper, RE: NAO-2012-0080 / 13-V0408, October 1, 2015, page 3.

¹¹ *Ibid.*

Dominion also does not operate in a vacuum. Dominion operates within the PJM territory and subject to PJM rules. PJM is the manager of the grid and has numerous redundancies and plans for meeting electricity demand in place to ensure random blackouts are rare. The forward capacity market is 1 such measure to ensure adequate power is available when needed.

Dominion has repeatedly pushed back the decommissioning date for its Yorktown units 1 and 2 in response to the length of the regulatory process. PJM has a role here as well. "PJM will work with Dominion to ensure that necessary operational guidelines are in place to ensure reliability until the line is in service." This presupposes that PJM has approved the line, but it is important to note that PJM reviews transmission plans every year to determine whether, as a result of changing assumptions, previously approved transmission upgrades are still required. "The PJM Board also considers PJM recommendations to remove upgrades from the RTEP if need no longer exists."

NPS assumes, until further clarification, that the TPL (Transmission Planning) topical area is being addressed in the Corps White Paper. We have seen other materials which address a N-1-1 failure. NPS requests that the Corps explain the scenarios under which these B, C and D Category violations would occur.

NERC standards serve an important role in maintaining the reliability of the bulk power system. NPS is not suggesting that Dominion operate out of compliance, or that the USACE permit an alternative that results in such noncompliance. NPS is trying to understand the scenarios under which non-compliance would occur. The information the USACE has supplied appears to be insufficient to that task, and NPS seeks clarification. As NPS has stated numerous times, the proposed Surry-Skiffes Creek Whealton Project is likely to have significant adverse impacts to NPS units and program lands, including iconic landscapes important to our nation's history. Projects that would destroy the visual character of these landscapes must be thoroughly considered before approval. NPS seeks clarification in order to do so.

Expanding the Range of Reasonable Alternatives

Horizontal Directional Drilling and Underground Transmission

The USACE appears to have rejected a number of potential alternatives that would involve the use of underground transmission lines due to cost and time concerns. However, much has changed since Dominion first submitted its proposal. In particular, the use of Horizontal Directional Drilling (HDD) has been in use in the oil and gas pipeline industry for quite some time covering ever increasing distances with ever lower costs. HDD technology is being used for underground transmission lines as well. Dominion itself has a pipeline division and is proposing the Atlantic Coast Pipeline (ACP) for natural gas transmission from the Marcellus shale to North Carolina with a pipeline lateral to the Hampton Roads area. Dominion recently presented information to NPS on its ACP project with particular attention to the number of successful projects that have used HDD technology. Dominion is proposing an HDD over 4,000 feet in length for the ACP project and is also listed in the tables below as having completed a long HDD project. See Figures 1-3.

Successful HDD Summary

- Fi
su
- Longest 42-inch HDD: 7,200 feet, in solid rock.
 - 53% longer than proposed drill

Successful HDD Summary

OWNER	LOCATION	CROSSING	LENGTH (ft)	DIA. (in)
TRANSCANADA	FORT MCMURRAY, AB, CANADA	ATHABASCA RIVER	7205	42
SEMPRA CAMERON	CALCASIEU PARISH, LA	SALT DITCH AND INTRACOASTAL WATERWAY	6679	42
EXXONMOBIL	PORT ARTHUR, TEXAS	OLD RIVER	6017	42
ENTERPRISE PIPELINE	MELROSE, LA	OLD RIVER & I-49	5732	42
KINDER MORGAN	QUACHITA PARISH, LA	BAYOU DE SAIRD, HWY 136 & WETLANDS	5697	42
SESH	LOUISIANA	MISSISSIPPI RIVER	5363	42
ENTERPRISE PIPELINE	BOYCE, LA	BOISE CASCADE	5340	42
ENERGY TRANSFER	CROWSON, LA	SALINE BAYOU	5248	42
MID-CONTINENT EXPRESS PIPELINE	MT. VERNON, TX	SULFUR RIVER	5209	42
GLADSTONE AREA WATER BOARD	GLADSTONE, QUEENSLAND	CURTIS ISLAND WATER AND SEWAGE INFRASTRUCTURE PROJECT	5148	42
ENTERPRISE PIPELINE	WESTDALE, LA	NATURE CONSERVATORY	5117	42
FAYETTEVILLE EXPRESS PL	HELENA, AR	MISSISSIPPI RIVER	5084	42
SEMPRA CAMERON	CALCASIEU PARISH, LA	BANKEN RD. & KCSRR & LITTER RIVER	5035	42
EXXONMOBIL	PORT ARTHUR, TEXAS	INDIAN BAYOU	4975	42
FREEPORT LNG	BRAZORIA CO, FREEPORT TX	MARSH AREA	4965	42
ENTERPRISE PIPELINE	NATCHEZ, LA	BAYOU JEAN DE JEAN	4932	42
REGENCY GAS	FRANKLIN PARISH, LA	BIG CREEK MUDDY BAYOU	4833	42
GOLDEN PASS	STARKS, LA	BIG WOOD STARK RD	4812	42
SEMPRA CAMERON	CALCASIEU PARISH, LA	CHOUPIQUE BAYOU	4702	42
ENTERPRISE PIPELINE	KINGSTON, LA	FREEMAN ROAD	4519	42

Atlantic
Coast
Pipeline

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Successful HDD Summary

DD

OWNER	LOCATION	CROSSING	LENGTH (ft)	DIA. (in)
TEXAS GAS	WOODRUFF COUNTY, AR	CACHE RIVER	4818	36
TEXAS GAS	FAYETTEVILLE, ARKANSAS	MISSISSIPPI RIVER	4818	36
GULF STREAM	CODEN, AL	MISSISSIPPI SOUND MAIN LINE 200	4696	36
DOMINION TRANSMISSION	CALVERT CITY, MD	PATUXENT RIVER	4652	36
TRANSCANADA - KEYSTONE	CAVENDISH ALBERTA CANADA	RED DEER RIVER	4629	36
IPCO PTT ONSHORE PIPELINE	BANGKOK, THAILAND	KLONG SAEN SAEB	4615	36
MISSOURI AMERICAN WATER WORKS	ST. LOUIS, MO		4605	36
GULF STREAM	CODEN, AL	MISSISSIPPI SOUND SUPPLY LINE 050	4560	36
MIDCONTINENT EXPRESS PIPELINE	VICKSBURG, MS	MISSISSIPPI RIVER	4512	36
TRANSCANADA - KEYSTONE	MEDICINE HAT ALBERTA CANADA	SOUTH SASKATCHEWAN RIVER	4505	36
VIRGINIA DOT	NORFOLK, VA	DOWNTOWN TUNNEL/MIDTOWN TUNNEL/MLK EXTENSION PROJECT	4500	36
TRANSCANADA HOUSTON LATERAL	LIBERTY CO, TX	TRINITY RIVER	4470	36
ENBRIDGE PIPELINES EAST TEXAS L.P.	HARDIN CO, TX	VILLAGE CREEK	4424	36
TRANSCANADA - KEYSTONE	OKLAHOMA CITY, OK	DEEP FORK RIVER	4342	36
TRANSCANADA - KEYSTONE	DIRECT, TX	BOIS D'ARC CREEK	4304	36
CONSUMERS	MICHIGAN	PEPPER ROAD	4219	36
TRANSCANADA - KEYSTONE	RYE, TX	MENARD CREEK	4213	36
FLORIDA GAS	FLOMATION, FL		4044	36
ENBRIDGE - CANADA	TORONTO, CANADA	SHEPPARD AVE TO HWY 401	4022	36
TRANSCANADA - KEYSTONE	ATWOOD, OK	CANADIAN RIVER	4005	36
ENBRIDGE ENERGY	BALL CLUB, MN	MISSISSIPPI RIVER	4000	36

Atlantic
Coast
Pipeline

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Figure 3: Dominion Presentation to the NPS, April 28, 2016 on the Atlantic Coast Pipeline: recent HDD successes. Dominion itself successfully drilled a 4,652 foot HDD project under the Patuxent River in Maryland.

In light of the increasing use of HDD and Dominion's own interest in using this technology, NPS requests that USACE revisit the use of underground transmission lines in completing the Surry Skiffes Creek project, which would potentially reduce or eliminate certain impacts in this historically significant portion of the river. While it is possible that analysis could show that undergrounding the line will not be economically feasible or environmentally preferable, it is the view of NPS that this alternative warrants additional consideration.

Natural Gas Supplies, the Atlantic Coast Pipeline and Future Load Growth

The USACE has commented in the past that it cannot consider the effect Dominion's Atlantic Coast Pipeline (ACP) would have on natural gas fired generation and natural gas supplies in the Hampton Roads area because the project has not been approved. However, it appears Dominion is considering the ACP pipeline in its load growth calculations as a driver of future load growth: "Further, after the Atlantic Coast Pipeline ("ACP") is completed, new industrial, commercial and residential load growth is expected to materialize as additional low-cost natural gas is made available to the geographical region."¹² (Emphasis added.) A significant portion of that geographic demand would likely occur in the Hampton Roads area given the major lateral pipeline that is a prominent feature of the proposed ACP pipeline. Dominion is both the proponent of the ACP pipeline and a customer as 20% of the volume is calculated to go to Dominion Virginia Power.

NPS requests the USACE explain why the pipeline can't be considered on the supply side, but must be considered as driving demand and load growth. If future load growth is driving the need for and size of Dominion's proposed transmission line, and that load growth and line size is a function of the demand to be created by the construction and operation of Dominion's proposed natural gas pipeline, then it would seem to be that either 1) the ACP pipeline must be considered as a source of natural gas to Dominion Virginia Power and a possible option to reduce the need and / or size of the transmission line due to the options for natural gas fired electricity generation in the NHRLA; or 2) the ACP pipeline cannot be assumed to be built, future load growth and demand will not occur, demand as a driver of the transmission line should be appropriately reduced, and the line itself, or at minimum the size proposed, should be adjusted downward as well.

This then opens up a wider range of alternatives to consider as the USACE seeks the least environmentally damaging practicable alternative. NPS requests USACE ensure consistency in how natural gas supplies are considered in the context of this project, its purpose and need, range of alternatives and calculation of load growth.

Finally, as NPS has identified in previous correspondence, NPS maintains that the project as proposed is likely to cause significant adverse impacts to a number of important historic and ecological resources in

¹² Dominion Virginia Power's and Dominion North Carolina Power's Report of Its Integrated Resource Plan, Public Version, Case No. PUE-2016-00049; Docket No. E-100, Sub 147, Filed: April 29, 2016; page 26. Available at: <https://www.dom.com/corporate/what-we-do/electricity/generation/2016-integrated-resource-planning>.

the area. As such, the NPS strongly recommends USACE prepare an Environmental Impact Statement (EIS) under NEPA.

NPS would be pleased to meet with the USACE to answer any questions. Thank you again for your continuing attention to this vitally important matter -- and for your collegiality in discussing these topics with us.

Sincerely,



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