

part 2

160550102

Appendix

160550102

**COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION**

**APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR APPROVAL AND CERTIFICATION
OF ELECTRIC FACILITIES**

Elklick Switching Station
and Double Circuit 230 kV Tap Lines

Application No. 278

Appendix

Containing Information in Response to
“Guidelines of Minimum Requirements for Transmission Line Application”

Case No. PUE-2016-00056

Filed: May 25, 2016

TABLE OF CONTENTS

I. NECESSITY FOR THE PROPOSED PROJECT 1

II. DESCRIPTION OF THE PROPOSED PROJECT 31

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC
FEATURES 42

IV. HEALTH ASPECTS OF EMF 63

V. NOTICE 70

I. NECESSITY FOR THE PROPOSED PROJECT

- A. Detail the engineering justifications for the proposed project (for example, provide narrative to support why the project is necessary to upgrade or replace an existing facility, to significantly increase system reliability, to connect a new generating station to the Company's system, etc.). Detail the later plans for the proposed project, if appropriate.

Response: In order to accommodate an expansion of Northern Virginia Electric Cooperative's ("NOVEC") existing Pleasant Valley Delivery Point ("DP") and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Virginia Power" or the "Company") proposes to construct, in Fairfax County, Virginia, four structures supporting new double circuit 230 kV tap lines ("230 kV Tap Lines") from its existing 230 kV Bull Run-Loudoun Line #295 to a proposed new 230 kV Elklick Switching Station ("Elklick Station") (collectively, the "Project"). The Company proposes to cut the existing Line #295 (at "Elklick Junction") and extend each end for approximately 670 feet on four new line structures (exclusive of two new backbone structures) to terminate at the proposed Elklick Station, creating 230 kV Bull Run-Elklick Line #295 and new Loudoun-Elklick Line #2173. At Elklick Station, four 230 kV breakers and associated equipment will be installed to reliably interconnect the expanded Pleasant Valley DP with the transmission grid, replacing the existing NOVEC-owned single circuit 230 kV tap from Line #295 that feeds the existing Pleasant Valley DP.

As discussed in Section I.B, NOVEC submitted a DP Change Request ("DP Request"), notifying the Company of increased loading at the Pleasant Valley DP. The additional load is associated with the Federal Energy Regulatory Commission ("FERC")-approved expansion of Dominion Cove Point LNG, LP's ("DCP") existing compressor station adjacent to Pleasant Valley DP.¹ Since the added load will result in a total connected load above 100 MW, the Company's Facility Interconnection Requirements ("FIR")² specify use of a four-breaker ring bus, which requires a switching station.

The initial in-service date specified in NOVEC's DP Request was May 31, 2016. To account for the time needed for permitting and construction of the Project, the Company has estimated a revised in-service date of December 31, 2017. The estimated construction time for the Project is 10-12 months.

¹ See FERC Docket No. CP13-113-000. NOVEC's customer, DCP, is an affiliate of Dominion Virginia Power. The Company will seek approval or an exemption from approval under the Affiliates Act, Chapter 4 of Title 56 of the Code of Virginia ("Va. Code"), as required in securing the appropriate easements for the construction of the Project.

² The Company's FIR is available at: www.dom.com/library/domcom/pdfs/electric-transmission/facility-connection-requirements.pdf.

Federally-mandated NERC Reliability Standards constitute minimum criteria with which all public utilities must comply as components of the interstate electric transmission system. Moreover, the Energy Policy Act of 2005 mandates that electric utilities must follow these NERC Reliability Standards, and utilities could be fined up to \$1 million a day per violation if found to be in noncompliance. NERC has been designated by FERC as the Electric Reliability Organization for the United States.

Dominion Virginia Power's transmission system is responsible for providing transmission service to the Company's retail customers and also to Appalachian Power Company (APCo), Old Dominion Electric Cooperative (ODEC), Northern Virginia Electric Cooperative (NVEC), Central Virginia Electric Cooperative (CVEC), and Virginia Municipal Electric Association (VMEA) for redelivery to their retail customers in Virginia, as well as to North Carolina Electric Membership Corporation (NCEMC) and North Carolina Eastern Municipal Power Agency (NCEMPA) for redelivery to their customers in North Carolina. The Company needs to be able to maintain the overall, long-term reliability of its transmission system, as its customers require more power in the future.

Dominion Virginia Power is part of the Eastern Interconnection transmission grid, meaning it is interconnected, directly or indirectly, with all of the other transmission systems in the U.S. and Canada between the Rocky Mountains and the Atlantic coast, except Quebec and most of Texas. All of the transmission systems in the Eastern Interconnection are dependent on each other for support in moving bulk power through the transmission system and for reliability support. Dominion Virginia Power's service to its customers is extremely reliant on a robust and reliable regional transmission system.

Dominion Virginia Power also is part of the PJM regional transmission organization providing service to a large portion of the eastern United States. PJM is currently responsible for ensuring the reliability and coordinating the movement of electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. This service area has a population of about 60 million and on July 21, 2011, set a record high of 158,450 MW for summer peak demand, of which Dominion Virginia Power's load portion was approximately 19,636 MW serving 2.4 million customers. On July 22, 2011, the Company set a record high of 20,061 MW for summer peak demand. On February 20, 2015, the Company set a winter and all-time record demand of 21,651 MW. Dominion Virginia Power's load zone is the third largest area in PJM, behind only the American Electric and Power Company and Commonwealth Edison Zones. Moreover, based on the 2016 PJM Load Forecast, the Dominion Zone is expected to be one of the fastest growing zones in PJM with an average annual summer growth rate of 1.2% over the next 10 years compared to the PJM average of 0.6% over the same period.

I. NECESSITY FOR THE PROPOSED PROJECT

- B. Describe the present system and detail how the proposed project will effectively satisfy present and future demand requirements. Provide pertinent load growth data (at least five years of historical and ten years of projected loads where applicable). Provide all assumptions inherent within the projected data and why existing right-of-way cannot adequately serve the needs of the Company if that is the case. Indicate when the existing system is projected to be inadequate. If the existing system is, or will at some future time be inadequate in a contingency situation, describe this critical contingency. Detail what might cause such situation. Where appropriate, provide historical incidence of similar situations which would be avoided by the proposed construction.**

Response: Attachment I.E.1 shows the Company's existing transmission facilities in the area of the Project. As mentioned previously, the existing Pleasant Valley DP is fed from a NOVEC-owned tap of 230 kV Bull Run-Loudoun Line #295, which runs in a northwest to southeast corridor along with 500 kV Clifton-Loudoun Line #559, 230 kV Dulles-Loudoun Line #2008, and 115 kV Bull Run-Loudoun Line #156.

NOVEC's March 13, 2015 formal DP Request notifying the Company of increased loading on the Pleasant Valley DP to exceed 100 MW is included as Attachment I.B.1. In order to maintain reliable service to customers of the Company and NOVEC, and to comply with mandatory NERC Reliability Standards, specifically FAC-001, the Company has created its FIR document to address the interconnection requirements of generation, transmission, and electricity end-user facilities.³ Since the NOVEC DP Request indicates that the expanded Pleasant Valley DP will result in a total connected load above 100 MW, Section 6.2 of the Company's FIR specifies that a four-breaker ring bus should be used for the interconnection. The ring bus will be installed in a switching station adjacent to NOVEC's expanded Pleasant Valley DP. As described in Appendix Section I.A, the proposed Elklick Station will be constructed with a four-breaker 230 kV ring bus to terminate Line #295 and #2173 and to provide two sources to NOVEC's expanded Pleasant Valley DP.

The Project was presented at the PJM Interconnection, LLC ("PJM") Southern Sub-Regional Transmission Expansion Planning ("SSRTEP") process meeting on November 20, 2015, and was subsequently assigned Supplemental project number s1085.

³ See *supra* note 2.

APPENDIX A

**REQUEST/NOTIFICATION FOR
CHANGES IMPACTING DOMINION'S FACILITIES**

Customer shall initiate requests to install, modify, or remove Dominion Facilities, or to modify the capacity or characteristics required at a Delivery Point, or to discontinue the delivery of electricity to a Delivery Point, in writing using the Request/Notification for Changes Impacting Dominion Facilities form included in this Appendix A (the "Request Form"). Customer shall also submit a Request Form when making changes to Customer's Facilities that are reasonably anticipated to (i) lead to a modification to Dominion's Facilities or (ii) impact the operation of Dominion's Facilities.

The Request Form shall be submitted by Customer as soon as useful information is available. As additional or updated information becomes available, Customer shall make timely submission of a revised Request Form. For Request Forms submitted with notations of "(E)" or "TBD by [date]" as described below, the Parties shall determine a schedule for the provision of complete and final information.

1. Customer shall, in accordance with the following requirements, provide, on a timely basis, information that is complete and accurate. On every Request Form submitted, each blank (including items such as "Additional Comments" and "Other Milestones") shall contain one of the following entries:

- 1.1. The firm (e.g., final) information.
- 1.2. If no information is appropriate for a given item, the entry "N/A."
- 1.3. An entry as further described below:
 - 1.3.1. In Sections II, III, and IV, an entry initially marked as "(E)." Such entries shall be revised with firm information as soon as it is available. If the "Requested Date to Energize" in Section IV is initially marked as (E), then the firm date ultimately supplied for "Requested Date to Energize" shall be on or after the estimated date unless an earlier firm date for "Requested Date to Energize" is mutually agreed-upon prior to submission of a revised request form.
 - 1.3.2. In Section III, an entry may be "TBD by [date]." Additionally, each of the Required Attachments of Section III shall be provided, or shall be substituted by a page bearing the attachment description and the date by which the attachment shall be provided.

2. Upon receiving a request, Dominion shall evaluate such request within its ordinary course of business and consistent with the PJM Requirements. The evaluation may include the investigation of alternate solutions to accommodating Customer's needs. Customer to reasonably assist Dominion's evaluation, including, without limitation, the provision of additional information and participation in a cooperative review and exploration of the request and its alternatives. Dominion shall not be required to complete such evaluation until a reasonable time after the Customer has supplied all information as firm information.

3. Upon concluding its evaluation, Dominion shall provide a written response approving the request, approving the request with modifications, or denying the request. Any modification or denial shall not be unreasonable and shall be accompanied by the reasoning for such determination. In the event of approval or modified approval, the response shall describe, consistent with the Agreement, any required construction or modifications by the Parties, any estimated Project costs, cost responsibilities between the Parties, and other actions the Parties must take to implement the request in its approved form.
4. Nothing in this Appendix shall be construed as modifying the provisions of Section 6.6 of the Agreement of which this Appendix is a part.
5. Requests shall be made using the form shown below (the "Request Form") or an electronic version thereof as may be provided by Dominion.

160550102

REQUEST/NOTIFICATION FOR CHANGES IMPACTING DOMINION FACILITIES

SECTION I - GENERAL Date: 03 / 13/ 2015 Revision No.: 0
Requestor Name: Northern Virginia Electric Cooperative
Requestor Address: 10323 Lomond Drive
Manassas, VA 20109-3173
Name of Contact Person: David McElhiney, P.E. (5399 Wellington Branch Dr., Gainesville, VA 20155-1616)
Contact's Phone: 703-754-6773 ext. Contact's Cell: 703-201-2498
Contact's Fax: 703-754-6777 Contact's Email: DMcElhiney@novec.com

Signature below authorizes Dominion to proceed with design, engineering, and estimation of Project cost as appropriate for Dominion to evaluate and respond to this request. This authorization is pursuant and subject to all terms and conditions of the Agreement of which this Appendix is a part.

Authorizing Signature: [Signature] Auth. Date: 03 /13/ 2015
Printed Name: Robert E. Bisson Phone: 703-754-6724
Title: Vice-President, Electric System Development

SECTION II - DESCRIPTION OF REQUEST

Name of Delivery Point: Pleasant Valley
Brief Description of Request: Increased capacity on Pleasant Valley delivery point.
Brief Reasoning for Request: In addition to the projected load growth previously sent to DVP in December of 2014, new requests from customers have been received by NOVEC, totaling 70MW.
Delivery Point Location: Existing Pleasant Valley Delivery Point
Noteworthy Load Characteristics: Includes the following gas compressor motors and estimated energize dates:
1-7,000 HP 6/2016
2- 27,000 HP 3/2017
1-17,000 HP 5/2017

PRESENT DELIVERY POINT DATA:

Present Delivery Point Voltage: 230 kV
Present Maximum kVA Capacity of Delivery Point Facilities: 88,000
Present Summer Peak kW Demand: 29,700 Present Summer Peak kVAR Demand: 6,400
Present Winter Peak kW Demand: 14,700 Present Winter Peak kVAR Demand: 2,800

ANTICIPATED NEW DELIVERY POINT FACILITIES DATA:

New Delivery Point Voltage: 230kV
 New Peak kVA Capacity of Delivery Point Facilities: 188,000

Peak kW and rkVA During First Three Years Following Implementation and Highest Peak Within Ten Years:

Enter Year →	Initial Year: 2016	Second Year: 2017	Third Year: 2018	Highest in First Ten Years: 2026
Summer Peak kW:	46,000	116,000	118,000	120,000
Summer Peak rkVA:	18,000	42,000	44,000	45,000
Winter Peak kW:	38,000	98,000	100,000	102,000
Winter Peak rkVA:	4,000	29,000	30,000	31,000

Delivery Point Facilities Route:

(attach detail if new line extension is involved)

Additional Comments:

SECTION III – CUSTOMER’S EQUIPMENT

Transformer Primary Voltage: N/A Transformer Secondary Voltage: N/A
 Transformer Nameplate Capacity: _____ Temperature Rise: N/A
 Transformer Taps: _____
 Connection (e.g. Wye-Wye): _____
 Transformer Impedance: _____
 Isolation Device Type and Rating: _____
 Protection Device Type and Rating: _____

Required Attachments: [1] One-line diagram [2] Transformer test report [3] Transformer loss curve
 [4] Operating procedures description [5] Protection scheme functional diagram
 [6] Protection Device information (including device types, serial and model numbers, relay settings, etc.)

SECTION IV – TIMING

I. NECESSITY FOR THE PROPOSED PROJECT

- C. Describe the feasible alternatives, if any, for meeting the identified need without constructing the proposed project. Explain why these alternatives were rejected.**

Response: NOVEC's expanded Pleasant Valley DP must be interconnected with the Company's transmission system in accordance with the Company interconnection requirements set forth in the FIR.⁴

At the load level identified in NOVEC's DP Request, there is no feasible electrical alternative to the Project.

⁴ See *supra* note 2.

I. NECESSITY FOR THE PROPOSED PROJECT

D. Describe any lines or facilities which will be removed, replaced, or taken out of service upon completion of the proposed project.

Response: NOVEC will remove its existing 230 kV radial tap line connecting the Company's existing 230 kV Line #295 and NOVEC's Pleasant Valley DP, which consists of two spans and one single circuit 3-pole structure.

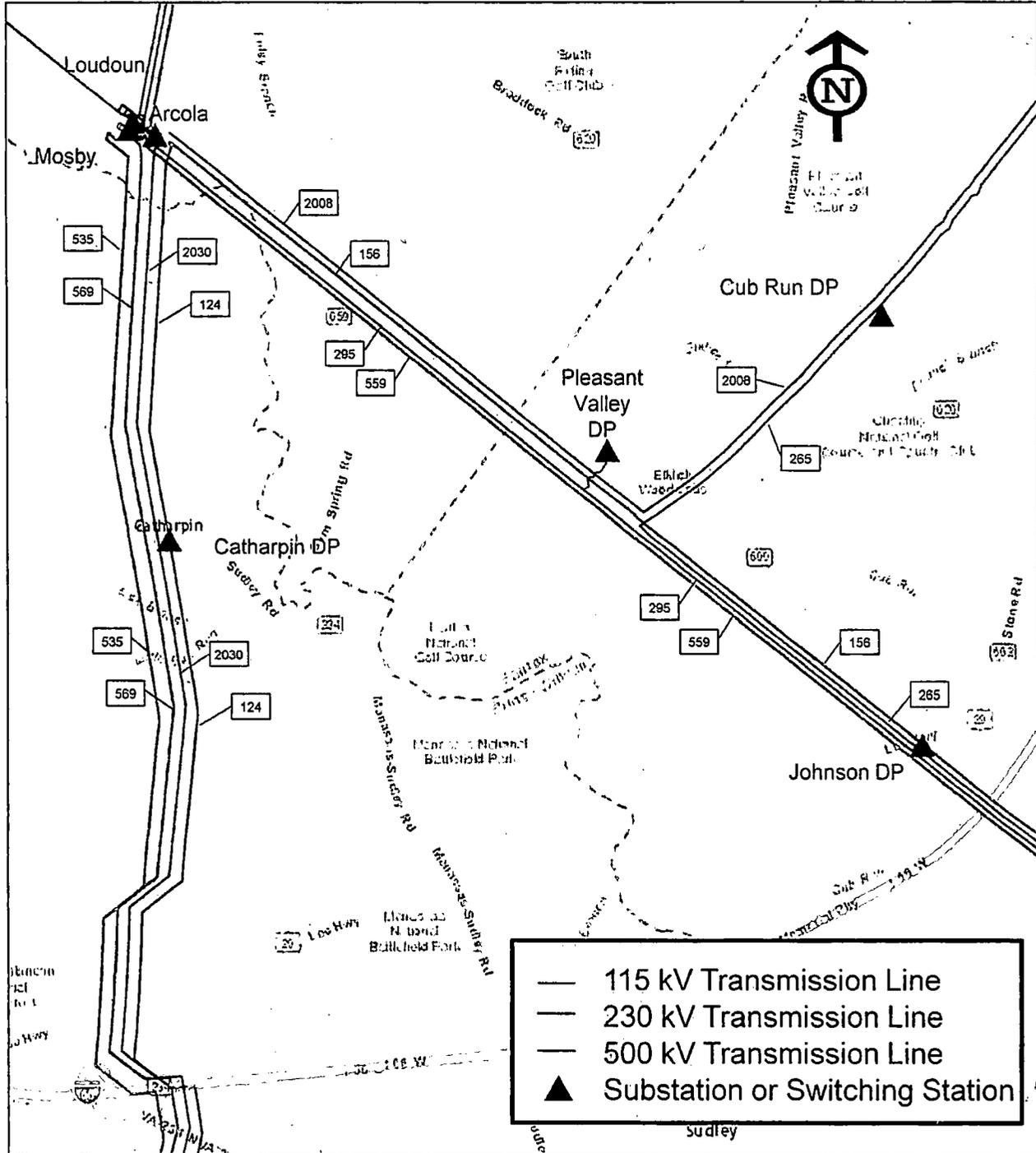
The two existing Dominion Virginia Power 230 kV line switch structures will be removed at the Pleasant Valley DP tap by Dominion Virginia Power. The line switch structures are not depicted in Attachment I.E.3.

I. NECESSITY FOR THE PROPOSED PROJECT

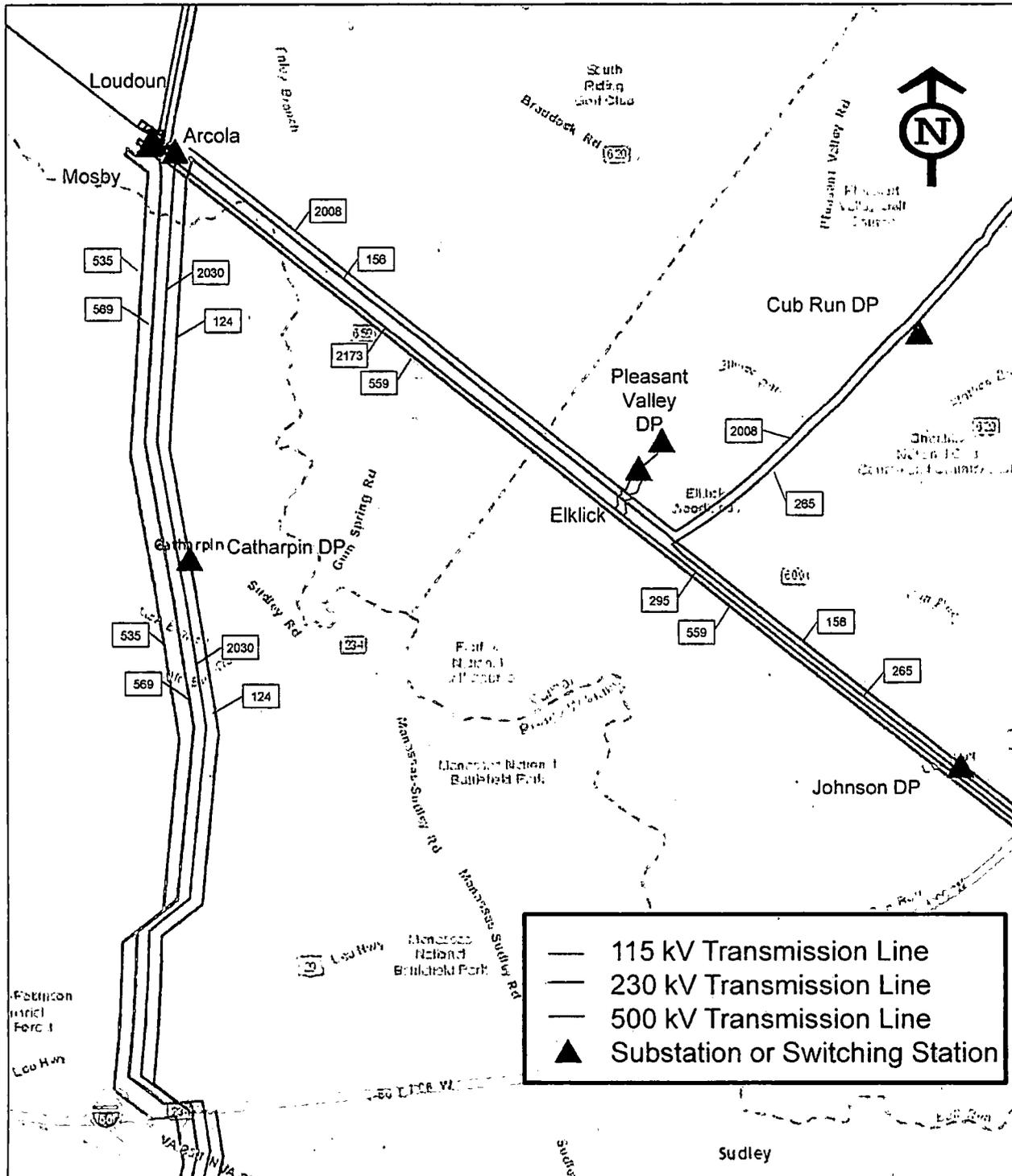
- E. Provide a system map of suitable scale showing the location and voltage of the Company's transmission lines, substations, generating facilities, etc., which would affect or be affected by the new transmission line and are relevant to the necessity for the proposed line. Clearly, label on this map all points referenced in the necessity statement.**

Response: See Attachment I.E.1 for a map of the Company's existing transmission facilities in the area of the Project and Attachment I.E.2 for the transmission facilities proposed by the Project. Attachments I.E.3 and 4 provide a three-dimensional view of the existing and proposed facilities, respectively.

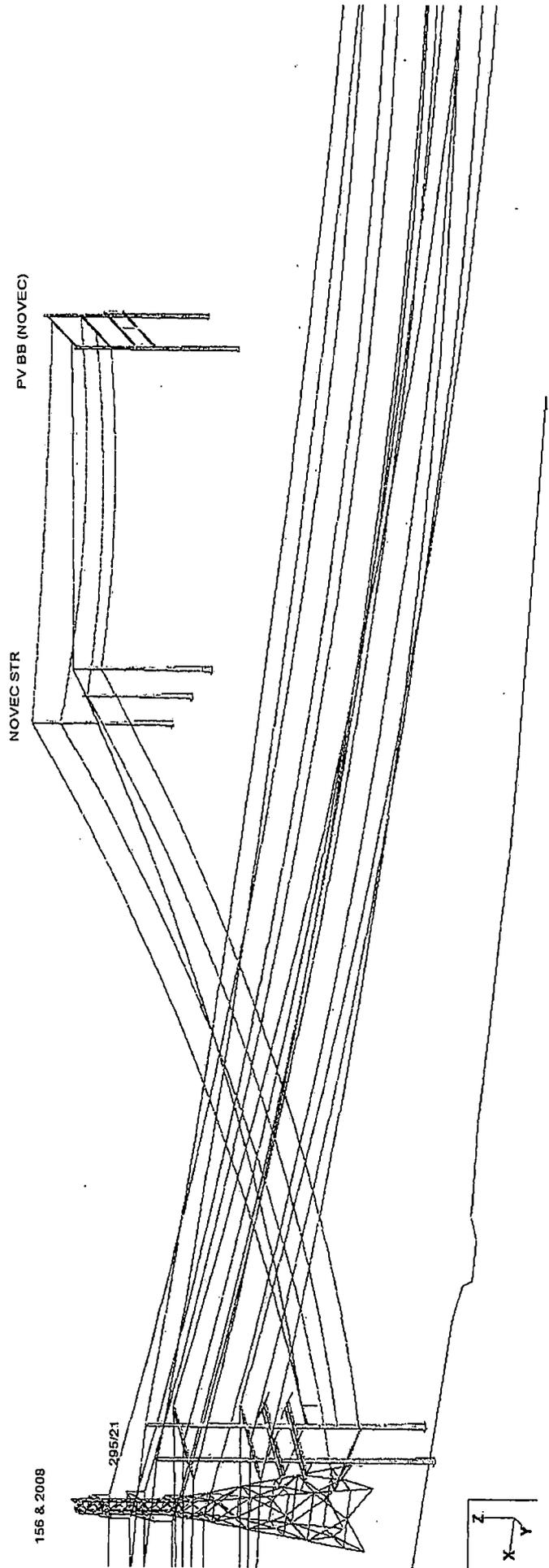
Attachment I.E.1



Attachment I.E.2



EXISTING PLEASANT VALLEY DP

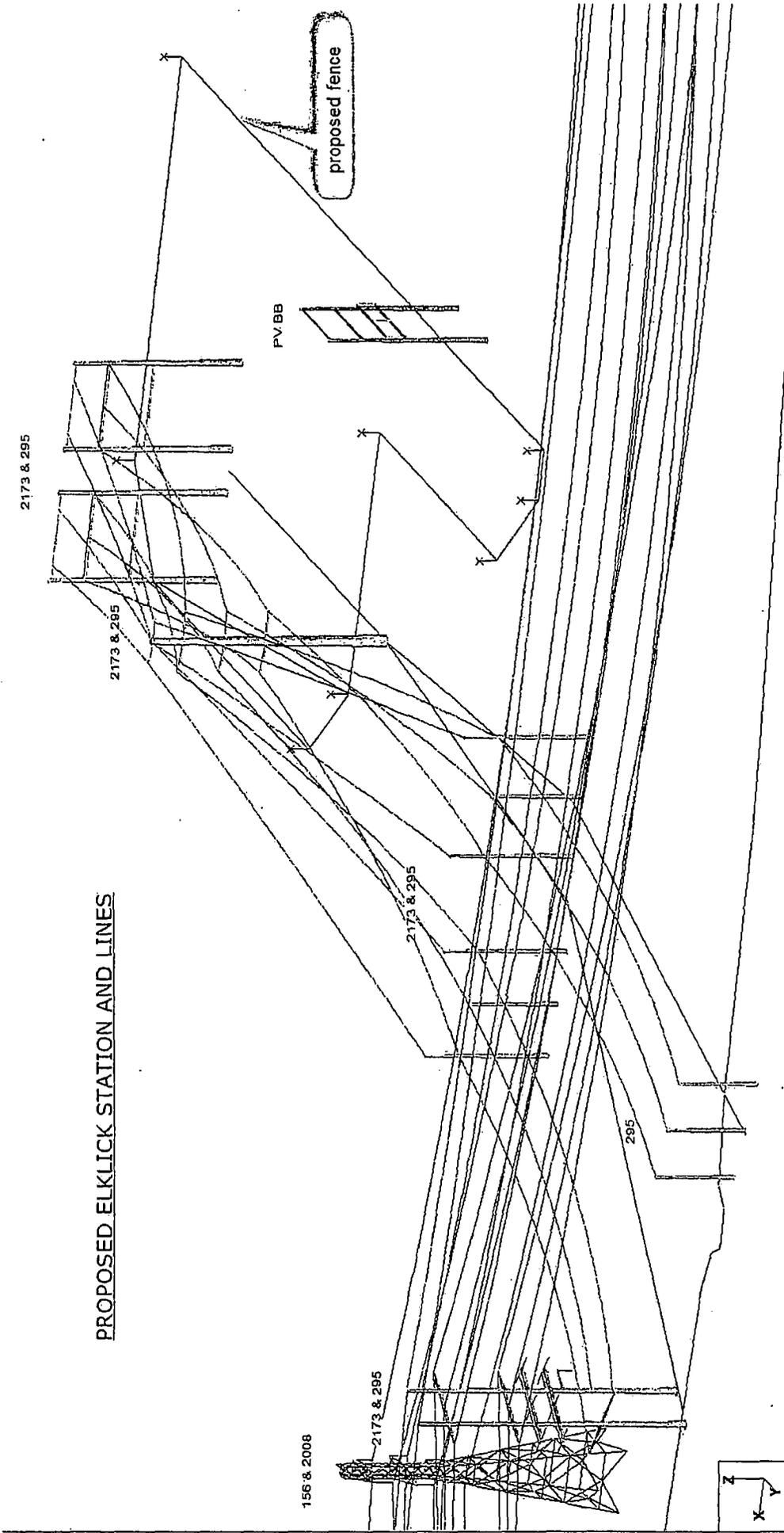


Attachment I.E.3

Note: line switch structures to be removed are not shown.

160550102

PROPOSED ELKLICK STATION AND LINES



Attachment I.E.4

201055091

I. NECESSITY FOR THE PROPOSED PROJECT

- F. Provide the desired in-service date of the proposed project and the estimated construction time.**

Response: The in-service date for the Project is December 31, 2017.

The estimated construction time for the Project is 10-12 months. A period of six months will be needed for engineering, material procurement, and construction permitting.

I. NECESSITY FOR THE PROPOSED PROJECT

G. Provide the estimated cost of the project.

Response: The estimated cost of the Project is \$8.1 million. The cost for the transmission work is estimated to be approximately \$2.1 million. The switching station work is estimated to cost approximately \$6.0 million. These costs are in 2016 dollars.

I. NECESSITY FOR THE PROPOSED PROJECT

H. In addition to all other information required by these guidelines, applications for approval to construct facilities and transmission lines inter-connecting a Non Utility Generator (NUG) and a utility shall include the following information.

- 1. The full name of the NUG as it appears in its contract with the utility and the dates of the initial contract and any amendments;**
- 2. A description of the arrangements for financing the facilities, including information on the allocation of costs between the utility and the NUG:**
- 3. a. For Qualifying Facilities (QFs) certificated by Federal Energy Regulatory Commission (FERC) order, provide the QF or docket number, the dates of all certification or recertification orders, and the citation to FERC Reports, if available;**
b. For self-certificated QFs, provide a copy of the notice filed with the FERC;
- 4. In addition to the information required in 3a or 3b, provide the project number and project name used by the FERC in licensing hydroelectric projects, also provide the dates of all orders and citations to FERC Reports, if available; and**
- 5. If the name provided in 1 above differs from the name provided in 3 above, give a full explanation.**

Response: Not applicable.

I. NECESSITY FOR THE PROPOSED PROJECT

- I. Describe the new and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations and other ground facilities associated with the proposed project.**

Response: There are no new or existing generating facilities or distribution circuits associated with the Project. For a description of the load to be served by the Project, see Sections I.A and I.B.

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

- 1. Provide the length of the proposed corridor and viable alternatives;**

Response: Because the existing 230 kV Bull Run-Loudoun Line #295 right-of-way is immediately adjacent to the site proposed for Elklick Station, the Company did not consider any alternate routes for the Project. The 230 kV Tap Lines will run approximately 670 feet from their connection point to Elklick Station. The lines will run approximately 170 feet within the existing Company right-of-way and then will run for approximately 500 feet from the edge of the existing Company right-of-way to Elklick Station.

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

- 2. Provide a map of suitable scale showing the route of the proposed line and its relation to: the facilities of other public utilities which could influence the route selection, highways, streets, parks and recreational areas, scenic and historic areas, schools, convalescent centers, hospitals, airports and other notable structures close to the proposed project. Indicate the existing facilities which the line is proposed to follow, such as existing ROW, railroad tracks, etc.**

Response: See Attachment II.A.2.

The 230 kV Tap Lines will be tapped from the Company's existing 230 kV Bull Run-Loudoun Line #295. The four new line structures for each circuit will be constructed on existing Company right-of-way or property owned by either NOVEC or NOVEC's customer. The Company will obtain an easement to build the Elklick Station on property owned by NOVEC and adjacent to NOVEC's expanded Pleasant Valley DP.

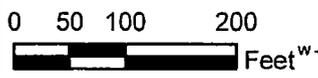
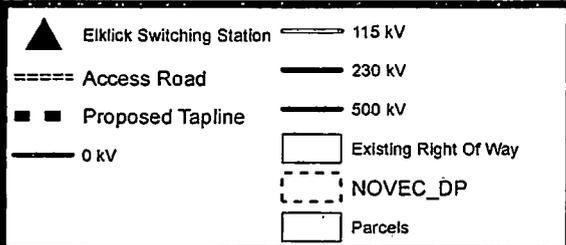
Fairfax County Park Authority

Dominion Cove Point

Elklick Switching Station

NOVEC Pleasant Valley DP

Fairfax County Park Authority



Attachment II.A.2
 Double Circuit 230 kV Line
 #295 to Elklick Station Tap Line

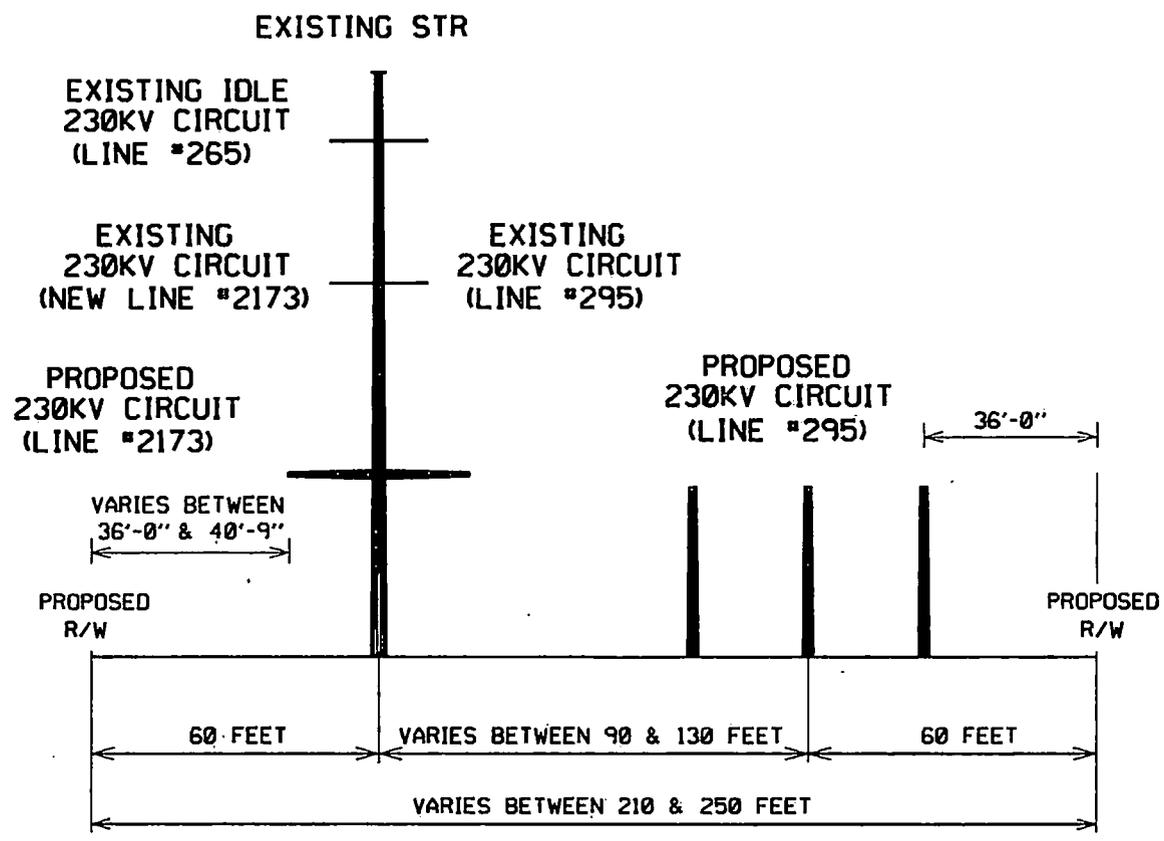
II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

- 3. Provide a drawing(s) of the ROW cross section showing typical transmission line structure placements referenced to the edge of the ROW. This drawing should include:**
 - a. ROW width for each cross section drawing;**
 - b. Lateral distance between the conductors and edge of ROW; and**
 - c. Existing utility facilities on the ROW.**

Response: See Attachments II.A.3.a, b, and c.

ELKCLICK JUNCTION - ELKCLICK STATION
(SPAN 1)

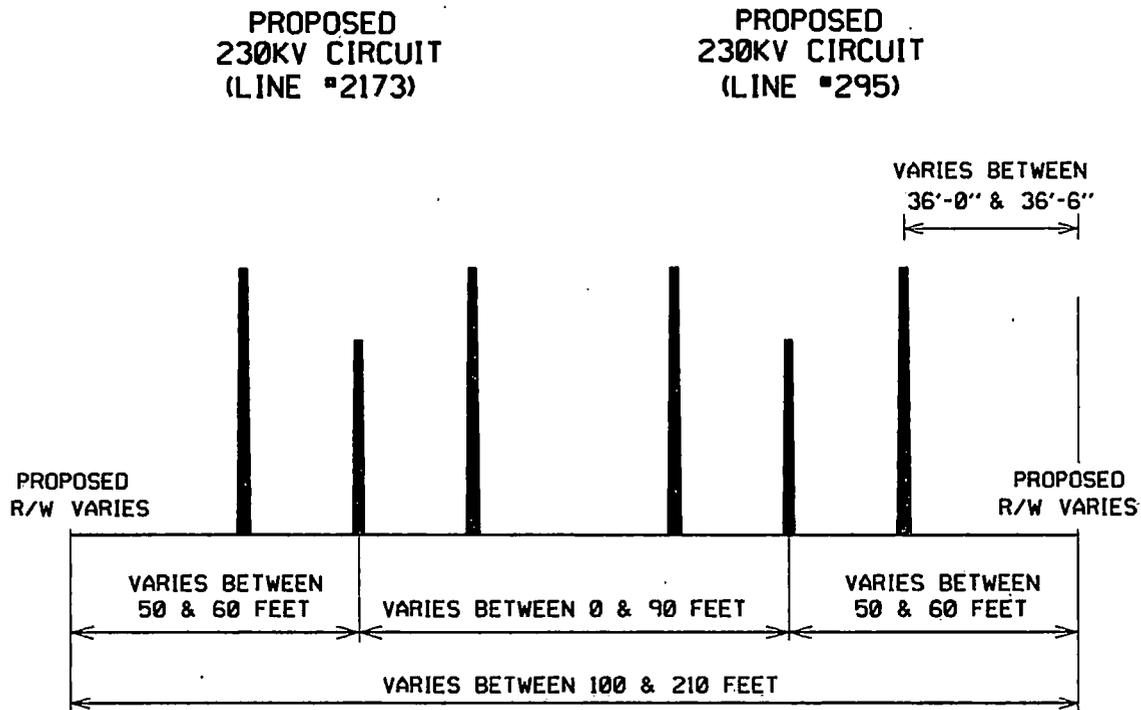


PROPOSED CONFIGURATION

TYPICAL RIGHT OF WAY LOOKING TOWARD PROPOSED ELKCLICK STATION

TYPE OF STRUCTURE:	STEEL 3-POLE
FOUNDATION :	CONCRETE
APPROXIMATE AVERAGE HEIGHT:	35 FEET
WIDTH AT CROSSARM:	N/A
WIDTH AT BASE:	50 FEET
APPROX. AVERAGE SPAN LENGTH:	217 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	VARIES BETWEEN 210'-0" & 250'-0"
APPROXIMATE LENGTH OF LINE :	0.04 MILES

ELKCLICK JUNCTION - ELKCLICK STATION
(SPAN 2)



PROPOSED CONFIGURATION

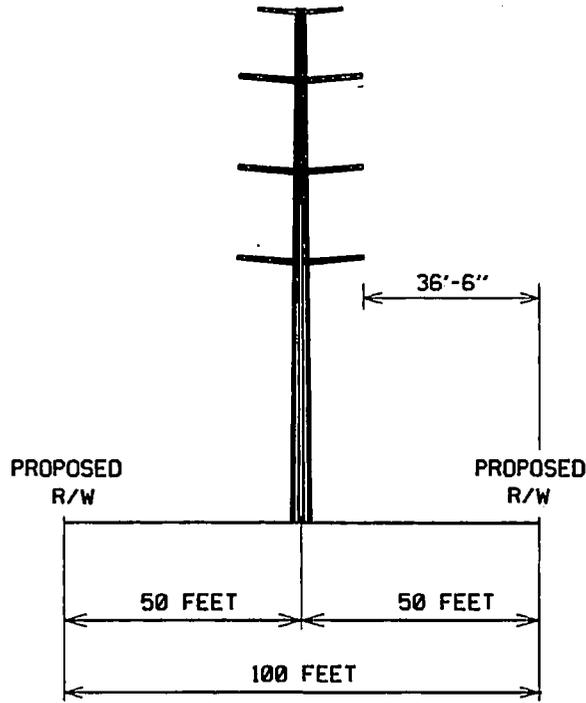
TYPICAL RIGHT OF WAY LOOKING TOWARD PROPOSED ELKCLICK STATION

TYPE OF STRUCTURE:	STEEL 3-POLE
FOUNDATION :	CONCRETE
APPROXIMATE AVERAGE HEIGHT:	2-55 & 1-40 FEET
WIDTH AT CROSSARM:	N/A
WIDTH AT BASE:	50 FEET
APPROX. AVERAGE SPAN LENGTH:	249 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	VARIES BETWEEN 100 & 210 FEET
APPROXIMATE LENGTH OF LINE :	0.047 MILES

ELKLICK JUNCTION - ELKLICK STATION
(SPAN 3)

PROPOSED
230KV CIRCUIT
(LINE #2173)

PROPOSED
230KV CIRCUIT
(LINE #295)



PROPOSED CONFIGURATION

TYPICAL RIGHT OF WAY LOOKING TOWARD PROPOSED ELKLICK STATION

TYPE OF STRUCTURE:	STEEL POLE
FOUNDATION :	CONCRETE
APPROXIMATE AVERAGE HEIGHT:	105 FEET
WIDTH AT CROSSARM:	27 FEET
WIDTH AT BASE:	4 FEET
APPROX. AVERAGE SPAN LENGTH:	204 FEET
CONDUCTOR TYPE:	ALUMINUM
RIGHT OF WAY WIDTH:	100 FEET
APPROXIMATE LENGTH OF LINE :	0.039 MILES

\$DGN\$PEC\$

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

4. Detail what portions of the ROW are subject to existing easements and over what portions easements will be needed;

Response: In 2003, NOVEC's customer, DCP, purchased an approximately 30.0-acre parcel of land to construct a compressor station. NOVEC's customer later subdivided and sold 5.1 acres of that 30.0-acre parcel to NOVEC for the development of its Pleasant Valley DP substation. NOVEC subsequently acquired an additional 3.4 acres from NOVEC's customer making a total of approximately 8.4 acres that are owned by NOVEC. Through an agreement with NOVEC, the Company will obtain an easement of approximately 1.3 acres inside of NOVEC's 8.4 acre area in which to locate the proposed Elklick Station.

The 230 kV Tap Lines will be routed from the Company's Line #295 and into the land area of Elklick Station. From Line #295, the 230 kV Tap Lines will run for approximately 170 feet within existing Company right-of-way. The 230 kV Tap Lines will run for approximately 500 feet to Elklick Station on new right-of-way of variable width. The Company will secure easements for this new right-of-way from the underlying property owners, Fairfax County Park Authority, NOVEC's customer, and NOVEC. See Attachment II.A.2.

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

- 5. Detail the proposed ROW clearing methods to be used and the ROW restoration and maintenance practices planned for the proposed project;**

Response: The Station easement and construction area as well as and new right-of-way presented in Section II.A.4 was cleared of trees during previous construction activity by NOVEC’s customer unrelated to the Project. Erosion control devices will be used on an ongoing basis as necessary during all construction activities associated with the Project.

Erosion control will be maintained, and temporary stabilization for all soil disturbing activities will be used, until the project site has been restored. Upon completion of the Project, the Company will restore the area utilizing site rehabilitation procedures outlined in the Company’s *General Erosion and Sedimentation Control Specifications for the Construction and Maintenance of Electric Transmission Lines* that are approved yearly by the Virginia Department of Environmental Quality (“DEQ”). Time of year and weather conditions may affect when permanent stabilization takes place.

This right-of-way will continue to be maintained on a regular cycle to prevent interruptions to electric service and provide ready access to the right-of-way in order to patrol and make emergency repairs. Periodic maintenance to control woody growth will consist of hand cutting, machine mowing, and herbicide application.

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

6. Indicate the permitted uses of the ROW;

Response: Any non-transmission use of the ROW will be permitted that:

- is in accordance with the terms of the easement agreement for the ROW;
- is consistent with the safe maintenance and operation of the transmission lines;
- will not restrict future line design flexibility; and
- will not permanently interfere with future construction.

Typical permitted uses, with conditions, of the rights-of-way include:

- 1) Agriculture;
- 2) Nurseries;
- 3) Bicycle trails;
- 4) Parking lots;
- 5) Other utility facilities;
- 6) Recreational areas;
- 7) Roadways; and
- 8) Fences with gates.

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

7. **Describe the Company's route selection procedures. Detail alternative routes considered. Describe the Company's efforts in considering these alternatives. Detail why the proposed route was selected and other alternatives were rejected.**

Response: The Company's route selection for new transmission lines typically begins with creation of a study area to identify routing opportunities between the point of origin and the termination point. Once a study area is determined, the area is reviewed to determine if there are any existing rights-of-way possible with which to co-locate; these areas are considered routing "opportunities." This approach of co-location generally minimizes impacts to both the natural and human environment. It is consistent with FERC Guideline #1, which states that existing rights-of-way should be given priority when adding new transmission facilities; and is consistent with Va. Code §§ 56-46.1 and 56-259, both of which also promote the use of existing rights-of-way for new transmission facilities. For the proposed Elklick Station, the Company will obtain an easement from NOVEC. *See* Section II.A.4.

The existing right-of-way and station parcel are generally adequate to construct the 230 kV Tap Lines and Elklick Station, requiring the acquisition of only approximately 500 feet of new variable width right-of-way. Given the short length of the 230 kV Tap Lines, the availability of rights-of-way, the location of the existing right-of-way adjacent to the existing NOVEC Pleasant Valley DP (the source of the interconnect request) and because additional costs and environmental impacts would be associated with the acquisition and construction of another right-of-way corridor, the Company did not consider other alternate routes for this Project.

II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

8. **Indicate how the construction of this transmission line complies with “Guidelines for the Protection of Natural, Historic, Scenic, and Recreational Values in the Design and Location of Rights-of-Way and Transmission Facilities” adopted by the Federal Power Commission in Order No. 414 issued November 27, 1970, and now applied by the Federal Energy Regulatory Commission. These guidelines may be found in Volume 44 of the Federal Power Commission Reports, page 1,491, or Volume 35 of the Federal Register, page 18,585 (December 8, 1970). Copies of the Guidelines may also be obtained from the Office of Public Information, Federal Energy Regulatory Commission, Washington, D.C. 20426. For reference purposes a copy of the guidelines is included.**

Response: The FERC guidelines are a tool routinely used by the Company in routing its transmission line projects.

The Company utilized FERC Guideline #1 (existing rights-of-way should be given priority when adding additional facilities) by siting Elklick Station directly adjacent to existing transmission facilities and the existing Pleasant Valley DP.

By constructing the new switching station and 230 kV Tap Lines adjacent to existing infrastructure, the Project will reasonably minimize impacts to any site listed on the National Register of Historic Places (“NRHP”). Thus, the Project is consistent with Guideline #2 (where practical, rights-of-way should avoid sites listed on the National Register of Historic Places).

The Company has communicated with a number of local, state, and federal agencies prior to filing this application (see Section III.B and the DEQ Supplement), including the Fairfax County Park Authority, consistent with Guideline #4 (where government land is involved the applicant should contact the agencies early in the planning process). The Company follows FERC construction methods on a site specific basis for typical construction projects (Guidelines #8, 10, 11, 15, 16, 18, and 22).

The Company also utilizes FERC guidelines in the clearing of rights-of-way, constructing facilities, and maintaining rights-of-way after construction. Moreover, secondary uses of rights-of-way that are consistent with the safe maintenance and operation of facilities are permitted.

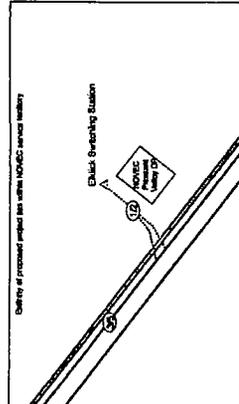
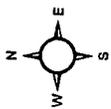
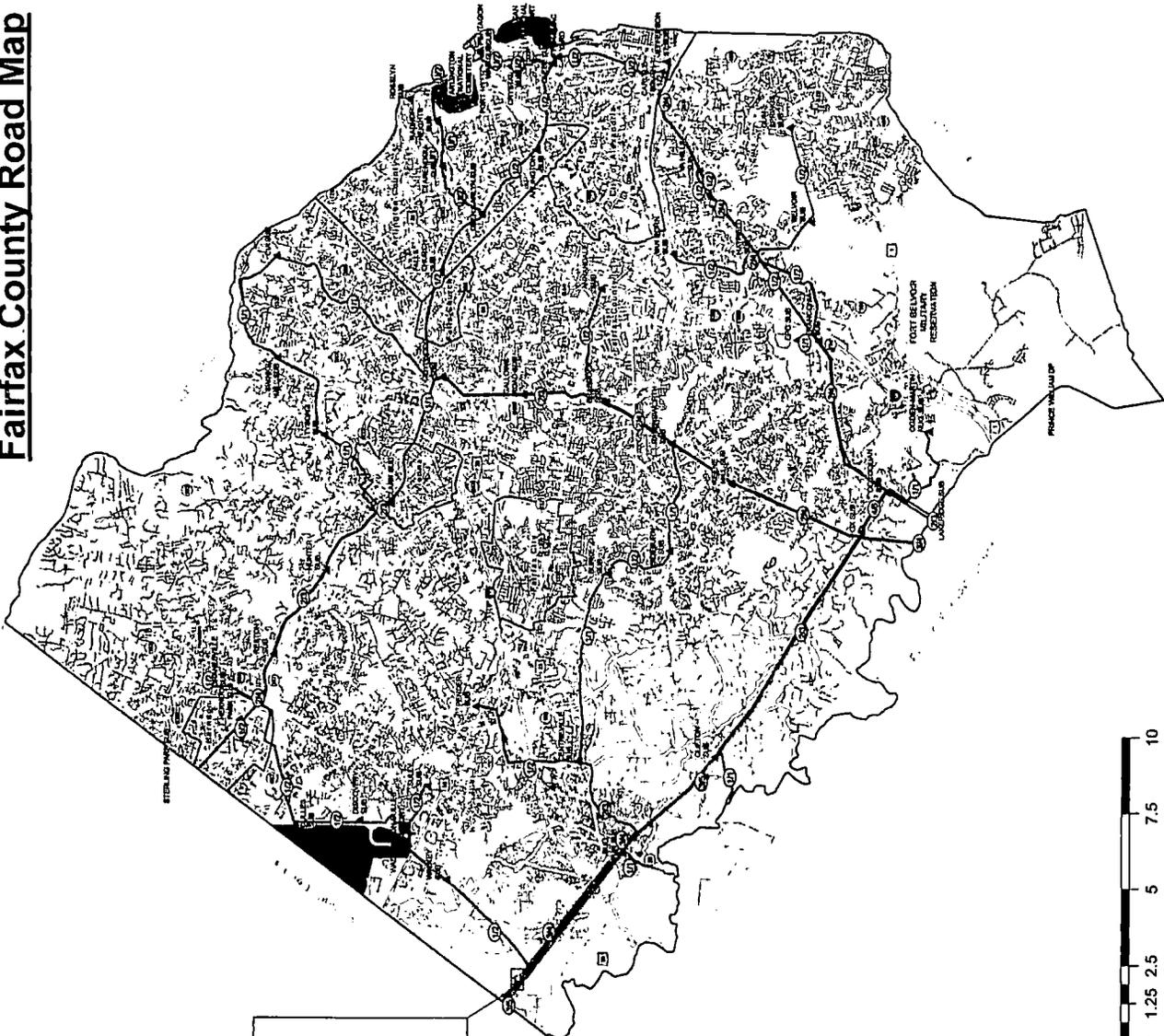
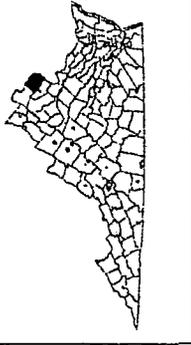
II. DESCRIPTION OF THE PROPOSED PROJECT

A. Right-of-way (ROW)

- 9. a. **Detail counties and localities through which the line will pass. If any portion of the line will be located outside of the applicant's certificated service area: (1) advise of each electric utility affected; (2) whether any affected electric utility objects to such construction and (3) the length of line proposed to be located in the service area of an electric utility other than the applicant;**
- b. **Provide three (3) copies of the Virginia Department of Transportation "General Highway Map" of each county and city through which the line will pass. On the maps show the proposed line and all previously approved and certificated facilities of the applicant. Also where the line will be located outside of the applicant's certificated service area; show the boundaries between the applicant and each affected electric utility. On each map showing the line outside of the applicant's certificated service area, have the appropriate individual of the affected electric utility sign if his/her company is not opposed to the proposed construction.**

- Response:
- a. The Project is located in Fairfax County, Virginia, and completely within NOVEC's service territory.
 - b. Three copies of the Fairfax County map are marked as required and have been submitted to the Commission's Division of Energy Regulation. The map reflects Virginia Department of Transportation and other road data obtained from Navteq and County data. A reduced copy of the map is provided as Attachment II.A.9.b.

Fairfax County Road Map



The map is the property of the Virginia Department of Transportation (VDOT) and is provided for your information only. It is not intended to be used as a legal document. The map is the property of the Virginia Department of Transportation (VDOT) and is provided for your information only. It is not intended to be used as a legal document.

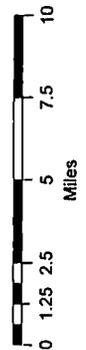
VERMONT ELECTRIC AND POWER COMPANY
SUBMITTED TO THE BOARD OF DIRECTORS FOR APPROVAL
DATE 5/19/16 TITLE VICE PRESIDENT

Legend

- Proposed 230 kV Transmission Line
- ⊙ Number of Lines of Structures/Number of Circuits
- △ Proposed Substation
- ▲ Existing Substations
- 115 kV
- 230 kV
- 500 kV

Service Provider Territory

- NOVEC
- VEPCO



II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

1. Detail number of circuits and their design voltage and transfer capabilities.

Response: The Project will include looping 230 kV Line #295 in and out of the proposed Elklick Station. Existing 230 kV Bull Run-Loudoun Line #295 will be split at Elklick Junction, resulting in: (1) a 230 kV Elklick-Loudoun Line #2173 with a transfer capability of 1057 MVA between Elklick Junction and Elklick Station, and (2) a 230 kV Bull Run-Elklick Line #295 with a transfer capability of 1057 MVA between Elklick Junction and Elklick Station.

II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

2. Detail number, size(s), type(s), and typical configurations of conductors;

Response: The two 230 kV circuits between Elklick Junction and Elklick Station will each have three 1233.6 ACSS/TW phase conductors arranged as shown in Attachments II.A.3.a, b, and c, and two 3#6 alumoweld shield wires for each circuit as shown in Attachments II.A.3.b and c.

II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

3. With regard to the proposed supporting structures over each portion of the ROW provide:
 - a. types of structures;
 - b. length of ROW with each type of structure;
 - c. material for typical structure (steel, oxidizing steel, etc.);
 - d. foundation material;
 - e. width at cross arms of typical structure;
 - f. width at base of typical structures;
 - g. typical span length;
 - h. approximate average heights of structures;
 - i. a schematic drawing of each typical structure; and
 - j. minimum conductor-to-ground clearance under maximum operating conditions.

Response:

(Attachment II.A.3.a)

- a. Structure type — Steel 3-Pole
- b. ROW length — approximately 0.04 mile
- c. Structure material — Weathering Steel
- d. Foundation material — Concrete
- e. Cross arm width of typical structure — N/A
- f. Base width of typical structure — 50 feet
- g. Average span length — 217 feet
- h. Approximate average structure height — all 3 poles (35 feet)
- i. Typical structure — see Attachment II.A.3.a
- j. Minimum clearance over ground — 22.5 feet

(Attachment II.A.3.b)

- a. Structure type — Steel 3-Pole
- b. ROW length — approximately 0.047 mile
- c. Structure material — Weathering Steel
- d. Foundation material — Concrete

- e. Cross arm width of typical structure — N/A
- f. Base width of typical structure — 50 feet
- g. Average span length — 249 feet
- h. Approximate average structure height — 2 (55 feet) & 1 (40 feet)
- i. Typical structure — see Attachment II.A.3.b
- j. Minimum clearance over ground — 22.5 feet

(Attachment II.A.3.c)

- a. Structure type — Steel Pole
- b. ROW length — approximately 0.039 mile
- c. Structure material — Weathering Steel
- d. Foundation material — Concrete
- e. Cross arm width of typical structure — 27 feet
- f. Base width of typical structure — 4 feet
- g. Average span length — 204 feet
- h. Approximate average structure height — 105 feet
- i. Typical structure — see Attachment II.A.3.c
- j. Minimum clearance over ground — 22.5 feet

II. DESCRIPTION OF THE PROPOSED PROJECT

B. Line Design and Operational Features

4. Describe why the proposed structure type(s) was selected for this line.

Response: The three proposed 3-pole structures will place the proposed 230 kV Tap Lines in a horizontal arrangement. This will allow the installation of the two 230 kV circuits in the existing Company right-of-way and proposed new right-of-way under existing Lines #156 and #2008 and within the Line #295 corridor. The fourth structure, a proposed single shaft steel pole, will minimize the footprint of the structure and the 230 kV Tap Lines outside the Ellick Station fence.

II. DESCRIPTION OF THE PROPOSED PROJECT

- C. Describe and furnish plan drawings of all new substations, switching stations, and other ground facilities associated with the proposed project.**

Response: The Project will require the construction of a proposed Elklick Station.

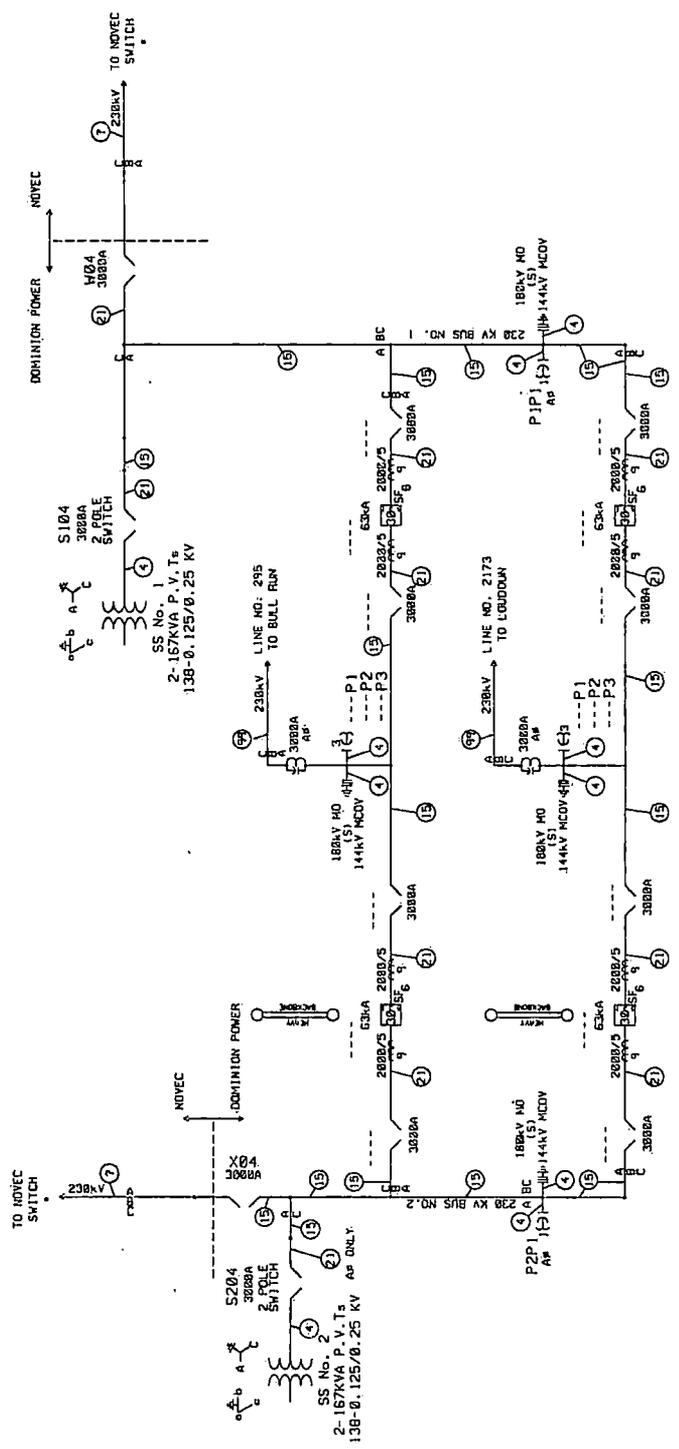
At Elklick Station, four 230 kV breakers in a ring bus configuration, ten 230 kV switches, two 230 kV transmission backbones, and associated equipment will be installed. Also, a new control enclosure containing the required protective relays and communications equipment will be installed as part of the Project.

The one-line and general arrangement for the proposed Elklick Station are provided as Attachments II.C.1 and II.C.2, respectively.

100550102

Attachment II.C.1

NO	REVISION	DESCRIPTION
1	ADD	NOVEC
2	ADD	NOVEC
3	ADD	NOVEC
4	ADD	NOVEC
5	ADD	NOVEC
6	ADD	NOVEC
7	ADD	NOVEC
8	ADD	NOVEC
9	ADD	NOVEC
10	ADD	NOVEC



PROJECT NUMBER: 100550102 FOR CONSTRUCTION

DATE: 10/20/2015	DESIGNER: [Signature]
DATE: ..	APPROVAL: [Signature]

NO	REVISION	DESCRIPTION
1	ADD	NOVEC
2	ADD	NOVEC
3	ADD	NOVEC
4	ADD	NOVEC
5	ADD	NOVEC
6	ADD	NOVEC
7	ADD	NOVEC
8	ADD	NOVEC
9	ADD	NOVEC
10	ADD	NOVEC

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

- A. Describe the character of the area which will be traversed by this line, including, land use, wetlands, etc. Provide the number of dwellings within 500 feet of the line for each route considered.

Response: The Project is located in the southwest corner of Fairfax County, Virginia, and is within NOVEC's service territory.

The general character of the Project area is rural with some forestal and agricultural uses. No recreational uses exist within one mile of the area. The "SYA Sports Park" is located just outside the one-mile radius to the south, along Bull Run Post Office Road.

According to United States Geological Survey ("USGS") Topographic maps, there is one intermittent stream on the west line of the Project parcel and confirmed by the wetland delineation. The intermittent stream includes a tributary to Bull Run.

A field delineation of the Project site was completed in September of 2012. The purpose of the wetland investigation was to identify the location and extent of jurisdictional waters of the United States ("WOUS"), including wetlands, as regulated under Sections 401 and 404 of the Clean Water Act. This wetland investigation was conducted in preparation for the planning and construction of Elklick Station. The Project will have minimal impacts on the jurisdictional wetlands and other WOUS. On December 6, 2012, the Company filed a Wetland Impact Consultation with the DEQ. The full wetland consultation and delineation report is shown in Attachment 2.B.1 to the DEQ Supplement.

In accordance with the *Guidelines for Assessing Impacts of Proposed Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (2008)*, Dutton+Associates, LLC ("D+A") prepared a Pre-Application Analysis Report which was filed with the Virginia Department of Historic Resources on April 18, 2016. As part of the analysis, background archival research and field verification of cultural resources within the project study area were conducted by D+A. The study area included a tiered assessment as defined by Virginia Department of Historic Resources ("VDHR"). Utilizing the defined tiers, the review found that no National Historic Landmarks ("NHL") are located within 1.5 miles of the Project; and one NRHP-listed battlefield park and two NRHP-eligible Civil War Battlefields are located within 1.0 mile of the project area. Portions of one of these battlefields also extends to within the 0.5 mile tier and crosses directly through a small corner of the project area. Field inspection found that no additional or previously unrecorded historic properties are located directly within the study area. No archeological field

survey was completed for the Elklick Station site by D+A; however, a previous Phase I archeological survey study was performed in 2013 by R. Christopher Goodwin and Associates, Inc. titled "Phase I Archeological Survey for Additional Facilities at the Pleasant Valley Compressor Station for the Proposed Dominion Cove Point Liquefaction Project, Fairfax County, VA," FX-597 that included much of the project area. That effort did not identify any archeological sites within the footprint of the project area. Field inspection and assessment as part of this Pre-Application Analysis found that the project will not be visible from most locations throughout the three NRHP-listed or eligible historic properties, and therefore none will have more than a minimal impact brought about by the Project. A copy of the complete Pre-Application Analysis Report is included as Attachment 2.H.1 to the DEQ Supplement.

Dominion Virginia Power submitted consultation request letters to the U.S. Fish & Wildlife Service ("USFWS"), Virginia Department of Conservation & Recreation ("DCR"), and Virginia Department of Game and Inland Fisheries on April 4, 2016 to obtain information and comment concerning known protected species present within the study area. The Company also submitted a project review request online to DCR on March 28, 2016. The response found that the Project falls within a conservation site, and DCR requested continued coordination between the Company, DCR and the Fairfax County Park Authority concerning potential impacts as the Project continues its development. See DEQ Supplement Attachment 2.F.1.

A USFWS *Information, Planning, and Conservation System (IPAC)* review was also conducted for the study area. The IPAC *Official Species List* revealed the presence of one federally threatened species, Northern Long Eared Bat (*Myotis septentrionalis*) within the Project area.

There are no dwellings within 500 feet of the Project.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

- B. Advise of any public meetings the Company has had with neighborhood associations and officials of local, state or federal governments who would have an interest or responsibility with respect to affected area or areas.**

Response: In accordance with Va. Code § 15-2202 D, a letter dated May 9, 2016, included as Attachment III.B.1, was delivered to Fairfax County Executive, Edward L. Long, Jr., advising of the Company's intention to file this application and inviting the County to consult with the Company about the Project.

Beginning in April 2016, Company representatives engaged with county officials to inform them of this Project in Virginia, including the following:

- April 11, 2016 – Company representatives met with Supervisor Kathy Smith and her Chief of Staff, Ben Tribbet.
- May 9, 2016 – Company representatives spoke with Fairfax County Executive Edward Long, Jr.

Additionally, on May 9, 2016 Dominion Virginia Power sent surrounding property owners an informational mailer (see Attachment III.B.2) about the project and how to contact the Company for further information. Although the project site is directly surrounded by either Fairfax County Park Authority or utility-owned property, letters were sent to more than 20 different property owners within a half mile radius from the existing substation/project location.

Additional information is provided to the public through a website dedicated to the Project, searchable on www.dom.com using the search term "Elklick:"

<https://www.dom.com/corporate/what-we-do/electricity/transmission-lines-and-projects/elklick-230kv-line>

The website includes maps, an explanation of need, a description of the Project and its benefits, information on the Commission review process, structure diagrams and answers to frequently asked questions.

160550102



Attachment III.B.1

Dominion

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
Mailing Address: P.O. Box 26666
Richmond, VA 23261
dom.com

May 9, 2016

Mr. Ed Long
Fairfax County Executive
12000 Government Center Parkway
Fairfax, Virginia 22035

RE: Dominion Virginia Power Proposed Ellick Switching Station and 230 kV Line Tap

Dear Mr. Long:

Dominion Virginia Power (Dominion) currently plans to file with the State Corporation Commission (SCC) an application for approval to rebuild an existing single circuit 230 kilovolt (kV) electric transmission line tap into a double circuit design. The double circuit 230kV tap line is associated with the expansion of NOVEC's existing Pleasant Valley electric substation. This project is located within Fairfax County along an existing transmission line right-of-way and on property currently zoned R-C.

The Dominion transmission project includes adding new transmission line structures within Dominion's current right of way and on the property currently occupied by NOVEC and its customer, Dominion affiliate Dominion Cove Point LNG, LP. The heights of these structures will be the same or lower than existing transmission line infrastructure already in place.

Dominion anticipates filing an application by the end of the second quarter of 2016. At this time, in accordance with § 15.2-2202 of the Code of Virginia, Dominion is providing this information to the County. Enclosed please find a map of the project for your consideration.

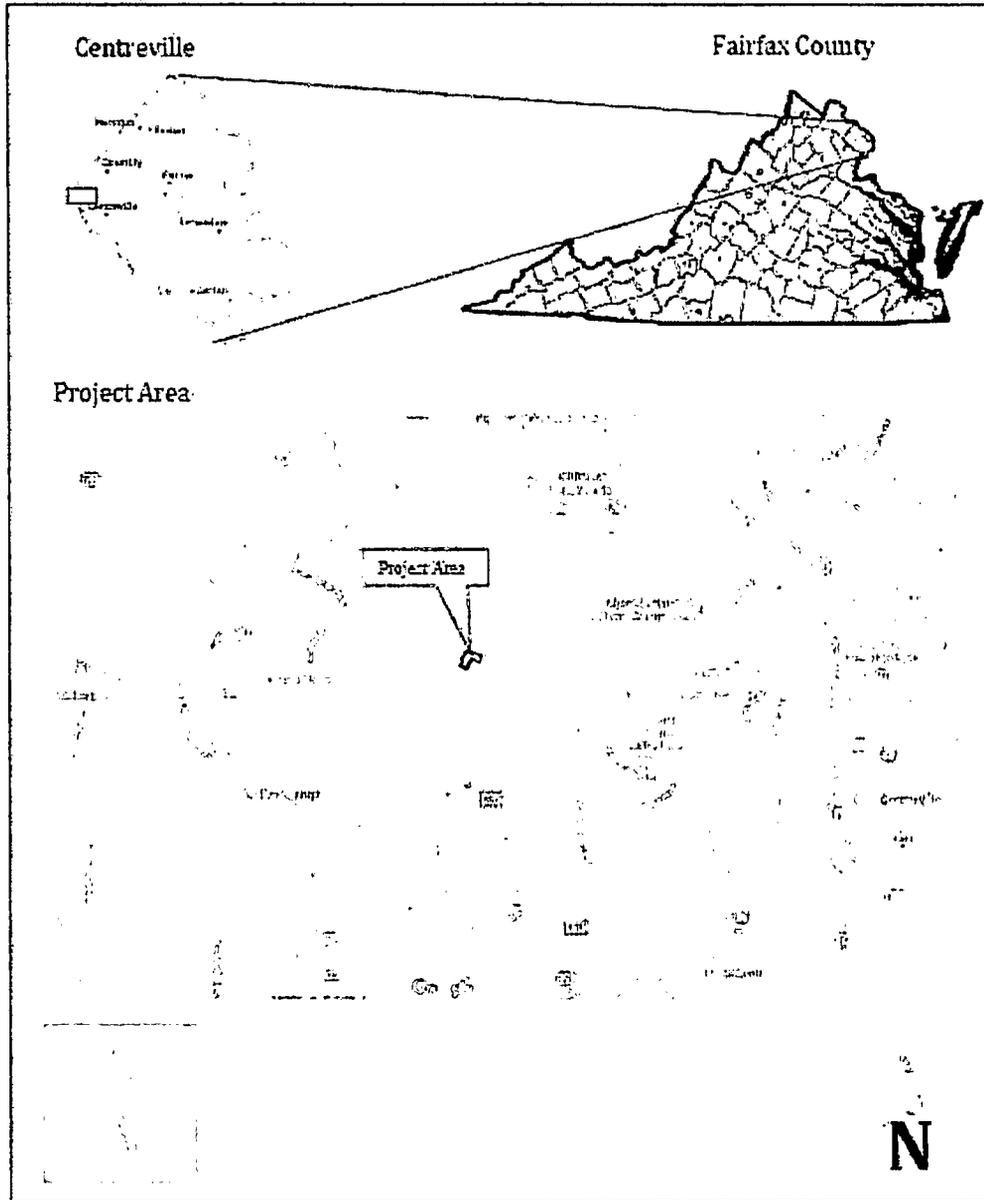
If you have any questions or comments about the electric transmission project, you may contact me directly at (804) 771-6430 or stefan.r.brooks@dom.com.

Sincerely,

Stefan R. Brooks, PE
Engineer III, Electric Transmission Siting & Permitting
Dominion Virginia Power

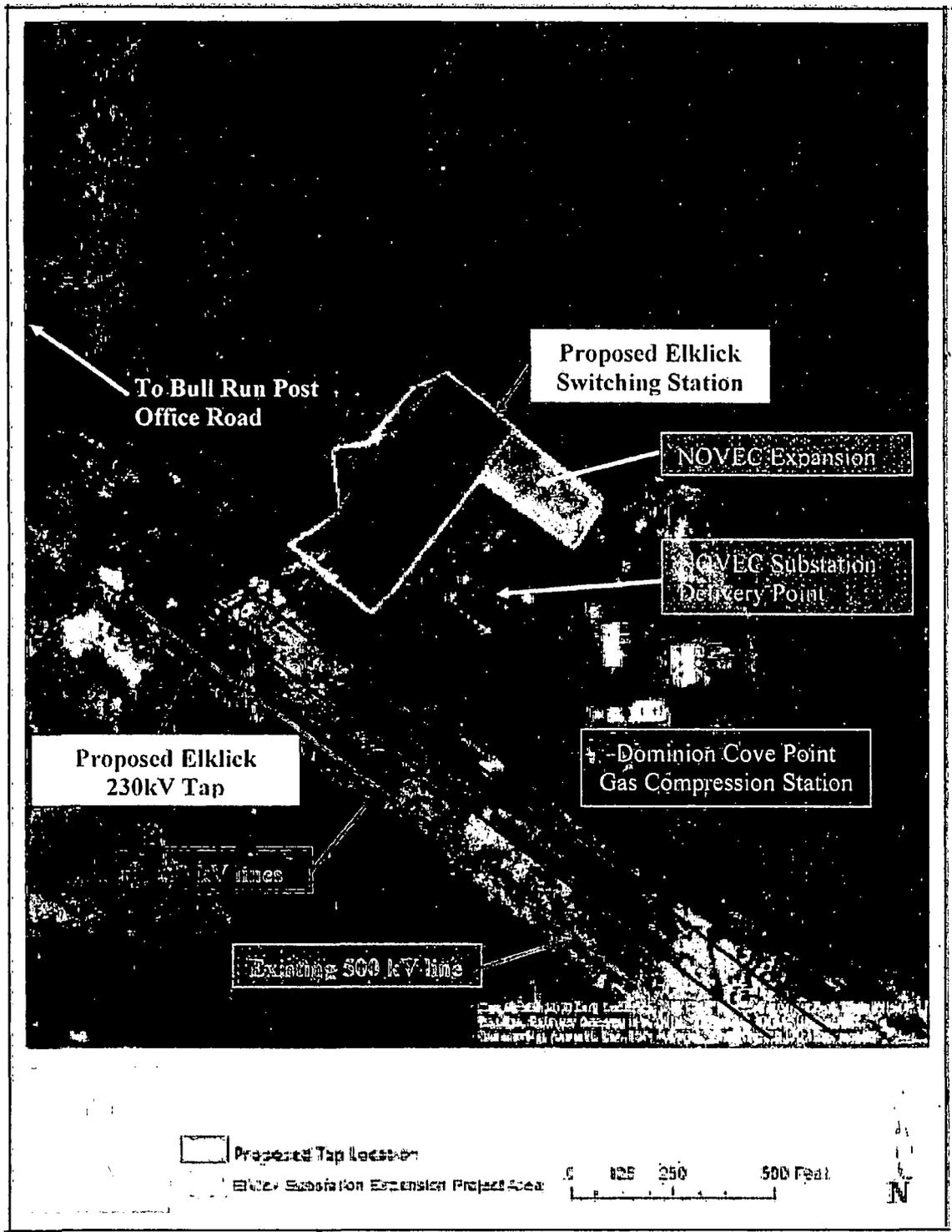
Dominion Virginia Power – Proposed Elklick Switching Station

160550102



Dominion Virginia Power – Proposed Elklick Switching Station

160550102



160550102

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
Mailing Address: P.O. Box 26666
Richmond, VA 23261
dom.com



Attachment III.B.2

Dominion

May 9, 2016

RE: Project Announcement: Electric Transmission Rebuild Project and Ellick Switching Station

Dear Neighbor,

As you know, Dominion Virginia Power (Dominion) has an existing electric transmission corridor that runs near your property. Also near your property is NOVEC's existing Pleasant Valley Substation which is fed from that corridor by a short electric transmission line. NOVEC is expanding its substation due to an increase in energy demand and has resulted in Dominion needing to rebuild the transmission line and associated facilities feeding that station.

As such, Dominion has begun the planning and permitting process to address this request. Please refer to the attached project fact sheet for more information about the proposed project.

Although the project site is directly surrounded by either Fairfax County Park Authority property or utility-owned property, we wanted to provide surrounding neighborhoods, most of which are about a half mile from the existing substation/project location, with this information prior to filing an application before the Virginia State Corporation Commission (SCC) for approval.

As a property owner and a contact for your community, please pass along this information to others. If you would like us to meet with your community to discuss this project, please respond via the contact information below.

For project updates, please visit our website, www.dom.com, keyword: *Ellick*. You may also contact us by sending an email to powerline@dom.com or calling 1-888-291-0190, Monday – Friday, 7:00 a.m. to 5:00 p.m.

Sincerely,

A handwritten signature in black ink, appearing to read 'Greg Mathe', written over a horizontal line.

Greg Mathe
Manager, Electric Transmission Communications

Enclosure

Elklick Double Circuit 230kV Tap Line Project

Fairfax County

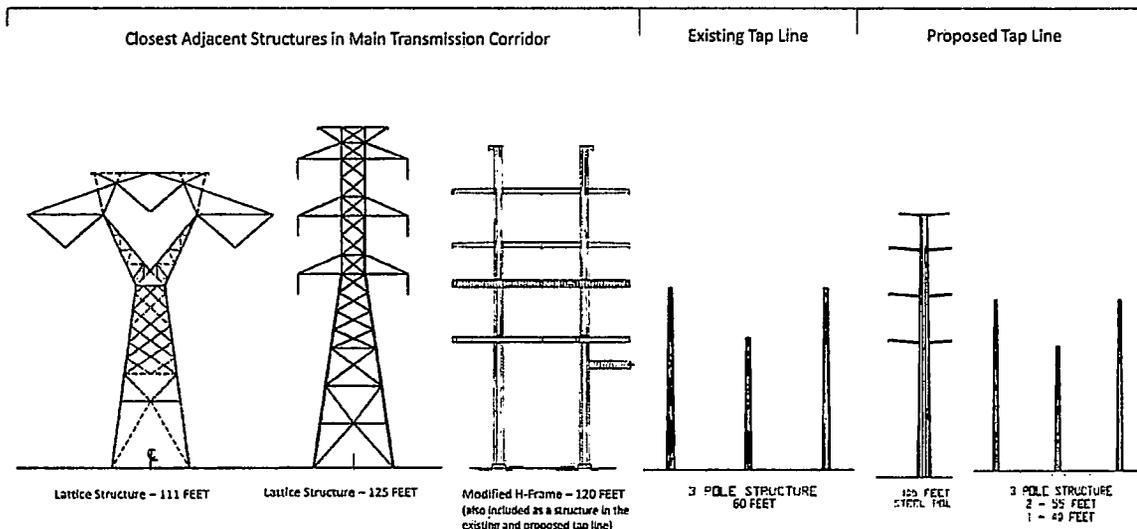
Project Overview:

NOVEC's Pleasant Valley Substation in Fairfax County is currently fed from one of Dominion Virginia Power's (Dominion) 230 kilovolt (kV) transmission lines between its Loudoun and Bull Run Substations via a single circuit tap line. This short, NOVEC-owned tap line (less than a tenth of a mile) includes two structures and stems from a transmission corridor that contains an existing 500kV line, two existing 230kV lines and an existing 115kV line. NOVEC is expanding its substation due to an increase in demand and has asked for an increase in transmission capacity delivered by Dominion.

Project Scope:

NOVEC's request coupled with the anticipated increase in energy demand requires Dominion to build a new Switching Station, which will be named Elklick, and rebuild the feed as a Dominion-owned double circuit 230kV tap line. The existing 230kV tap line will be dismantled. The project includes removing one of the single circuit structures and building four new structures (one of the existing tap line structures will continue to be used). The associated switching station will be built adjacent to NOVEC's expanded substation to add operation protection and flexibility. None of the proposed structures will be taller than the other existing structures within the main transmission right of way corridor.

	Existing	Proposed
Number of Structures	2	5
Structure Heights	Between 60' & 120'	Between 40' & 105' (with the existing 120' structure remaining)
Structure Design	Modified H-Frame, 3-pole structure	Modified H-Frame, Double circuit monopole, and 3 3-single pole structures
Right of Way Width	Varies	Varies

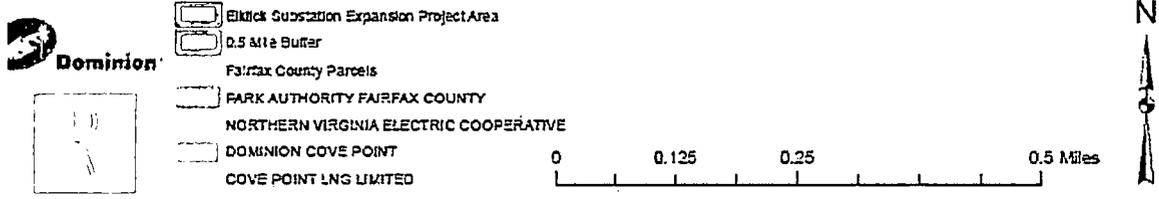


*Proposed structures and heights are conceptual and subject to change. Rendering is for illustrative purposes only and not drawn to scale.

Schedule:

Submit Virginia State Corporation Commission Application:	Q2 2016
Anticipated Construction Start:	Q1 2017 (pending necessary approvals)
Anticipated Project Completion:	End of 2017

Ellick Double Circuit 230kV Tap Line Project



III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

- C. Detail the nature, location, and ownership of all buildings which would have to be demolished or relocated if the project is built as proposed.**

Response: No residences encroach on the Elclick Station parcel or 230 kV Tap Lines right-of-way.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

D. What existing physical facilities will the line parallel, if any, such as existing transmission lines, railroad tracks, highways, pipelines, etc.? Describe the current use and physical appearance and characteristics of the existing right-of-way that would be paralleled. How long has the right-of-way been in use?

Response: The 230 kV Tap Lines will be routed from the Company's Line #295 and into Elklick Station, which will be sited on land subject to an easement obtained from NOVEC. From Line #295, the 230 kV Tap Lines will run for approximately 170 feet within existing Company right-of-way. The 230 kV Tap Lines will run for approximately 500 feet to Elklick Station on new right-of-way of variable width. The Company will obtain easements for this new right-of-way from the underlying property owners, the Fairfax County Park Authority, NOVEC's customer, and NOVEC.

The transmission line corridor tapped for the Project has been owned by the Company since the mid-1960s.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

E. Has the Company investigated land use plans in the areas of the proposed route? How would the building of the proposed line effect future land use of the areas affected?

1. Has the Company determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by Virginia Code Section 3.2-205 B?

2. If so, and if any portion of the proposed facilities will be located on any such important farmland, please:

a. Include maps and other evidence showing the nature and extent of the impact on such farmlands.

b. Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable.

c. Describe the applicant's proposals to minimize the impact of the facilities on the affected farmland.

Response: The Fairfax County Comprehensive Plan 2013 Edition, with Amendment through November 17, 2015, was reviewed to evaluate the potential effect the Project could have on future development. This Project lies in "Bull Run" portion of Comprehensive Plan "Area III." The plan states that areas BR2, BR5, and BR6 within the Bull Run area will provide substations to maintain reliable electric service in the area. The Project is in BR5, "Stone Bridge Community Planning Sector," and is directly adjacent to and supports an existing NOVEC substation DP and is therefore consistent with the Comprehensive Plan. The Comprehensive Plan goes on to say that two substations for NOVEC should be provided in area BR5. No special exception is required for this Project as documented in a letter from Fairfax County. See Attachment III.E.1. The Project is compatible with uses in the neighborhood and adjacent parcels. The Elklick Station would be located immediately adjacent to the existing NOVEC Pleasant Valley DP and just west of the existing DCP Compressor Station. Existing transmission lines run east-west through Fairfax County just to the south of the switching station site. Surrounding the proposed site is land owned by Fairfax County Park Authority.

1. Yes. Fairfax County has not designated any such "important farmland," but does state that this BR5 district shall be Low Density Residential

Area use. By its location adjacent to existing transmission lines, this Project will not interfere with Fairfax County's Comprehensive Plan.

2. Not applicable.

160550102



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

Via U.S. Mail & E-mail: sadams@mcguirewoods.com

November 10, 2015

Mr. Scott Adams
McGuire Woods LLP
1750 Tysons Boulevard
Suite 1800
Tysons Corner, VA 22102-4215

Re: Dominion Cove Point – Pleasant Valley Compressor Station
6002 Pleasant Valley Road
6309 Bull Run Post Office Road
Tax Map Ref: 52-2 ((1)) 9, 10, 11E
Zoning District: RC, WS

Dear Mr. Adams:

This letter is in response to your letter dated July 24, 2015, requesting a determination as to whether improvements proposed by Dominion Cove Point LNG, LP (DCP) to the Pleasant Valley Compressor Station, to include those necessary changes to an adjacent electrical substation owned and operated by the Northern Virginia Electric Cooperative (NOVEC), are exempt from Fairfax County's Special Exception, Public Facility (2232) Review, site plan and building permit requirements. In addition, a similar request was made by Mr. Ignacio Licht, Project Manager, Dewberry Consultants, LLC, via a letter dated March 19, 2015, which has been attached for reference. This determination is the result of an ongoing discussion between you, County staff, Mr. Licht, and other representatives of DCP and NOVEC over the past several months, including our meeting concerning this proposal, which was held on June 26, 2015.

The subject property consists of four parcels zoned to the Residential Conservation (RC) District and is also located within the Water Supply (WS) Overlay District. Three of the four parcels, Tax Map Ref: 52-2 ((1)) 9, 10 and 11D are owned by DCP, which owns and operates a gas compressor station known as the Pleasant Valley Compressor Station on the larger parcel 11D. This facility also includes the existing Measurement & Regulation station on the two smaller parcels, Lots 9 & 10. In addition to those parcels owned by DCP, the subject property also includes Tax Map Ref. 52-2 ((1)) 11E, which is owned by NOVEC and developed with an existing electrical substation, a portion of which is subject to Special Exception Application #SE 2004-SU-039, which was approved by the Fairfax County Board of Supervisors on March 21, 2005. While the existing electrical substation provides electrical power to operate DCP's

Department of Planning and Zoning
Zoning Administration Division
Ordinance Administration Branch
12055 Government Center Parkway, Suite 807
Fairfax, Virginia 22035-5505
Phone 703-324-1314 FAX 703-803-6372
www.fairfaxcounty.gov/dpz/

Excellence * Innovation * Stewardship
Integrity * Teamwork * Public Service

160550102

Mr. Scott Adams
November 10, 2015
Page 2

adjacent facility, it also provides power to private consumers. It is that electric power generated on site that is unrelated to DCP's adjacent facility that necessitated the special exception approval granted by the Board in March 2005 for a 15,600 square foot area of parcel 11E.

As presented to staff by Mr. Licht, it is the intent of DCP to expand the existing Pleasant Valley Compressor Station, including the Measurement & Regulation Station, by adding additional compressors, pipelines, and other appurtenances that will improve the transmission of natural gas in the region. The existing facility and the additional compressors and transmission facilities are governed by and exclusively regulated by the Federal Energy Regulatory Commission (FERC) and the United States Department of Transportation, given that such are used to transport and sell natural gas in interstate commerce. Concerning the adjacent electrical substation owned and operated by NOVEC, additional electrical power will be needed in order to provide adequate power to those improvements being made by DCP at the Pleasant Valley Compressor Station. As such, two new transformers are being proposed, as well as additional breakers and meters. Furthermore, adjacent to the NOVEC substation is a 230 kV electric transmission line owned and operated by Dominion Virginia Power (DVP). To further facilitate DCP's proposal, a new switching station is also being proposed, as it is necessitated in order to meet reliability requirements set forth by the North American Electrical Reliability Corporation (NERC) given the increase in electrical power that will be generated at the expanded NOVEC electrical substation. The new switching station will be owned and operated by Dominion Virginia Power. Regarding the improvements to the NOVEC and DVP facilities, these particular improvements are not specifically governed by FERC and are deemed to be "nonjurisdictional" for purposes of Federal regulation. However, these improvements are required as a result of the FERC regulated expansion of the Pleasant Valley Compressor Station and, it is further noted, the improvements proposed to the existing NOVEC and DVP facilities are *solely necessitated for and will be exclusively used for that purpose.*

FERC's approval and regulation of an interstate natural gas project, such as the proposed expansion of the Pleasant Valley Compressor Station, does have the effect of preempting all local ordinances affecting the regulation of natural gas and the facilities used in its transport. Therefore, it is my determination that the proposed improvements to the compressor station are exempt from Fairfax County's Special Exception, Public Facility (2232) Review, site plan and building permit requirements. Concerning the improvements to the NOVEC and DVP facilities, given that these improvements are indispensable to the expanded operation of the compressor station, that such are solely necessitated by the expansion of the compressor station, and will be exclusively used for DCP, it is my determination that these improvements are also exempt from the County's Special Exception, Public Facility (2232) Review, site plan and building permit requirements.

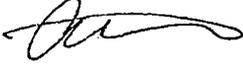
This determination is based upon the facts presented in Mr. Licht's March 19th letter, during our June 26th meeting, your July 24th letter, and our ongoing conversations over the past several months regarding this matter. If the facts as presented change, then this determination may be subject to modification.

160550102

Mr. Scott Adams
November 10, 2015
Page 3

I trust that this letter satisfactorily responds to your request. Should you have any additional questions, please feel free to contact me at 703-324-1314.

Sincerely,



Andrew B. Hushour
Deputy Zoning Administrator

ABH/

Cc: Michael R. Frey, Supervisor, Sully District
Leslie B. Johnson, Zoning Administrator
Diane E. Johnson-Quinn, Deputy Zoning Administrator, for Zoning Permit Review
Branch

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

F. Identify the following that lie within or adjacent to the proposed right-of-way:

1. Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;
2. Any historic landmark, site, building, structure, district or object included in the Virginia Landmarks Register maintained by the Virginia Board of Historic Resources;
3. Any historic district designated by the governing body of any city or county;
4. Any state archaeological site or zone designated by the Director of the Virginia Department of Historic Resources, or his predecessor, and any site designated by a local archaeological commission, or similar body;
5. Any underwater historic property designated by the Virginia Department of Historic Resources, or predecessor agency or board;
6. Any National Natural Landmark designated by the U.S. Secretary of the Interior;
7. Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation;
8. Any area accepted by the Director of the Virginia Department of Conservation and Recreation for the Virginia Natural Area Preserves System;
9. Any conservation easement qualifying under Sections 10.1-1009 to -1016 of the Code of Virginia, or prior provision of law;
10. Any state scenic river; and
11. Any federal state, or local park, forest, game or wildlife preserve, recreational area, or similar facility; Features, sites, and the like listed in 1 through 10 above need not be identified again.

Response:

1. D+A conducted a Pre-Application Analysis of cultural resources for the Elklick Station Expansion Project in Fairfax County, Virginia. The Analysis was performed for Dominion Virginia Power in support of a State Corporation Commission Application. The Analysis was completed in accordance with VDHR guidance titled "Guidelines for assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia" (January 2008).

A review of the VDHR Virginia Cultural Resources Information System ("VCRIS") revealed a total of 13 previously-recorded architectural resources within 1.5 miles of the Project. Of these, there are no previously-recorded NHL's located within 1.5 miles of the Project; there is one property, the Manassas National Battlefield Park, listed in the NRHP within 1.0 mile of the Project; there are two battlefields, the First and Second Manassas, located within 1.0 mile of the Project; and there are no additional properties determined eligible for the NRHP within 0.5 mile of the Project. One battlefield extends directly within or just adjacent to the Project area, although local property records and visual inspection revealed no other architectural resources directly within the Project area. VCRIS also revealed that there are 25 previously-recorded archeological sites within 1.0 mile of the Project area; however, none are located directly within the Project area.

Field inspection and assessment and analysis found that the project will not be visible from locations throughout the three NRHP-listed or eligible historic properties, and therefore there will be minimal to no impact on historic property as a result of the project.

2. See subpart (1).
3. None
4. None.
5. None.
6. None.
7. None.
8. None.
9. None.

160550102

10. None.

11. None.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

- G. List any airports where the proposed route would place a structure or conductor within the glide path of the airport. Advise of contacts and results of contacts made with appropriate officials regarding the effect on the airport's operations.**

Response: No structures or conductors will be within the glide path of any airport.

A letter from the Virginia Department of Aviation is shown in Attachment 2.N.1 to the DEQ Supplement.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

- H. Advise of any scenic byways that are in close proximity to or will be crossed by the proposed transmission line and describe what steps will be taken to mitigate any visual impacts on such byways. Describe typical mitigation techniques for other highway's crossings.**

Response: No scenic byways are crossed by the Project.

IV. HEALTH ASPECTS OF EMF

- A. State the calculated maximum electric and magnetic field (EMF) levels that are expected to occur at the edge of the right-of-way. If the new transmission line is to be constructed on an existing electric transmission line right-of-way, provide the present EMF levels as well as the maximum levels calculated at the edge of right-of-way after the new line is operational.**

Response: Public exposure to magnetic fields is best estimated by field levels from power lines calculated at annual average loading. For any day of the year, the EMF levels associated with average conditions provide the best estimate of potential exposure. Maximum (peak) values are less relevant as they may occur for only a few minutes or hours each year.

This section describes the levels of EMF associated with the proposed 230 kV transmission lines. EMF levels are provided for the future (2018) annual average and maximum (peak) loading conditions.

Project – Projected average loading in 2018

EMF levels were calculated for the Project at the *projected average* load condition (399 amps for Line #295 and 605 amps for Line #2173) and at an operating voltage of 241.5 kV when supported on the Project structures – see Attachments II.A.3.b and c.

These field levels were calculated where the conductors are closest to the ground and the conductors are at a projected average load operating temperature and at a clearance to ground of 25.88 feet for Line #295 and 25.36 feet for Line #2173.

EMF levels at the edge of the rights-of-way for the Project at projected average loading:

<u>Western Edge</u>		<u>Eastern Edge</u>	
<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)	<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)
1.173	37.694	1.366	24.834

Project – Projected Peak loading in 2018

EMF levels were calculated for the Project at the *projected peak* load condition (570 amps for Line #295 and 864 amps for Line #2173) and at an

operating voltage of 241.5 kV when supported on the Project structures. See Attachments II.A.3.b and c.

These field levels were calculated where the conductors are closest to the ground and the conductors are at a projected peak load operating temperature and at a clearance to ground of 25.81 feet for Line #295 and 25.15 feet for Line #2173.

EMF levels at the edge of the rights-of-way for the Project at projected peak loading:

<u>Western Edge</u>		<u>Eastern Edge</u>	
<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)	<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)
1.148	52.940	1.339	34.609

IV. HEALTH ASPECTS OF EMF

- B. If Company is of the opinion that no significant health effects will result from the construction and operation of the line, describe in detail the reasons for that opinion and provide references or citations to supporting documentation.**

Response: The foundation of the Company's opinion is the conclusions of expert panels formed by national and international scientific agencies; each of these panels has evaluated the scientific research related to health and power-frequency EMF and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Major reviews on this topic, in order of their most recent publication, include those published by the European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN),⁵ the International Commission on Non-Ionizing Radiation Protection (ICNIRP), the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), the World Health Organization (WHO), and the International Committee on Electromagnetic Safety (ICES) (EFHRAN, 2010; ICNIRP, 2003, 2010; SCENIHR 2007, 2009; WHO, 2007; ICES, 2002).

Research on this topic varies widely in its approach. Some studies evaluate the effects of high EMF exposures not typically found in people's day-to-day lives, while others evaluate the effects of common EMF exposures. The studies evaluate long-term effects (*e.g.*, cancer, neurodegenerative diseases, and reproductive effects) and short-term biological responses. This research includes hundreds of epidemiology studies of people in their natural environment and laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures are used by the expert panels to identify, review and summarize this large and diverse research area.

The general scientific consensus of the health agencies reviewing this research is that at levels associated with the operation of the proposed transmission line, or other common sources of EMF in the environment, the research does not support the conclusion that EMF causes any long-term, adverse health effects.

Thus, based on the conclusions of scientific reviews and the levels of EMF associated with the Project, the Company has determined that no adverse health effects will result from the operation of the proposed transmission lines.

⁵ EFHRAN is funded by the European Commission's Executive Agency for Health and Consumers.

IV. HEALTH ASPECTS OF EMF

- C. Describe any research studies the Company is aware of that meet the following criteria:
1. **Became available for consideration since the completion of the Virginia Department of Health's most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;**
 2. **Include findings regarding EMF that have not previously been reported and/or provide substantial additional insight into previous findings; and**
 3. **Have been subjected to peer review.**

Response: The Virginia Department of Health's most recent review of studies on EMF was completed in 2000; many peer-reviewed research studies have become available since that time and were reviewed by the scientific organizations discussed above. The WHO recently conducted one of the most comprehensive and detailed reviews, which summarized peer-reviewed research published through early 2006 (WHO, 2007).

Research published in the peer-reviewed literature subsequent to the WHO report has been reviewed by several scientific organizations, all of which support the conclusions of the WHO (2007) report, including:

- The Health Council of the Netherlands (HCN) reviewed new research in 2007.
- SCENIHR, a committee of the European Commission, published their most recent assessment in 2009.
- The Swedish Radiation Protection Authority (SSI) updates their review annually; their most recent review evaluated research through 2007 (SSI, 2008).
- EFHRAN published the most recent review in February 2010.

These reviews can be consulted for commentary on recent studies. In addition, other recent peer-reviewed studies (*e.g.*, Chung *et al.*, 2010; Coble *et al.*, 2009; Kheifets *et al.*, 2010a, 2010b; Kroll *et al.*, 2010; McNamee *et al.*, 2010) provide evidence that clarifies previous findings.

- Chung *et al.* (2010) found no difference in lymphoma rates between cancer-prone mice exposed long-term to strong magnetic fields and an unexposed control group. Mice were exposed 21 hours per day for 40 weeks to magnetic fields up to 5,000 mG, which is hundreds to thousands of times greater than routine residential exposures. This study

is consistent with previous *in vivo* studies that found no evidence that magnetic fields promote the development of lymphoma or leukemia in laboratory animals.

- Coble *et al.* (2009) conducted a case-control study in the United States of brain tumors (gliomas and meningiomas) in U.S. workers. This study was advanced because several different measures were used to assess individual exposure, and exposure duration was incorporated into lifetime magnetic-field exposure. No association was reported between any of the exposure metrics and brain tumors. This study's strengths are its large size and advanced exposure assessment.
- Kheifets *et al.* (2010a) conducted a pooled analysis of epidemiologic studies of childhood brain tumors and magnetic fields to explore the association in the larger pooled population. Ten case-control studies of childhood brain tumors were identified that met the inclusion criteria. No statistically significant associations with brain tumors were found in any of the three exposure levels, compared to average exposure less than 1 mG. A sub-group of five studies with information on calculated or measured magnetic fields greater than 3-4 mG reported a combined odds ratio that was elevated but not statistically significant.
- Kheifets *et al.* (2010b) pooled data from studies of childhood leukemia and magnetic fields to update the previous meta-analyses on this topic published in 2000. The authors identified seven subsequent case-control studies of childhood leukemia that included measured or calculated magnetic field levels. Results showed an overall weak association with leukemia for the highest estimated long-term average exposure level (4 mG or higher) that was slightly elevated, but could not be distinguished from chance. This study confirms a positive association between average magnetic field levels greater than 3 mG and childhood leukemia, but the association could not be distinguished from chance due to small numbers.
- Kroll *et al.* (2010) re-evaluated a previous study in the United Kingdom that had reported childhood leukemia was associated with distance of a child's home at birth from a power line (Draper *et al.*, 2005). Distance is considered a poor estimate of magnetic field exposure; therefore, Kroll *et al.* repeated the study using calculated magnetic field levels from nearby power lines. The results showed a weak, non-significant association between leukemia and the calculated magnetic fields from high-voltage power lines. As a result of small numbers and incomplete information, no strong conclusions can be drawn from this study.
- Recent research by McNamee *et al.* (2010a) examined how acute exposure of human subjects to 60-Hz magnetic fields affected human heart rate, heart rate variability and skin blood perfusion; no effects of

exposure to an 18,000 mG magnetic field on these measures were reported. A similar study by these investigators also reported no effects of these parameters at a lower magnetic field intensity of 2,000 mG (McNamee *et al.*, 2010b).

References

Chung M-K, Yu W-J, Kim Y-B, Myung S-H. Lack of a co-promotion effect of 60 Hz circularly polarized magnetic fields on spontaneous development of lymphoma in AKR mice. *Bioelectromagnetics* 31:130-139, 2010.

Coble JB, Dosemeci M, Stewart PA, Blair A, Bowman J, Fine HA, Shapiro WR, Selker RG, Loeffler JS, Black PM, Linet MS, Inskip PD. Occupational exposure to magnetic fields and the risk of brain tumors. *Neuro Oncol*, 2009. Epub in advance of publication DOI:10.1215/15228517-2009-002

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields. Executive Agency for Health and Consumers, February 2010.

efhran.polimi.it/dissemination.html

International Commission on Non-Ionizing Radiation Protection (ICNIRP). Exposure to Static and Low Frequency Electromagnetic Fields, Biological Effects and Health Consequences (0-100 kHz) – Review of the Scientific Evidence on Dosimetry, Biological Effects, Epidemiological Observations, and Health Consequences Concerning Exposure to Static and Low Frequency Electromagnetic Fields (0-100 kHz). Matthes R, McKinlay AF, Bernhardt JH, Vecchia P, Beyret B (eds.). International Commission on Non-Ionizing Radiation Protection, 2003.

www.icnirp.net/documents/RFReview.pdf

Kheifets L, Ahlbom A, Crespi CM, Feychting M, Johanson C, Monroe J, Murphy MFG, Oksuzyan S, Preston-Martin S, Roman E, Saito T, Savitz D, Schuz J, Simpson J, Swanson J, Tynes T, Verkasalo P, Mezei G. A pooled analysis of extremely low-frequency magnetic fields and childhood brain tumors. *American Journal of Epidemiology* 172:752-761, 2010a.

Kheifets L, Ahlbom A, Crespi CM, Draper G, Hagihara J, Lowenthal RM, Mezei G, Oksuzyan S, Schuz J, Swanson J, Titarelli A, Vinceti M, Wunsch Filho V. Pooled analysis of recent studies on magnetic fields and childhood leukemia. *Br J Cancer* 103:1128-1135, 2010b.

Kroll ME, Swanson J, Vincent TJ, Draper GJ. Childhood cancer and magnetic fields from high-voltage power lines in England and Wales: a case-control study. *Br J Cancer* 103:1122-1127, 2010.

McNamee DA, Corbacio M, Weller JK, Brown S, Prato FS, Thomas AW, Legros AG. The cardiovascular response to an acute 1800- μ T, 60-Hz magnetic field exposure in humans. *Int Arch Occup Environ Health* 83:441-454, 2010a.

McNamee DA, Corbacio M, Weller JK, Brown S, Stodilka RZ, Prato FS, Bureau Y, Thomas AW, Legros AG. The response of the human circulatory system to an acute 200- μ T, 60-Hz magnetic field exposure. *Int Arch Occup Environ Health*. DOI 10.1007/s00420-010-0543-1. 4 May 2010b.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Possible Effects of Electromagnetic Fields (EMF) on Human Health. European Commission. Directorate C – Public Health and Risk Assessment, 2007.

ec.europa.eu/health/ph_risk/committees/04_scenihhr/docs/scenihhr_o_007.pdf

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) for the Directorate-General for Health & Consumers of the European Commission. Health Effects of Exposure to EMF. January 2009.

ec.europa.eu/health/archive/ph_risk/committees/04_scenihhr/docs/scenihhr_o_022.pdf

Swedish Radiation Protection Authority (SSI). Fifth annual report from SSI's Independent Expert Group on Electromagnetic Fields, 2007: Recent Research on EMF and Health Risks. SSI Rapport 2008:12.

www.who.int/peh-emf/publications/reports/SWEDENssi_rapp_2007.pdf

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. WHO, Geneva, Switzerland, ISBN 978-92-4-157238-5, 2007.

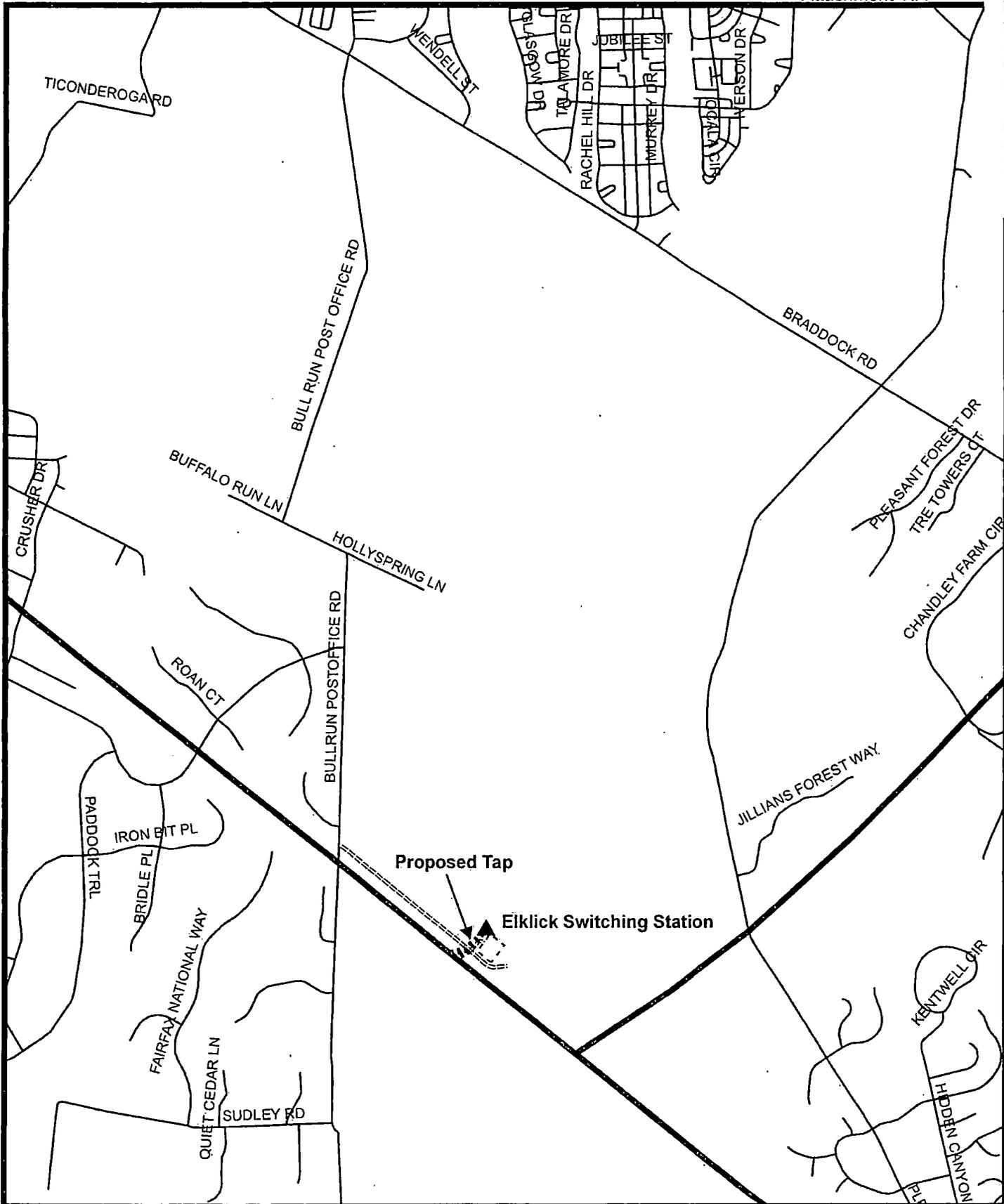
www.who.int/peh-emf/publications/elf_ehc/en/index.html

V. NOTICE

- A. **Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project.**

Response: A map showing the location to be used for the Project is provided as Attachment V.A. A written description of the Project location is as follows:

The Project is located northwest of Sudley Springs in Fairfax County, Virginia, approximately 2.4 miles south of the intersection of Braddock Road and Bull Run Post Office Road. Two new 230 kV tap lines of approximately 670 feet will be constructed between existing Line #295 and the proposed Ellick Station.



- ▲ Elklick Switching Station
- Proposed Tapline
- Existing TransLines
- Access Road
- NOVEC_DP
- Streets

0 600 1,200 2,400 Feet

A scale bar showing increments of 600 feet up to 2,400 feet. To the right of the scale bar is a north arrow with 'N' at the top, 'S' at the bottom, 'E' on the right, and 'W' on the left.

Attachment V.A.
 Double Circuit 230 kV Line
 #295 to Elklick Station Tap Line

V. NOTICE

B. List Company offices at which members of the public may inspect the application.

Response: The application is available at the following locations:

Dominion Virginia Power
OJRP 12th Floor
701 E. Cary Street
Richmond, Virginia 23219
Attn: Stefan R. Brooks

Fairfax County Government Center
Attention: Edward L. Long, Jr., County Executive
12000 Government Center Pkwy.
Fairfax, Virginia 22035

V. NOTICE

- C. List all federal, state, and local agencies and/or officials who may reasonably be expected to have an interest in the proposed construction and to whom the Company has furnished or will furnish a copy of the application.

Response: Ms. Bettina Sullivan, Manager (2 electronic copies)
(Via Ms. Valerie Fulcher, Executive Secretary Senior)
Office of Environmental Impact Review
Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

Ms. Ellie Irons, Director
Office of Environmental Impact Review
Virginia Department of Environmental Quality
629 E. Main Street, 6th Floor
Richmond, Virginia 23219

Mr. Dave Davis
Director, Office of Wetlands & Stream Quality
Department of Environmental Quality
629 E. Main Street, 6th Floor
Richmond, Virginia 23219

Ms. Michelle Henicheck, PWS (Email Only)
Senior Wetland Ecologist
Virginia Department of Environmental Quality
P.O. Box 1105
Richmond, Virginia 23218

Mr. Thomas Faha
Department of Environmental Quality, Northern Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

Ms. Robbie Rhur (1 electronic copy)
Department of Conservation and Recreation
600 E. Main Street, 17th floor
Richmond, Virginia 23219

Ms. Rene Hypes
Environmental Review Coordinator
Department of Conservation and Recreation/Natural Heritage Program
600 E. Main Street, 24th Floor
Richmond, Virginia 23219

Mr. James R. Cromwell
District Environmental Programs Manager
Virginia Department of Transportation
1221 East Broad Street
Richmond, Virginia 23219

Ms. Helen Cuervo, P.E.
District Engineer
Northern Virginia District
4975 Alliance Drive
Fairfax, Virginia 22030

Mr. John Muse, District Environmental Manager
Northern Virginia District
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, Virginia 22030

Mr. Steve Shannon, ADA for Maintenance (Loudoun)
Virginia Department of Transportation
4975 Alliance Drive
Fairfax, Virginia 22030

Ms. Julie Langan, Director & State Historic Preservation Officer
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Mr. Roger Kirchen
Director, Division of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Mr. Tony Watkinson
Chief of Habitat Management
Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News, Virginia 23607

Ms. Cindy Shultz, Supervisor
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

Ms. Martha Little
Director of Stewardship
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, Virginia 23219

Mr. Ron Stouffer
U.S. Army Corps of Engineers
Northern Virginia Field Office
18139 Triangle Shopping Plaza, Suite 213
Dumfries, Virginia 22026

Mr. Keith Tignor
Endangered Species Coordinator
Virginia Department of Agriculture and Consumer Services
102 Governor Street
Richmond, Virginia 23219

Mr. John T. Hart
Virginia Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250

Mr. Terry Page, Manager
Washington Airports District Office
Cargo Building, FAA Washington ADO
23723 Air Freight Lane
Dulles, Virginia 20166

Ms. Amy Ewing
Environmental Services Biologist
Virginia Department of Game & Inland Fisheries
4010 West Broad Street
Richmond, Virginia 23230

Mr. Conrad Spangler, III, Director (1 electronic copy)
Virginia Department of Mines, Minerals, and Energy
Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219

Mr. Dan Iglhaut
Land Manager
Northern Virginia Regional Park Authority
5400 Ox Road
Fairfax Station, Virginia 22039

Fairfax County Government Center
Attention: Edward L. Long, Jr., County Executive
1200 Government Center Pkwy.
Fairfax, Virginia 22035

Fairfax County Government Center
Ms. Kathy L. Smith, Board of Supervisors
1200 Government Center Pkwy.
Fairfax, Virginia 22035