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March 7, 2022

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Richmond, Virginia 23219

*Application of Virginia Electric and Power Company for approval and certification of electric transmission facilities: Potomac Yards Underground and Glebe GIS Conversion*  
**Case No. PUR-2019-00040**

Dear Mr. Logan:

Please find enclosed for electronic filing in the above-captioned proceeding the *Motion of Virginia Electric and Power Company for Extension of Construction and In-service Date*.

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

Highest regards,

/s/ Vishwa B. Link

Vishwa B. Link

Enclosures

cc: Honorable Michael D. Thomas, Senior Hearing Examiner  
David J. DePippo, Esq.  
Jennifer D. Valaika, Esq.  
Nicole M. Allaband, Esq.  
Service List

COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION

APPLICATION OF )  
 )  
VIRGINIA ELECTRIC AND POWER COMPANY )  
 )  
For approval and certification of electric ) CASE NO. PUR-2019-00040  
facilities: Potomac Yards Undergrounding )  
and Glebe GIS Conversion )

**MOTION OF VIRGINIA ELECTRIC AND POWER COMPANY  
FOR EXTENSION OF CONSTRUCTION AND IN-SERVICE DATE**

Pursuant to Rule 110 of the Rules of Practice and Procedure of the Virginia State Corporation Commission (“Commission”),<sup>1</sup> 5 VAC 5-20-110, Virginia Electric and Power Company (“Dominion Energy Virginia” or the “Company”), by counsel, respectfully moves the Commission to extend to May 31, 2026, the date for placing and energizing in-service facilities included as part of the 230 kilovolt (“kV”) transmission project previously approved by the Commission in this case (“Motion”). In support of this Motion, Dominion Energy Virginia respectfully states as follows:

**BACKGROUND**

On March 7, 2019, the Company filed an application and supporting documents (“Application”) for Commission approval (i) to convert the overhead portion of 230 kV Glebe-Ox Line #248 and 230 kV Glebe-North Alexandria Line #2023 between Glebe Substation (located in Arlington, Virginia), and Potomac Yards North Terminal Station (“Potomac Yards Station”) (located in the City of Alexandria, Virginia) to underground lines and to tie the converted lines into Glebe Substation (“Potomac Yards Undergrounding”); and, (ii) to convert and rebuild the Company’s existing Glebe Substation to a gas insulated substation (“Glebe GIS

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<sup>1</sup> 5 VAC 5-20-10 *et seq.*

Conversion”) (collectively, the “Project”).<sup>2</sup> The Project was necessary to comply with the expiration of an existing special use permit issued by the City of Alexandria,<sup>3</sup> to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations. As proposed by the Company in its Application, the desired in-service date for the Project was May 2022, assuming approximately 30 months for detailed engineering, materials procurement, permitting, and construction. Subject to Commission approval and outage scheduling, the Company estimated that construction would begin on March 1, 2020, and be completed within approximately 27 months.<sup>4</sup> The Company was careful to note, however, that the schedule “estimates do not account for timing risks associated with underground construction, such as the long lead times required for material, unpredictable subterranean characteristics, unexpected permitting delays, and limited contractor resources, which could result in further delays in construction.”<sup>5</sup>

The City of Alexandria timely filed a notice of participation in the proceeding on April 24, 2019, and filed testimony on June 4, 2019. The Commission Staff (“Staff”) filed testimony on June 25, 2019, and the Company filed rebuttal testimony on July 9, 2019. Arlington County submitted written comments on July 12, 2019, and the Company filed its response on July 17, 2019. The hearing was convened, as scheduled, on July 23, 2019. The Hearing Examiner issued his report on August 13, 2019.

On September 27, 2019, the Commission issued its Final Order on the Project, which,

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<sup>2</sup> Application at 2.

<sup>3</sup> In October 2013, the City of Alexandria City Council and Planning Commission amended the SUP, requiring the Company to remove and/or relocate the Potomac Yards Station by January 1, 2021. In October 2020, the Company was granted an additional extension of the SUP to January 2026.

<sup>4</sup> Application at 3; Appendix Section I.H.

<sup>5</sup> Appendix Section I.H.

among other things, authorized the Company to construct and operate the Project, and specified the in-service date for the Project. Ordering Paragraph (6) of the Final Order provides: “The Projects approved herein must be constructed and in service by May 2022; however, the Company is granted leave to apply for an extension for good cause shown.”<sup>6</sup>

The Company reasonably believed at the time the Final Order was issued that a May 2022 in-service date would allow sufficient time to construct and energize the Project, subject to outage scheduling.<sup>7</sup>

## DISCUSSION

### **Engineering, permitting and distribution construction work completed since the Final Order**

Since receiving approval of the Project in September 2019, the Company has encountered several unexpected challenges of the kind noted in the Project Appendix that have resulted in delays to the Project schedule and increased conceptual cost estimates. Initially, as noted at the time of the filing, the Company believed that it could complete the detailed engineering, materials procurement, permitting, and construction in 30 months and subject to outage scheduling, construction would begin on March 1, 2020, and be completed within approximately 27 months. After receiving Commission approval, the Company contracted with an engineering contractor and while it initially estimated 3 months for transmission and substation engineering design, the processes required 13 months to substantially complete before construction could begin, resulting in a 10-month delay. This phase of the Project is now complete.

In addition, while the Company anticipated certain minor work to the distribution side of the Glebe Substation, in order to make the necessary room at the station to accommodate the

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<sup>6</sup> Final Order at 15.

<sup>7</sup> Appendix at Section II.A.10.

rebuild of the station, keep the distribution circuits reliably energized, and safely allow for necessary construction logistics, this work proved to be more complicated and extensive than anticipated. Further, conducting this work was delayed by the difficulty in getting distribution outages and labor shortages due to COVID-19. Importantly, this work needed to be completed before the transmission undergrounding or substation rebuild (GIS) could start. Taking twelve months following detailed engineering, this work included undergrounding certain previously overhead distribution circuits, and raising certain overhead distribution circuits to create space and accommodate security fence upgrades. To complete this work, the Company relocated existing capacitor banks, installed switches, upgraded existing manholes, and undergrounded transformer to bus connections. This work was completed in 2021.

During the distribution work discussed above, Arlington County requested that the Company provide a detour for the Four Mile Run Trail (“Trail”) because it would be affected by the work at the Glebe Substation. Since March 2021, the Company has been working diligently with Arlington County to get a Maintenance of Traffic (“MOT”) plan approved and obtain the necessary permits for the Trail detour. The Company first presented its MOT plan to Arlington County in fall 2021, but the County requested additional options for the plan. The Company presented the new MOT plan on January 27, 2022, with an expected decision in March 2022 by the County. Should the MOT plan need to be revised again based on County feedback, there could be additional delays for approval of the MOT plan, which could also delay the next phase of construction discussed below because the Trail is immediately adjacent to the station where the next phase of work is planned.

### Construction work still to be completed

As stated in the Appendix, the Company's Project schedule "estimates [did] not account for timing risks associated with underground construction, such as the long lead times required for material, unpredictable subterranean characteristics, unexpected permitting delays, and limited contractor resources, which could result in further delays in construction."<sup>8</sup> Here, challenges related to underground construction for this Project, combined with the complexities of rebuilding a substation that has a limited footprint that cannot be expanded and that must remain energized and serving load, have resulted in additional time necessary to complete construction.

There are two major activities remaining to complete construction of the Project: (1) undergrounding Lines #248 and #2023; and, (2) converting the Glebe Substation to GIS. The Company's original estimate for Project completion relied on the conceptual planning level assumption that the Company could complete the necessary drilling to underground Lines #248 and #2023 and rebuild and convert the Glebe Substation to GIS *at the same time*. The detailed engineering design process discussed above that is routinely conducted after the Commission's Final Order, however, determined that the foundation for the GIS system would be slightly larger than estimated and would occupy a portion of the area needed to dig the deep shaft (or receiving pit) to perform the underground drilling. Therefore, this means the drilling for the underground lines must be completed first, and the drilling shaft filled in, before the foundation can be laid to convert the Glebe Substation to GIS. The overlap of the GIS foundation and the underground drill pit is shown in Attachment 1. The work necessary to conduct these two major tasks cannot

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<sup>8</sup> Appendix Section I.H.

be performed simultaneously, as originally believed,<sup>9</sup> and due to other work in the region, the outages also must be conducted sequentially. Therefore, the Company will need an additional 48 months from the original May 2022 in-service date to complete the construction. The following discusses, in detail, the remaining work to be done:

- Work on undergrounding the transmission lines started in late 2021/January 2022. The initial phase of this work involves the partial relocation and demolition of the existing transmission facilities within the Substation. This will allow for sufficient space to dig the drilling shaft, while also keeping the station energized and reliably serving customers. This work is expected to be finished in May 2022.
- The next phase of work is the transmission undergrounding work. Underground micro-tunneling contractors have explained that the work at this particular site is more complex than anticipated, due to project depths, underground conditions, and the size of the drill shafts necessary, among other things. For example, the drill shafts (one at the Substation, the other across Four Mile Run in Alexandria) are estimated to be approximately 100' x 100' x 50' deep, in order to accommodate the drilling shafts and the need for the transmission line to be 45' deep to be safely under Four Mile Run. The shafts must be sheeted and shored, as well as de-watered constantly because most of them will be below the water table. Engineers and contractors have estimated drill shaft preparations will take approximately one year, and the actual drilling and closures of the shaft pits would potentially take another year. Currently, the Company is preparing a request for proposal for this necessary work. The responses may yield shorter timeframes for the work to be completed but to be conservative, the Company currently is estimating two years for this phase of work.
- The final phase of work is to rebuild the Substation to GIS. Due to the need to keep the Substation energized, and availability of transmission outages, this work is required to be done in two steps. Specifically, after the GIS foundation is laid, the Company will construct one-half of the GIS system, and connect it with existing transmission. Then it will demolish the existing transmission previously left to keep to the substation energized, in order to build the other half of the GIS system. Following its completion, the Company will connect it with the

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<sup>9</sup> After receiving Commission approval of the Project, the Company's engineering team worked with several micro-tunneling contractors to understand the workspace needed to complete that piece of the project. Due to the constrained space at Glebe Substation, the work area to dig the pit for the micro-tunneling and construct the foundation for the GIS is extremely limited and overlapping. The construction equipment for both pieces of the project will not fit in that space simultaneously with existing equipment at the substation. Additionally, it would not be safe for the construction crews to simultaneously construct the GIS foundation while digging a 50-foot-deep pit underneath the construction area. Finally, there would not be sufficient space for the cranes to remove the micro-tunneling equipment because the GIS equipment would be in the way.



remaining transmission lines, and then complete the Project. The Company conservatively estimates this phase will take approximately two years.

The delay related to engineering has increased Project costs by approximately \$1.731 million, including: (i) an additional approximately \$1.09 million for substation physical engineering, and (ii) an additional approximately \$641,000 for transmission engineering. The additional distribution work resulted in an approximately \$2 million increase in costs. The delay in construction will result in increased costs, although beyond the cost increases identified herein, the Company is unable to quantify the full cost increase at this time. As noted above, the engineering of the Project is substantially complete, and the remaining design and bidding processes are anticipated to be completed in the next four to six months, which will provide a more accurate estimate of actual costs for the Project. In addition to these increases to actual costs, extending the Project schedule will increase the Allowance for Funds Used During Construction ("AFUDC"). These increases in costs could be partially offset by decreases in other Project costs. The Company will file a letter in this docket providing an update on Project costs within 90 days of the completion of the design and bidding processes.

### CONCLUSION

Since receiving the Commission's Final Order, the Company has diligently pursued engineering, permitting, procurement and construction of the Project. As detailed above, the engineering and additional distribution substation work are now completed but they have contributed to schedule delays and revealed essential information that is informing the other phases of the Project. This is the inherent nature of taking a project from conceptual to final engineering, and the complexities of working in a substation with limited space that cannot be expanded and that needs to remain energized have complicated and extended the construction process.

The Trail detour has been presented to Arlington County and is awaiting County approval. Based on the detailed engineering, the Company now understands that the construction must be staged in two parts, conducting the undergrounding of transmission lines first and then rebuilding the Glebe Substation to GIS. The GIS process must also be conducted in two phases (*i.e.*, one half and then the other half) that must be conducted sequentially in order to keep the essential substation facility energized through the entire construction process. The remaining construction work is expected to take approximately 48 months from the original May 2022 in-service date, subject to timely receipt of approvals of the Trail detour from Arlington County in March 2022.

The Company anticipates that once all final engineering designs and bidding processes are complete, it will have a more accurate estimate for actual increased Project costs. The Company will continue to update the Commission Staff as to costs in its Annual Project Cost Report.<sup>10</sup> The Company is therefore seeking a 48-month extension to the in-service date of the Project from May 2022 to May 31, 2026.

Staff is supportive of the requested extension so long as the Company will file a report within 90 days of a Commission order granting extension that provides the following:

- Lessons learned from each of the challenges encountered, and how those lessons will be applied in future projects.
- Identification of which of the challenges were *unique* to the instant project.
- Explanation for why the *non-unique* challenges or lessons learned from previous projects could not be applied to prevent or mitigate the current occurrence.

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<sup>10</sup> *Application of Virginia Electric and Power Company d/b/a Dominion Energy Virginia, 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.*, Case No. PUE-2016-00135, Final Order at 11 (June 6, 2017) (requiring the Company to file annual reports with Staff on the Company's estimated and actual costs for transmission line projects approved by the Commission).

This report will be updated if necessary as any other challenges arise during the completion of the Project. The Company does not oppose this requirement.

Accordingly, for good cause shown, the Company respectfully moves the Commission to extend the current deadline for completing and energizing the Project from May 2022 to May 31, 2026. The Company believes this will provide sufficient time to complete the construction of the Project, and asserts that this delay will not prejudice Staff or any party to this proceeding. Further, the granting of the requested extension will not lead to any known North American Electric Reliability Corporation violations.

WHEREFORE, for the reasons stated herein, and for good cause shown, the Company respectfully requests that the Commission grant this Motion to extend the construction and in-service deadline for the Project from May 2022 to May 31, 2026, along with the reporting requirements discussed herein, and grant any further relief deemed appropriate and necessary.

Respectfully submitted,

**VIRGINIA ELECTRIC AND POWER COMPANY**

By: /s/ Vishwa B. Link  
Counsel

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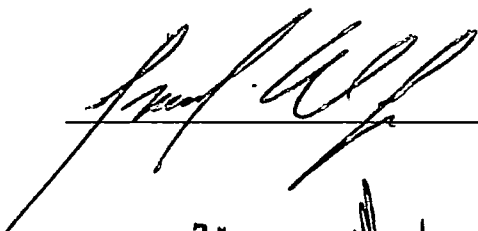
*Counsel for Virginia Electric and Power Company*

March 7, 2022

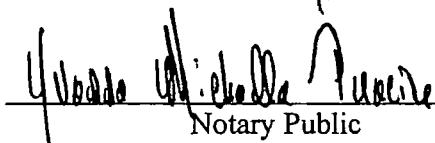
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VERIFICATION

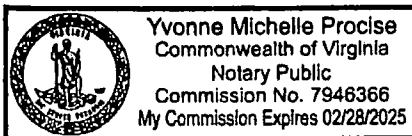
I, John Kascsak, Electric Transmission Strategic Projects Advisor (Manager of Substation Projects, effective March 1, 2022) for Virginia Electric and Power Company, do solemnly swear that the facts stated in the foregoing Motion for Extension of Construction and In-Service Date, insofar as they relate to Virginia Electric and Power Company, are true and correct to the best of my knowledge and belief, and that said statements of fact constitute a complete statement of the matters to which they relate.

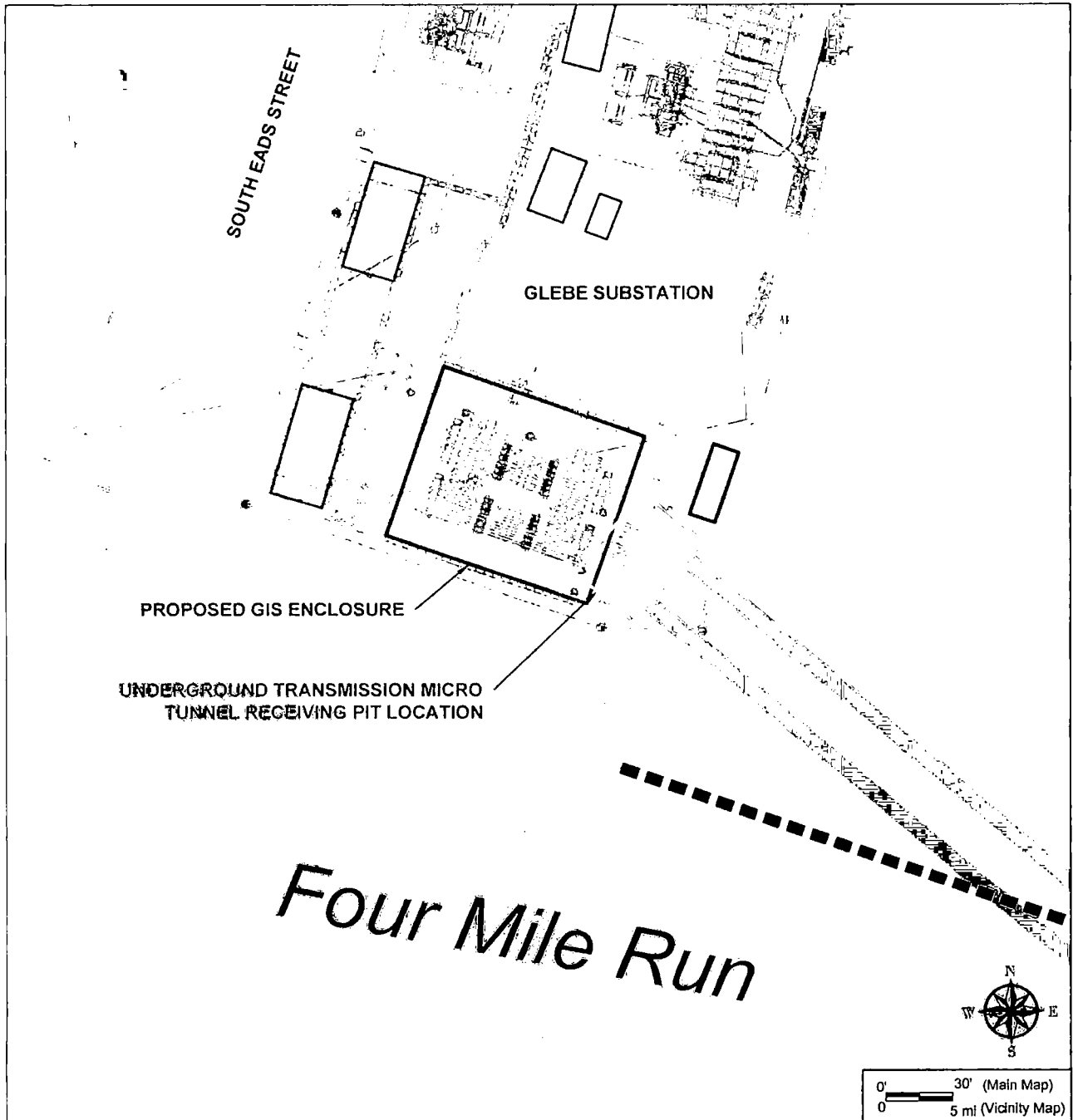
  
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Subscribed and sworn to before me this 7<sup>th</sup> day of March, 2022.

  
\_\_\_\_\_  
Notary Public

My commission expires: 2/28/2025





<p>Existing Substation</p>	<p><b>Potomac Yards Undergrounding and Glebe GIS Conversion: Proposed Receiving Pit Location</b></p>	
<p>Proposed Underground Line</p>		
<p>Existing Overhead Line - To Be Removed</p>		
<p>Proposed Micro Tunnel Receiving Pit</p>		



County of Arlington / City of Alexandria



220310251

**CERTIFICATE OF SERVICE**

I hereby certify that a true copy of the foregoing was served via electronic mail or mailed by first-class mail, postage prepaid to the following on this 7th day of March, 2022.

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