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170118

January 12, 2017

**BY HAND DELIVERY**

Mr. Joel H. Peck, Clerk  
c/o Document Control Center  
State Corporation Commission  
1300 East Main Street  
Tyler Building – First Floor  
Richmond, Virginia 23219

*Application of Virginia Electric and Power Company  
For approval and certification of electric facilities: Idylwood Substation Rebuild  
and Rearrangement of 230 kV Transmission Lines #202, #207, #251, #266, #2035, and #2097  
Case No. PUR-2017-00002*

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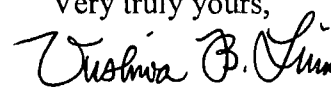
Dear Mr. Peck:

Please find enclosed for filing in the above-captioned proceeding an unbound original and fifteen (15) copies of the application for approval of electric facilities on behalf of Virginia Electric and Power Company (the "Company"). This filing contains the Application, Appendix, DEQ Supplement, and Direct Testimony.

As indicated in Section II.A.9.b of the Appendix contained in the enclosed filing, three (3) copies of a map showing the proposed rebuild project described in the application were hand delivered to the Commission's Division of Public Utility Regulation today. The Company also delivered to the Division of Public Utility Regulation today a CD-ROM containing the digital geographic information system (GIS) map required by § 56-46.1 of the Code of Virginia, which is Attachment II.A.2 to the Appendix contained in the enclosed filing.

Finally, as indicated in the Application, based on a request from Fairfax County officials, the Company is requesting that the Commission schedule a local public hearing in Fairfax County to receive comments from the public pertaining to this Application. The Company is available to assist the Commission and Staff of the Commission to coordinate scheduling a local public hearing.

Please do not hesitate to call if you have any questions in regard to the enclosed.

Very truly yours,  
  
Vishwa B. Link

Enclosures

Mr. Joel H. Peck, Clerk  
January 12, 2017  
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cc: William H. Chambliss, Esq.  
Lisa S. Booth, Esq.  
All federal, state and local agencies and officials listed in Sections V.B and V.C. of the  
Appendix

170110178



**Dominion<sup>®</sup>**

Application, Appendix,  
DEQ Supplement, and  
Direct Testimony of  
Virginia Electric and  
Power Company

Before the State Corporation  
Commission of Virginia

Idylwood Substation Rebuild  
and Rearrangement of  
230 kV Transmission Lines  
#202, #207, #251, #266,  
#2035, and #2097

Application No. 281

Case No. PUR-2017-00002

Filed: January 12, 2017

170110175 Application

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

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

**Idylwood Substation Rebuild and Rearrangement of 230 kV  
Transmission Lines #202, #207, #251, #266, #2035, and #2097**

**Application No. 281**

**Case No. PUR-2017-00002**

**Filed: January 12, 2017**

170119178

COMMONWEALTH OF VIRGINIA  
BEFORE THE  
STATE CORPORATION COMMISSION

Application of )  
 )  
Virginia Electric and Power Company ) Case No. PUR-2017-00002  
 )  
For approval and certification of electric )  
transmission facilities under Va. Code )  
§ 56-46.1 and the Utility Facilities Act, )  
Va. Code § 56-265.1 *et seq.* )

**APPLICATION OF VIRGINIA ELECTRIC AND POWER COMPANY  
FOR APPROVAL AND CERTIFICATION OF ELECTRIC FACILITIES  
FOR IDYLWOOD SUBSTATION REBUILD AND REARRANGEMENT OF 230 KV  
TRANSMISSION LINES #202, #207, #251, #266, #2035, AND #2097**

Virginia Electric and Power Company (“Dominion Virginia Power” or the  
“Company”) respectfully shows as follows:

1. Dominion Virginia Power is a public service corporation organized under the laws of the Commonwealth of Virginia furnishing electric service to the public within its Virginia service territory. The Company also furnishes electric service to the public in portions of North Carolina. Dominion Virginia Power’s electric system, consisting of facilities for generation, transmission and distribution of electric energy, is interconnected with the electric systems of neighboring utilities, and is a part of the interconnected network of electric systems serving the continental United States. By reason of its operation in two states and its interconnections with other utilities, the Company is engaged in interstate commerce.

2. In order to perform its legal duty to furnish adequate and reliable electric service, Dominion Virginia Power must, from time to time, replace and construct new transmission facilities in its system. The electric facilities proposed in this Application are

necessary so that Dominion Virginia Power can continue to provide reliable electric service to its customers, consistent with applicable reliability standards.

3. Specifically, in order to comply with mandatory North American Electric Reliability Corporation (“NERC”) Reliability Standards and PJM Interconnection, L.L.C. (“PJM”) reliability standards; to improve operational performance; and to maximize available land use to accommodate potential future transmission terminations and transformation at its existing Idylwood Substation located in Fairfax County, Virginia, the Company proposes to shift the existing substation footprint within Company-owned property in order to rebuild and rearrange Idylwood Substation from a straight bus arrangement to a breaker-and-a-half arrangement using Gas Insulated Substation (“GIS”) bus and breakers (collectively, the “Idylwood Substation Rebuild Project” or “Rebuild Project”).

4. The Rebuild Project is necessary to ensure that Dominion Virginia Power can continue to provide reliable electric service to its customers served by Idylwood Substation and the 230 kV network in this region, consistent with mandatory NERC Reliability Standards for transmission facilities. As a transmission owner in PJM’s planning region, the Company fully participates in PJM’s transmission planning process under PJM’s Regional Transmission Expansion Plan (“RTEP”) process and is obligated under the PJM Operating Agreement to construct, operate, and own transmission facilities as designated by PJM in its annual RTEP. In 2011, as part of PJM’s RTEP annual transmission planning process, PJM Generation Deliverability analysis identified several network violations projected to occur beginning in 2016, including a Generator Deliverability violation. An outage on Idylwood-CIA Line #2035, among other lines in the vicinity, would overload the Idylwood 230 kV bus. Idylwood Substation Rebuild Project was initially submitted to the

PJM Transmission Expansion Advisory Committee (“TEAC”) in June 2011 and contained a proposed in-service target date of May 2016. PJM subsequently accelerated the required target in-service date to 2015, and the PJM Board approved the Idylwood Substation Rebuild Project at a 2011 Board Meeting and authorized it as a PJM baseline upgrade (b1969). For temporary relief, the Company has increased the capacity of the existing 230 kV bus and replaced the tie breaker until the Idylwood Substation Rebuild Project is in service. Primarily to accommodate permitting activities, the in-service date of the Rebuild Project has been changed to spring 2020.

5. Additionally, the Company originally planned to replace existing 230 kV straight bus with a traditional (air insulated) breaker-and-a-half design. With the potential future transmission terminations and transformation needed to support the continued load growth in northern Virginia, coupled with the relocation and shifting of the substation footprint due to Fairfax County setback requirements, the Company determined that GIS equipment was the optimal alternative. With this changed scope, the Company will be able to maximize the space available within the Idylwood Substation parcel without needing to pursue an additional substation location in the vicinity of Idylwood Substation. As discussed in Section II.A.7 of the Appendix, the Company decided to use GIS after the Company’s real estate consultant performed an extensive study of property along the Braddock to Idylwood transmission corridor and the results of that study did not identify any suitable parcels for an additional substation location.

6. Assuming a Commission order approving the Rebuild Project is issued on or before June 30, 2017, the anticipated in-service date for the proposed Rebuild Project is May 31, 2020 and the estimated cost of the proposed Rebuild Project is approximately \$107.0



million. The estimated cost for station work is approximately \$100.8 million. The estimated cost for transmission line work is \$6.2 million. These cost estimates are in 2016 dollars. The necessity for the proposed Rebuild Project is described in more detail in Section I of the Appendix attached to this Application.

7. The proposed Rebuild Project will afford the best means of meeting the continuing need for reliable service while reasonably minimizing adverse impact on the scenic, environmental and historic assets of the area. The Rebuild Project is located entirely within existing Company-owned property and the right-of-way adjacent to Idylwood Substation. The Rebuild Project location and route is described in Section III of the Appendix.

8. Based on consultations with the Virginia Department of Environmental Quality (“DEQ”), the Company has developed a supplement (“DEQ Supplement”) containing information designed to facilitate review and analysis of the proposed facilities by the DEQ and other relevant agencies. The DEQ Supplement is attached to this Application.

9. Dominion Virginia Power’s experience, the advice of consultants and a review of published studies by experts in the field have disclosed no causal link to harmful health or safety effects from electric and magnetic fields generated by the Company’s existing or proposed facilities. For further discussion of this topic, see Section IV of the Appendix.

10. A list of federal, state and local agencies and officials that reasonably may be expected to have an interest in the proposed Rebuild Project, and to which a copy of the Application will be sent, is set forth in Section V of the Appendix.

11. In addition to the information provided in the Appendix and the DEQ Supplement, this Application is supported by the prepared direct testimony of Company

witnesses Mark R. Gill, Jacob G. Heisey, Wilson O. Velazquez, and Courtney R. Fisher filed with this Application.


12. Based on a request from Fairfax County officials, the Company respectfully requests that the Commission schedule a local public hearing in Fairfax County to receive comments from the public pertaining to this Application. Additionally, the Company requests an opportunity to file a subsequent written response, through rebuttal testimony or otherwise, to the comments received at any public hearing.

WHEREFORE, Dominion Virginia Power respectfully requests that the Commission:

- (a) direct that notice of this Application be given as required by § 56-46.1 of the Code of Virginia;
- (b) approve pursuant to § 56-46.1 of the Code of Virginia the proposed Rebuild Project including the rebuild and rearrangement of the 230 kV transmission facilities within and adjacent to Idylwood Substation;
- (c) grant a certificate of public convenience and necessity for the facilities under the Utility Facilities Act; and
- (d) schedule a local hearing in Fairfax County to receive comments on this Application from public witnesses, and provide the Company an opportunity to file a written response through rebuttal testimony or otherwise.

1701178

**VIRGINIA ELECTRIC AND POWER COMPANY**

By:   
Counsel for Applicant

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January 12, 2017