

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

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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.*

REPORT OF A. ANN BERKEBILE, SENIOR HEARING EXAMINER

July 14, 2021

By Final Order dated September 8, 2017, the State Corporation Commission ("Commission") granted the application of Virginia Electric and Power Company ("Dominion" or "Company") for approval and for a certificate of public convenience and necessity to construct and operate electric transmission facilities in Fairfax County, Virginia ("Rebuild Project").¹ Among other things, the Final Order required the Rebuild Project to be constructed and in service by May 31, 2020. However, the Final Order also granted the Company leave to apply for an extension of the in-service date.²

On April 27, 2020, the Company filed the Motion of Virginia Electric and Power Company for Relief from May 31, 2020 In-Service Date ("Extension Motion"). Following the receipt and consideration of pleadings associated with the Extension Motion, the Commission entered an Order on Motion on May 28, 2020, temporarily suspending the in-service date for the Rebuild Project pending further order of the Commission and assigning this matter to a Hearing Examiner "to determine the manner by which Dominion shall request by motion a new in-service date for the Rebuild Project, to receive responses and replies on such motion, and to provide a report and recommendation to the Commission thereon."³ The Commission also authorized the Hearing Examiner to require additional reports from the Company regarding the Rebuild Project, if believed to be warranted.⁴

Thereafter, I entered a Ruling on June 2, 2020 ("June 2020 Ruling"), directing the Company to file a New In-Service Date Motion on or before October 28, 2020, proposing a new in-service date for the Rebuild Project and detailing a new proposed construction schedule. The June 2020 Ruling also directed the Company to provide periodic status updates relative to the Rebuild Project and to include information regarding its community outreach efforts in its New In-Service Date Motion.

¹ *Application of Virginia Electric and Power Company, 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. PUR-2017-00002, 2017 S.C.C. Ann. Rep. 430.

² *Id.* at 434.

³ Order on Motion at 2.

⁴ *Id.*

Following several extensions granted at the Company's request, Dominion filed a Motion for a New In-Service Date on February 11, 2021 ("New In-Service Date Motion"). On February 16, 2021, I entered a Ruling ("February 16th Ruling") establishing a schedule for the filing of additional pleadings associated with the New In-Service Date Motion.

In accordance with the February 16th Ruling, the Fairfax County Board of Supervisors ("Fairfax") and Maryl A. Kerley ("Kerley"), respondents in this case, each filed a response to the New In-Service Date Motion on February 23, 2021.⁵ The Staff of the Commission ("Staff") also responded to the New In-Service Date Motion by filing dated February 23, 2021.⁶ The Company replied by its filing dated February 26, 2021.⁷

Among other things, Staff contended the New In-Service Date Motion was not adequately supported and maintained that this matter should be "remand[ed]" for the receipt of additional evidence regarding the implications of the proposed extension (including those relating to changes in design standards, criteria violations identified by PJM Interconnection, LLC, and increased costs), the Company's prior failure to identify the complexities of the Rebuild Project, and the need for the Rebuild Project.⁸ Similarly, Kerley contended Dominion's New In-Service Date Motion "lack[ed] the detailed information needed to either support or oppose" the New In-Service Date and requested an additional hearing for the receipt of evidence regarding the Rebuild Project.⁹ Kerley also suggested Dominion's community outreach efforts before filing the New In-Service Date Motion were insufficient.¹⁰ In addition, Fairfax asserted that an additional local public hearing should be conducted "to hear testimony from the Parties and any interested other persons" concerning the Company's new proposed construction schedule.¹¹

In its Reply, the Company suggested that the Hearing Examiner lacked the authority to conduct an additional evidentiary hearing relating to the Rebuild Project given the Commission's directives in the Order on Motion.¹² Nevertheless, Dominion did not oppose "an additional local virtual public hearing before the Hearing Examiner provides her report and recommendation to the Commission."¹³ The Company also indicated that it was prepared to provide a Supplemental Report to address the alleged deficiencies in the New In-Service Date Motion identified by Staff and Kerley.¹⁴

⁵ See Response of the Fairfax County Board of Supervisors to Motion of Virginia Electric and Power Company for a New In-Service Date filed February 23, 2021 ("Fairfax Response"); Response of Maryl A. Kerley to the Motion of Virginia Electric and Power Company for Relief from May 31, 2020 In-Service Date filed February 23, 2021 ("Kerley Response").

⁶ See Staff's Response and Motion to Remand filed February 23, 2021.

⁷ See Virginia Electric and Power Company's Response to Motion to Remand and Reply in Support of its Motion for New In-Service Date ("Reply") filed February 26, 2021.

⁸ Staff's Response and Motion to Remand at 3.

⁹ Kerley Response at 1.

¹⁰ *Id.* at 2.

¹¹ Fairfax Response at 3.

¹² Reply at 3.

¹³ *Id.*

¹⁴ *Id.* at 4-5.

Following my review of the New In-Service Date Motion and the responses and reply filed in connection with it, I entered a Ruling on March 3, 2021 ("March 3rd Ruling"), directing Dominion to file a Supplemental Report on or before March 26, 2021, containing the additional information described in its Reply and providing Staff, Fairfax, and Kerley with an opportunity to submit a response to the Supplemental Report on or before April 9, 2021. Furthermore, I took under advisement Fairfax's request for an additional local public hearing relative to the construction schedule.

On March 26, 2021, the Company filed its Supplemental Report.

On April 9, 2021, Staff filed a letter ("Staff Acceptance Letter") wherein it indicated that it no longer opposed the New In-Service Date Motion based upon the Company's submission of additional data in the Supplemental Report justifying the extension request.¹⁵ On the same date, Fairfax filed a Response to the Supplemental Report wherein it renewed its request for a new local hearing. Kerley did not file a response to the Supplemental Report.

On April 29, 2021, I conducted a prehearing conference with Dominion, Staff and the respondents. Based upon information obtained in such conference, I entered a Ruling on April 30, 2021, scheduling a telephonic hearing on June 10, 2021, at 7 p.m. ("Construction Schedule Public Witness Hearing") for the receipt of testimony from public witnesses on the Company's new construction schedule for the Rebuild Project.

The Construction Schedule Public Witness Hearing was convened, as scheduled, on June 10, 2021. Vishwa B. Link, Esquire, Daniel Bumpus, Esquire, David J. DePippo, Esquire, and April M. Jones, Esquire, appeared on behalf of the Company. Maryl A. Kerley appeared *pro se*. Joanna L. Faust, Esquire, appeared on behalf of Fairfax. William H. Harrison, IV, Esquire, appeared on behalf of Staff.

The transcript of the Construction Schedule Public Witness Hearing ("CS Tr.") was filed on June 25, 2021.

CONSTRUCTION SCHEDULE PUBLIC WITNESS HEARING

Proof of publication and notice pertaining to the Construction Schedule Public Witness Hearing was accepted into the record as Exhibit 23.

Three public witnesses testified at the Construction Schedule Public Witness Hearing: (1) Lori Jeffrey; (2) Catarina Couto; and (3) Collin Agee.

Lori Jeffrey,¹⁶ the president of the Holly Crest Community Association, testified that the Association was disheartened to learn Dominion did not expect construction of the Rebuild

¹⁵ Specifically, Staff represented in the Staff Acceptance Letter that it no longer took a position relative to the New In-Service Date Motion given the supplemental information provided by the Company.

¹⁶ Ms. Jeffrey also submitted written comments on behalf of the Holly Crest Community Association dated February 23, 2021, expressing similar concerns to those voiced in her public witness testimony.

Project to be completed until 2026.¹⁷ She explained that the process for constructing the Rebuild Project began in 2013 and noted that the Company received an associated special exception from Fairfax in May 2016.¹⁸ She also indicated that the community was advised in 2016 that a high bus would need to be installed in the area and be present for approximately three years.¹⁹ She represented that such high bus has been in place (near residents) since 2018.²⁰ She represented that her Association wants the Rebuild Project to be finished as soon as possible and urged the Commission to verify and monitor the schedule proposed by Dominion.²¹ She also emphasized that the Association lacks confidence in the Company's representations.²² Moreover, she questioned the veracity of previous representations made by Dominion (regarding its awareness of work hour restrictions) and implored the Commission to hold the Company to its newly proposed schedule.²³

Catarina Couto testified that her neighborhood has been dealing with the Rebuild Project since 2013 and asserted that she has lost confidence in the Company's representations.²⁴ She also suggested that allowing the construction process to extend to 2026 was too long and maintained that the existing high bus is aesthetically unpleasing.²⁵ Furthermore, she explained that the construction process associated with the Rebuild Project causes traffic jams and expressed a lack of faith in Dominion's representation that the Rebuild Project will be completed by 2026.²⁶

Collin Agee highlighted the extensive community involvement and interest in the Rebuild Project ever since it was first discussed in 2013.²⁷ He noted that the Rebuild Project was approved in 2015 and construction started in 2016 and maintained that it is unreasonable for a community to have been forced to live with such unattractive conditions (associated with construction) for over ten years.²⁸ According to Mr. Agee, a Company representative indicated Dominion would prioritize the installation of a wall and landscaping prior to the commencement of construction to minimize construction impacts associated with the Rebuild Project but noted that such measures have not been implemented.²⁹ It was his understanding Dominion intended to finally begin the construction of the wall in August 2021 and he urged the Commission to require the Company to memorialize its commitment to construct the wall and landscaping in August 2021.³⁰ He also questioned the Company's intentions regarding cleared property in the vicinity of the Rebuild Project and urged the Commission not to allow Dominion to extend a one-decade project to a two-decade project.³¹

¹⁷ CS Tr. at 10.

¹⁸ *Id.*

¹⁹ *Id.* at 11.

²⁰ *Id.* at 11-12.

²¹ *Id.* at 12-13.

²² *Id.*

²³ *Id.* at 13-15.

²⁴ *Id.* at 17.

²⁵ *Id.*

²⁶ *Id.* at 18.

²⁷ *Id.* at 20.

²⁸ *Id.*

²⁹ *Id.* at 21.

³⁰ *Id.* at 21-22.

³¹ *Id.* at 22.

NEW IN-SERVICE DATE MOTION AND SUPPLEMENTAL REPORT

Dominion represented in the New In-Service Date Motion that it received a required building permit from Fairfax for the 38 kilovolt (“kV”) gas substation building component of the Rebuild Project on December 4, 2020, subsequently received the construction schedule from its construction contractor on January 5, 2021, and thereafter developed a revised construction schedule (a copy of which was appended to the New In-Service Date Motion as Attachment A) and any new in-service date associated with the Rebuild Project.³² In addition, the Company described its community outreach efforts associated with its updated construction schedule.³³ Furthermore, Dominion represented that it expected the estimated cost of the Rebuild Project to increase to approximately \$159 million based upon the following factors:³⁴ (1) its “initial underestimation of the complexity of the Rebuild Project from scale, scope and length of time aspects;” (2) “changing design standards over the course of the period of engineering design;” (3) “lengthier permitting processes than originally anticipated;” (4) “complexities related to working on an energized substation and converting to GIS;” and (5) “increased costs of material and labor over time.”³⁵ Consistent with its new proposed construction schedule, the Company requested that the Commission approve a new proposed in-service date of December 31, 2026.³⁶

In its Supplemental Report, a copy of which is attached to this Report, Dominion provided more detailed information regarding: (1) its rationale for, and the implications of, seeking a six-year extension for the construction of the Rebuild Project;³⁷ (2) the Company’s efforts to seek outside expertise in the development of the proposed construction schedule;³⁸ (3) the lack of available technical options to shorten the six-year schedule;³⁹ (4) the need for the high bus from November 2021 through the fall of 2024 (to provide a 230 kV source during the Rebuild Project’s construction);⁴⁰ (5) a detailed explanation for the increased costs of the Rebuild Project (including the Company’s initial underestimation of the Rebuild Project’s complexity, changing design standards over time, a lengthier permitting process than initially anticipated, complexities associated with working on an energized substation and converting to GIS, and increased costs of material and labor over time);⁴¹ (6) implications of the extension on reliability violations identified by PJM Interconnection, LLC (“PJM”);⁴² (7) an update on the three drivers justifying the Rebuild Project (associated with a North American Electric Reliability Corporation (“NERC”) violation, increased operational performance, and the

³² New In-Service Date Motion at 2-3. Dominion also attached a copy of its revised construction schedule to the New In-Service Date Motion.

³³ *Id.* at 4-5.

³⁴ The initial cost estimate provided with the Application was \$107 million. *See* Ex. 11, at 23.

³⁵ New In-Service Date Motion at 5.

³⁶ *Id.* at 6.

³⁷ Supplemental Report at 1-2.

³⁸ *Id.* at 2-3.

³⁹ *Id.* at 3.

⁴⁰ *Id.*

⁴¹ *Id.* at 3-6.

⁴² *Id.* at 7.

maximization of available land use to accommodate potential future transmission termination and transformation at the Idylwood substation);⁴³ (8) the lack of new PJM processes and system reinforcements potentially triggered by the delay;⁴⁴ (9) the lack of a change in the overall scope of work and purpose associated with the Rebuild Project;⁴⁵ and (10) the effect on the system if the Rebuild Project is not completed (and the inability to return the Idylwood Substation to its original condition before the Rebuild Project began).⁴⁶

DISCUSSION

As reflected above, no respondent or Staff continues to directly oppose the New In-Service Date Motion (as augmented by the Supplemental Report).⁴⁷ Although Staff initially had concerns regarding the Company's proposal, such concerns appear to have been resolved by the information provided in the Supplemental Report.⁴⁸ Furthermore, Fairfax did not directly challenge the Company's New In-Service Date Motion but, instead, urged the Commission to provide an opportunity for public witnesses to express their concerns regarding the new construction schedule, something which has now occurred.⁴⁹ In such public hearing, several witnesses expressed frustration regarding how long it is taking Dominion to complete the Rebuild Project and the inconvenience to residents associated with such a long construction period.⁵⁰ Such witnesses also expressed skepticism regarding the veracity of representations made by the Company.⁵¹

In my assessment, the information provided by Dominion supports its request for the approval of December 31, 2026, as the new in-service date for the Rebuild Project. Nevertheless, I share the concerns of the public witnesses regarding substantial delays associated with the Rebuild Project⁵² and believe it would be beneficial for the Commission to direct the Company to file quarterly construction status updates regarding the Rebuild Project. The filing of such updates, including key construction milestones, should facilitate Staff's closer monitoring of the Rebuild Project's status – monitoring that appears warranted given the specific facts of this case.

FINDINGS AND RECOMMENDATIONS

Based upon the information provided by Dominion, I conclude the Commission should grant the New In-Service Date Motion, extend the Company's deadline for the Rebuild Project to

⁴³ *Id.* at 7-8.

⁴⁴ *Id.* at 8.

⁴⁵ *Id.*

⁴⁶ *Id.* at 8-9.

⁴⁷ As reflected above, although Kerley contested the sufficiency of the information provided in the New In-Service Date Motion, she did not file a response to the Supplemental Report wherein the Company provided more detailed information in support of its request for the approval of a new in-service date.

⁴⁸ See Staff Acceptance Letter. Like Staff, Kerley contested the sufficiency of the information initially provided by Dominion with the New In-Service Date Motion. Kerley Response at 1.

⁴⁹ Fairfax Response at 3. Kerley also requested such a public hearing. Kerley Response at 1.

⁵⁰ CS Tr. at 10-22.

⁵¹ *Id.*

⁵² In addition to inconveniencing residents in the vicinity of the Rebuild Project, such delays have negatively impacted the Rebuild Project's costs.

be constructed and in service to December 31, 2026, and require the Company to file quarterly construction status updates until the Rebuild Project is completed.

Accordingly, **I RECOMMEND** the Commission enter an order that:

1. **ADOPTS** the findings of this Report; and

2. **RETAINS** this case on the Commission's docket of active cases for the Company's submission of quarterly construction updates as recommended herein.

COMMENTS

Staff and the parties are advised that, pursuant to Rule 5 VAC 5-20-120 C of the Commission's Rules of Practice and Procedure and § 12.1-31 of the Code, any comments to this Report must be filed on or before August 4, 2021. In accordance with the directives of the Commission's *COVID-19 Electronic Service Order*⁵³ the parties are encouraged to file electronically. If not filed electronically, an original and fifteen (15) copies must be submitted in writing to the Clerk of the Commission, c/o Document Control Center, P.O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a certificate to the foot of such document certifying copies have been sent to all counsel of record and any such party not represented by counsel.

Respectfully submitted,



A. Ann Berkebile
Senior Hearing Examiner

Document Control Center is requested to send a copy of the above Report to all persons on the official Service List in this matter. The Service List is available from the Clerk of the State Corporation Commission, c/o Document Control Center, 1300 East Main Street, First Floor, Tyler Building, Richmond, VA 23219.

⁵³ *Commonwealth of Virginia, ex rel State Corporation Commission, Ex Parte: Electronic service among parties during COVID-19 emergency*, Case No. CLK-2020-00007, Doc. Con. Cen. No. 200410009, Order Requiring Electronic Service (April 1, 2020) ("*COVID-19 Electronic Service Order*").

Attachment

COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

Case No. PUR-2017-00002

For approval and certification of electric transmission
facilities: Idylwood Substation Rebuild and
Rearrangement of 230 kV Transmission Lines #202,
#207, #251, #266, #2035, and #2097

CASE NO. PUR-2017-00002

VIRGINIA ELECTRIC AND POWER COMPANY'S
SUPPLEMENTAL INFORMATION REPORT
ON THE IDYLWOOD REBUILD PROJECT

March 26, 2021

Pursuant to the Hearing Examiner's Ruling issued on March 3, 2021, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company"), by counsel, hereby submits this Supplemental Information Report providing additional information in support of the Company's Motion for a New In-Service Date filed on February 11, 2021 ("Motion"), in relation to the rebuild, relocation, and replacement of facilities and lines in and around the Company's existing Idylwood Substation in Falls Church, Virginia ("Rebuild Project" or "Project"). In support thereof, Dominion Energy Virginia states as follows:

Request No. 1: The rationale behind requesting a six-year extension for construction and the implications of such an extension

Company Response: The Company now proposes a construction schedule with a December 31, 2026 in-service date for the Rebuild Project, because, based on its past experience in the Project and in consultation with its internal and external experts, the Rebuild Project realistically will take until December 31, 2026, to finish.

The Company originally proposed a 42-month schedule that would be inclusive of engineering, material procurement, construction permitting, and distribution and transmission construction. This schedule was unattainable largely based on three factors: (1) local permitting, through no fault of the Company or Fairfax County (the "County") as the Company believes both parties proceeded as expeditiously as possible and in good faith, took longer than originally anticipated based on the complexity of the Project; (2) space constraints and working on an energized Substation created additional delays to the original schedule; and (3) the Special Exception Amendment Application approved by the County resulted in unanticipated Development Conditions ("Development Conditions") that govern the work conducted on the Project. See Attachment A for the Development Conditions. Compliance with several of these Development Conditions, namely the hours of operation, have added time to the construction schedule making a 42-month schedule unrealistic.

For example, on point 1, the local permitting took approximately 15 months longer than the Company anticipated in its original schedule. This is stated not to place blame on the Company or the County because both parties operated as expeditiously as possible and in good faith, it is simply a fact. The Project's complexity yielded a longer permitting process. For example, the Substation is located at the center of the Company's northern region electrical grid and it must continue to provide power for the service area. Only minimal pieces of the existing infrastructure will be out of service at any one time in order to meet power needs. Therefore, the construction of a "high bus" is necessary. This type of temporary, construction-related high bus is not normally reviewed during the special exception process and, thus, was not included on the original special exception plat. Because the construction bus currently is anticipated to be needed at the Property for an approximate three-year period and its proposed location on the eastern edge of the Property, the Company had to submit a special exception amendment for additional County review which took additional permitting time not originally anticipated.

On point 2, the Company now is planning for three additional months to construct the 38 kV gas-insulated substation ("GIS") building and six additional months to construct the 230 kV GIS building in its construction schedule. Additional time is necessary to construct these buildings in the tight space of the Substation while it is energized. The Company acknowledges

that it underestimated how the Substation's space constraints and the requirement that the work be done on an energized Substation would impact the time to construct elements of the Project in the original construction schedule.

On point 3, the Development Conditions, which are 42 in total, effectively added time to the original construction schedule in order to protect the health, safety, and general welfare of the public which is the purpose of the County's Special Exception review. As a result, due to the complex nature of rebuilding the Substation while existing infrastructure remains energized, combined with certain requirements of the Development Conditions, longer construction timeframes have subsequently been necessary due to: (1) restricted construction hours which limit the ability of the Company to work longer days when necessary or schedule nighttime and weekend hours, forcing the Company to reject or reschedule deliveries in order to complete work in the permitted hours (i.e., concrete deliveries that must be poured same day that are delayed must be rescheduled or rejected); (2) the extensive nature of certain Substation enhancements such as 1,288 feet of wall (which must be constructed in phases) and over 1,200 new trees and shrubs to be established around the perimeter of the Substation for site buffering, including soil remediation, planting requirements, and planting maintenance; and (3) the need for phased construction of certain required Substation elements, such as the wall, has increased construction timeframes since the phased nature requires materials, equipment, and crews to return to the site multiple times, with multiple site preparation and clean-up periods for completion of those elements.

The Company is cognizant of the amount of time this Project has been in process and the strains the Project has placed on the surrounding community. The Company is committed to working with the community, providing timely notice and communications of schedule changes and completing this important and complex undertaking. It is for these reasons, the Company is proposing a construction schedule that is realistic and conservative, and thus, incorporates time for unforeseen delays and provides adequate time during 2026 for the Company to do the final work of grading, cleaning, and landscaping that can also be used if the work during 2021 through 2025 gets delayed. The Company does not want to over promise and under deliver given the amount of time this Project has already taken. If anything, the Company would like to finish this Project sooner than December 31, 2026, and at worse, no later than that date.

Additional details of the Company's proposed construction schedule are provided in the responses below.

Request No. 2: The Company's efforts in seeking outside expertise in developing the proposed construction schedule

Company Response: The Company typically relies on its various subject matter experts within the Company, such as System Operations Center, Safety, Construction, Supply Chain Management, Engineering, Environmental, Permitting, and others, to develop schedules and timeline for complex projects like the Rebuild Project. The Company also engaged several outside support vendors to work alongside its internal experts in providing input to develop the proposed construction schedule. The outside vendors include: HICO America on the 38 kV GIS building, low-voltage switch gear, and 230 kV GIS building; two international vendors on the high-voltage switch gear; Dewberry for permitting and developing the site plan; and Burns &

McDonnell on the high-bus designs. Through this consultation and reliance on internal and external experts, the construction schedule and new in-service date are more detailed and reflective than the original estimates of the complexities of working in a space-constrained Substation while it is energized.

Request No. 3: All technical options available to shorten the six-year construction schedule

Company Response: There are no technical options of which the Company is aware that will shorten the proposed schedule of the Rebuild Project. From a construction perspective, the schedule is dictated by: (1) working safely within an energized substation while rebuilding the substation in its entirety; (2) minimizing outages in order to maintain the integrity of the electrical grid and service to our customers; and (3) complying with the Development Conditions that limit the Company's ability to work evening and weekend hours.

Request No. 4: Need for the high bus throughout the six-year construction schedule

Company Response: As shown in the Company's currently proposed construction schedule, the high bus is needed from approximately November 2021, when it is expected to be connected to the new transformers and energized, through the fall of 2024, when it is expected to be de-energized and removed. See Attachment B for a revised version of the Company's proposed construction schedule.¹ The high bus carries a portion of the transmission power flow around the areas of the substation where construction is occurring. In particular, the high bus provides the new distribution transformers and the 38 kV GIS building, once constructed, with a reliable 230 kV source during construction of the Rebuild Project. By using the high bus, the Company can clear the area of where the new 230 kV control enclosure and 230 kV GIS building will be constructed. Therefore, the high bus is not needed for the entirety of the construction schedule.

Request No. 5: The reasoning behind the increased costs for the Rebuild Project:

A. Underestimation of the complexity of the Rebuild Project

Company Response: As discussed in the response to Request No. 1 above, the complexity of the Project resulted in longer permitting times, longer construction coordination times in light of working in space-constrained areas within an energized Substation that must remain energized throughout the rebuild process, and unanticipated development conditions, including conditions on when work can be performed. All of these factors contributed to, and will continue to contribute to, higher costs related to additional work by consultants and additional labor costs related to longer construction periods, among other items. The reasons behind these factors are discussed below in subsections 5.B-D, and the cost increases are provided in subsection 5.E.

¹ The Company notes that the construction schedule attached to the Motion had a typographical error and listed the de-energization of the high bus as being in September 2025. The Company is filing a corrected version of the construction schedule here as Attachment B and will correct Attachment A to the Motion.

B. The changing design standards over the course of the period of engineering design

Company Response: In the utility industry, it is typical for there to be frequent changes to design standards. For a project like the Rebuild Project, where the entire project is not designed prior to the start of construction, evolving design standards require changes to the estimated costs of components to the Rebuild Project. For example, changes to the standards for oil containment vaults in 2019 and 2020, fault current ratings in 2018 and 2019, and station service criteria in 2019 and 2020 have led to redesigned plans, and increased costs, for components of the Rebuild Project. See the response to Request No. 5.E below for additional detail on cost increases.

C. Lengthier permitting processes than originally anticipated

Company Response: The Company would like to thank Fairfax County for its diligent work in reviewing, and eventually approving, the permits necessary for the Company to begin construction of the Rebuild Project. As mentioned in the response to Request No. 1 above, the Company initially planned 24 months for permitting but it took the Company approximately 39 months to complete the permitting necessary to begin construction on the Rebuild Project.

The Company anticipates seeking permits for several remaining items in its construction schedule in mid-2022, including the 230 kV GIS building, control house building, aesthetic perimeter wall, and a demolition permit for the existing control enclosure. As part of the currently proposed construction schedule, the Company has allocated time to obtain these additional necessary permits.

Below is a brief history of the Company's permitting activities for the Rebuild Project, provided here for the sole purpose of showing the extensive efforts on the County's and Company's part to seek timely permits. While the Company was awaiting approval of the Rebuild Project by the Commission in 2017, the Company worked with Fairfax County to secure approval of a Special Exception ("SE") plat, a process required prior to any site plan being approved. The Company gained approval on the original SE plat in May 2015, but had to prepare a Special Exception Amendment ("SEA") to account for the temporary high bus. Fairfax County approved the SEA in September 2017.

In order to keep the project moving while applying for the SEA, the Company prepared and submitted a Rough Grading Plan ("RGP") alongside the review of the SEA. Fairfax County approved the RGP in September 2017, and allowed for the preliminary site work to begin for items such as erosion and sediment control, site grading, storm sewer improvements, stormwater management, and stream relocation. The Company started rough grading in January 2018 and completed this work in July 2018.

In 2018 and 2019, the Company prepared, submitted, and resubmitted several times a final site plan to Fairfax County, culminating with the authorization to submit for site plan approval in August 2019. Once the Company submitted its final site plan approval, it could finalize and submit the plats and deeds for the Rebuild Project. From August 2019 until April 2020, the Company coordinated with Fairfax County site plan reviewers and Fairfax County attorneys to develop the language of the easements and deeds required to be on the plat and

deeds. This coordination and subsequent recordation of documents resulted in gaining site plan approval on April 24, 2020.

During the review process for the site plan, the Company made the first submission of the building permit for the 38 kV GIS building in July 2018 and received comments from Fairfax County in February 2019, along with instructions that the 38 kV GIS building permit could not be applied for prior to gaining approval of the site plan.

Shortly after receiving site plan approval in April 2020, the Company made its first resubmission of the 38 kV GIS building permit application on May 19, 2020, addressing comments previously received from Fairfax County. For the next several months, the Company coordinated with Fairfax County reviewers and made several resubmissions of the 38 kV GIS building permit application to close out all reviewer comments. Once the Company addressed all comments, the Company held a preconstruction meeting on November 18, 2020, with the County Inspector. After the preconstruction meeting, the Company made final payments and Fairfax County issued the 38 kV GIS building permit on December 4, 2020. The Company started work on the 38 kV GIS building on December 28, 2020, and expects to complete construction of the 38 kV GIS building in May 2021. See the response to Request No. 5.E below for additional detail on the cost increases.

D. Complexities related to working on an energized substation and converting to GIS

Company Response: Safety of the workers, transferring the distribution and transmission lines, transferring the protection and controls systems, and installing the infrastructure for a GIS have all presented added complexities for working on an energized substation and converting the substation to GIS. First, working on an energized substation requires additional time to complete work in order to help ensure the safety of the workers and, at times, limits the number of workers in the same area. Some aspects of the Rebuild Project are extended by two to three weeks, if not longer, due to these protections. Second, the process to transfer the distribution and transmission lines requires meticulous work on one line at a time and coordination with the other substation where the line is terminated. The outages must be scheduled at least six months in advance and, due to load conditions, may be cancelled by PJM or the Company's System Operations Center with only a few days' notice. Third, transferring the protection and controls systems from the old substation to the GIS must be done to preserve the integrity of the system which takes additional time. Failure to control abnormal events could result in a cascading outage or unintentional outages could also occur if the workers accidentally come in contact with a relay terminal inside the control enclosure while working to transfer control to the GIS. Lastly, installing the underground infrastructure for the GIS takes additional time to install around the existing infrastructure that needs to remain in service to support the energized equipment.

E. Increased costs of material and labor over time

Company Response: The Company originally estimated the cost of the Rebuild Project at approximately \$107 million. As of February 2021, and based on the currently proposed construction schedule, the Company expects the cost of the Rebuild Project to be approximately \$159 million.

The following events contributed to increases to the conceptual cost estimates set forth in the Commission filings:

- Engineering Services was estimated at approximately \$3.6 million but is now estimated to be approximately \$6.2 million. Site plan permitting went through a long period before it was approved in April 2020, which resulted in the site civil engineering reconciling issues with the site plan during the permit process. Also, oil containment changes, storm water management, and changes to the engineering standards for fault current ratings and station service criteria contributed to this overrun.
- Support Services was estimated at approximately \$1.1 million but is now estimated to be approximately \$10.1 million. Support Services consists of Dominion Energy site and permitting, project management, legal, environmental, real estate, community outreach and encroachments. The reason for the increase in this category is the extensive community and County involvement to ensure a design that was satisfactory to all stakeholders.
- The equipment removal cost was estimated at approximately \$1.2 million but now is estimated to be approximately \$4.0 million. This is due to underestimation of the removal of the open air equipment in a GIS conversion project based lack of prior experience.
- The material cost was estimated at approximately \$60.7 million but is now approximately \$83.7 million. This is due to material cost increases and higher bids for equipment and installation on the Engineering Procurement and Construction bids for 38 kV GIS building and 230 kV GIS building. In addition, the original security barrier called for the Company's standard Guardian 7000 high security metal fence, but the Development Conditions required a more expensive decorative type wall installation.
- The estimated construction cost was approximately \$40.4 million but now is approximately \$55 million. This is due to several factors: (1) underestimation of the complexities related to converting an existing air-insulated substation to a gas-insulated substation while working in an energized area which resulted in an increase in the schedule length; (2) complications encountered with foundation installation, in addition to oil containment changes, station service changes, and the additional time to install the underground infrastructure for the GIS around the existing infrastructure that needs to remain in service to support the energized equipment; and (3) the County's revocation of the Company's noise waiver delayed the assembly of three new distribution transformers by one year while the Company developed, in close consultation with the County and community, and submitted an application to reinstate the noise waiver and installed noise mitigation materials.
- The corresponding increase in allowance for funds used during construction of approximately \$26.5 million, an amount that is part of and included in the categories above.

Request No. 6: The implications of the proposed extension on the reliability criteria violations identified by PJM Interconnection, LLC that form one of the need drivers of the Rebuild Project

Company Response: The Company temporarily increased the capacity of the 230 kV bus at Idylwood Substation and replaced the tie breaker for temporary relief based on the delay in the Rebuild Project. Specifically, the temporary rating of the Idylwood bus was increased from 789 MegaVolt-Amperes ("MVA") to 2,327 MVA (normal) and 2,502 MVA (emergency). The North American Electric Reliability Corporation ("NERC") criteria violation identified was based on the original Idylwood 230 kV bus rating of 789 MVA. Because the rating of the Idylwood 230 kV bus was increased for temporary relief, which is almost three times the original rating (2.95 and 3.17 times normal and emergency, respectively), the Company currently does not anticipate a NERC criteria violation related to the Idylwood bus for the duration of temporary capacity increase, which is planned to last the duration of the Rebuild Project. See the response to Request No. 7.A for the reasons why the temporary solution is not a long-term solution.

Response No. 7: Update on the three drivers supporting the need for the Rebuild Project:

A. North American Electric Reliability Corporation ("NERC") reliability violation

Company Response: The NERC reliability driver for the Rebuild Project was based on Idylwood Substation having a straight-bus configuration with a 789 MVA rating. As construction at Idylwood progresses and the configuration of the 230 kV lines termination at the station changes, the flows associated with the contingency scenario that was identified as creating the NERC violation are expected to change. As previously discussed, the rating of the Idylwood bus has been temporarily increased to a value that is expected to eliminate any potential violation for the duration of the Rebuild Project.

The temporary solution to the potential NERC reliability violation is not a long-term solution because the Company increased the capacity by bolting parallel conductors to the existing bus. The fix was designed to be temporary and is not a permanent installation because there are too many mechanical connections across the bus for the temporary fix to be reliable enough to be a permanent long-term solution. Mechanical connections are weak points that are prone to failure and can become hot spots on the bus that could fail resulting in losing all distribution breakers and circuits, and customers connected thereto, as well as potentially impacting the transmission lines coming into the bus. Depending on the circumstances, repairs by the Company to failure caused by mechanical connections can take up to 24 hours.

B. Increased operational performance

Company Response: The operational performance driver at Idylwood Substation has not changed. As stated in Section I.B. of the Appendix, Idylwood Substation is located, approximately, at the intersection of two major overhead transmission corridors and is an electrical transmission hub and major distribution substation. The existing straight-bus arrangement at Idylwood Substation is inferior to the proposed breaker-and-a-half arrangement; continuing to terminate lines and add load to Idylwood Substation with a straight-bus arrangement would increase the severity of a breaker failure event. In addition to existing

overhead 230 kV Line #266 (Clifton-Glen Carlyn) being terminated at Idylwood Substation to facilitate routing the existing transmission lines around the already expanded substation, a new underground 230 kV Line #2175 (Idylwood-Tysons), ordered by the Commission² to be constructed from Tysons Substation, also will be terminated at Idylwood Substation.

C. Maximizing land use

Company Response: The driver to maximize available land use to accommodate potential future transmission terminations and transformation at Idylwood Substation has not changed. While there are no future transmission terminations and transformation planned at this time (aside from the termination described above in the response to increasing operational performance), the Company considered numerous commercial and industrial sites to address the potential need for space to accommodate a new substation for future transmission terminations and transformation. The Rebuild Project was the only option to resolve the three stated objectives of complying with the NERC reliability standards, improving operational performance, and maximizing available land use to accommodate potential future transmission terminations and transformation.

Response No. 8: Any new PJM processes and system reinforcements potentially triggered by the delay

Company Response: There are no new PJM processes or system reinforcements implicated by the Rebuild Project's delay.

Response No. 9: Does the original scope of work differ from the current scope, and, if so, is the expanded scope of work necessary for the Rebuild Project and what is the additional time the expanded scope extended the construction schedule

Company Response: The overall scope and purpose of the Rebuild Project have not changed since the Company filed its application in 2017. As discussed in the response to Request No. 5.B above, however, some components of the Rebuild Project have changed to meet modern design standards. Further, as articulated in the response to Request No. 1 above, the items that added time to the currently proposed construction schedule always were components of the Rebuild Project, and thus, do not expand the Rebuild Project's scope.

Response No. 10: The effect on the system if the Rebuild Project is not built as the Company proposed in its Application

Company Response: The Rebuild Project is beyond the point of putting Idylwood Substation back to the way it was before the Rebuild Project began. Assuming Idylwood Substation remains in a straight-bus configuration with a minimum of one new 230 kV line termination (Line #2175 from Tysons) and possibly three additional 230 kV line terminations (Line #2175 and the split from Line #266), there would be between six and eight 230 kV lines terminated on

² See Application of Virginia Electric and Power Company For approval and certification of electric transmission facilities: Idylwood-Tysons 230 kV single circuit underground transmission line, Tysons Substation rebuild and related transmission facilities, Final Order, Case No. PUR-2017-00143 (Sept. 5, 2018).

two straight-busses at Idylwood Substation. The Company's electric transmission planning group would consider this to be an unacceptable arrangement from a transmission hub in an area of high loads, and high load growth and continue to pursue a breaker-and-a-half arrangement to improve system reliability and operational flexibility. The current straight-bus configuration is unacceptable because it requires more maintenance and is prone to greater potential failure than a breaker-and-a-half arrangement. The straight bus loses the ability to compartmentalize and limit the impact of failures on customers than a breaker-and-a-half arrangement, which also increases the Company's ability to take outages and conduct system maintenance in the Substation.

The Company submits this Supplemental Information Report in support of its New In-Service Date Motion filed on February 11, 2021, and respectfully requests the Commission to grant the Company's Motion for a New In-Service Date and grant any further relief deemed reasonable and appropriate.



County of Fairfax, Virginia

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

RECEIVED
Department of Planning & Zoning

September 13, 2017

Zoning Evaluation Division

Sheri L. Akin
McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons, VA 22102

Re: Special Exception Amendment Application SEA 2014-PR-032

Dear Ms. Akin:

At a regular meeting of the Board of Supervisors held on September 12, 2017, the Board approved Special Exception Amendment Application SEA 2014-PR-032 in the name of Va. Electric and Power Company, D/B/A Dominion Energy Virginia. The subject property is located at 7701 and 7707 Shreve Road, on approximately 7.15 of acres of land, zoned in the R-3 District, Providence District [Tax Map 49-2 ((12)) 1A and 49-2 ((1)) 151]. The Board's action amends Special Exception Application SE 2014-PR-032, previously approved for an electric substation and telecommunications facility to modify site and development conditions to permit the addition of temporary equipment at its existing facility and associated modifications to site design and development conditions. Previously approved conditions or those with minor modifications are marked with an asterisk (*).

1. This Special Exception Amendment is granted for and runs with the land indicated in this application and is not transferable to other land.*
2. This Special Exception Amendment is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.*
3. This Special Exception Amendment is subject to the provisions of Article 17, Site Plans. Any plan submitted pursuant to the Special Exception Amendment shall be in substantial conformance with the approved Special Exception Amendment (SEA) Plat entitled "Idylwood Substation, Special Exception Plat Amendment & 2232 Plan," prepared by Dewberry Engineers Inc., dated April 2015, as revised through May 2017, with Sheet 17-SEA revised through September 2017, and these conditions. Minor modifications to the approved Special Exception Amendment may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.

Office of the Clerk to the Board of Supervisors
12000 Government Center Parkway, Suite 533
Fairfax, Virginia 22035

Phone: 703-324-3151 ♦ Fax: 703-324-3926 ♦ TTY: 711
Email: clerktothebos@fairfaxcounty.gov
<http://www.fairfaxcounty.gov/bosclerk>

4. Right-of-way along Shreve Road shall be dedicated as generally depicted on the plat, as approved by Fairfax County and the Virginia Department of Transportation (VDOT). The right-of-way shall be dedicated without encumbrances and in fee simple to the Board of Supervisors upon request by either Fairfax County or the Virginia Department of Transportation, whichever occurs first.*
5. The entrances to the substation and the telecommunications facility shall meet the commercial entrance standards of the Virginia Department of Transportation (VDOT) and the driveways outside the perimeter wall shall be asphalt. The existing curb cut/entrance on Holly Manor Lane shall be removed and the curb and gutter and sidewalk shall be restored in the right of way prior to issuance of a Non Residential Use Permit (Non-RUP).*
6. A 5-foot wide sidewalk shall be constructed across the Shreve Road frontage prior to issuance of a Non-RUP.*
7. Stormwater management shall be provided as generally depicted on the SEA Plat or as approved by the Department of Public Works and Environmental Services (DPWES). The applicant shall promptly provide mitigation measures if there are impacts from increased stormwater downstream of the property.*
8. A) The planting schedule provided on the SEA Plat provides suggested vegetation and can be modified upon approval of the Urban Forest Management Division should other vegetation options be preferred, as an example, replacing the Yellow Wood and Greenspire with Red Sunset and/or Black gum varieties.*

B) Further, prior to approval of the landscape plan, the Applicant and/or the County shall consult with a Certified Arborist Utility Specialist, who has experience in electric utility vegetation management, to find possible locations for taller vegetation within the restricted height areas shown on the SEA Plat. Should the Certified Arborist Utility Specialist find areas where taller plantings may installed, the Applicant shall modify the final site plan/landscape plan upon approval of the Urban Forest Management Division.
9. Landscaping shall be provided onsite in order to meet the intent of the Type 2 and Type 3 Transitional Screening requirements subject to the review and approval of the Urban Forest Management Division. On-site landscaping shall be as generally depicted on the SEA Plat. The Applicant shall provide the off-site landscaping to reduce the visual impact of the substation on the adjacent residential properties, property owners who have views of the new substation equipment, and community association common areas. The Applicant shall provide evergreen and/or deciduous vegetation on the lot of each landowner along Holly Manor Drive and Marthas Lane who are adjacent to the substation property or who will have views of the new substation equipment, and who elect to have off-site landscaping installed on their property. The Applicant shall contact the Holly Crest Community Association

and/or individual property owners adjacent to the substation along Holly Manor Drive to develop a plan for supplemental landscaping to be installed by the Applicant. The height limitations for vegetation shown on the substation property shall not apply to offsite vegetation nor shall the Applicant conduct trimming or maintenance on said offsite vegetation without the property owners consent. The Applicant shall also contact the representatives of the Dominion Heights Herrell Addition subdivision to determine if off-site landscaping should be provided on those properties as well. The Applicant shall negotiate the quantity, location, species, and type of landscaping with each individual landowner and submit the final design to the Urban Forest Management Division (UFMD) for review and comment. The design shall also be submitted to the Providence District Supervisor's office for review and comment. Landscaping shall be a minimum size of 7 feet tall and between 2 and 2 ½ inches in caliper at the time of planting. The landscaping shall be installed by the Applicant at the sole cost of the Applicant. The viability of such plantings shall be assured by the Applicant for a one (1) year period after installation, but regular care and maintenance shall be provided by the landowner. For satisfaction of this development condition, prior to site plan approval, the Applicant shall demonstrate that the landowners adjacent to the substation along Holly Manor Drive and Marthas Lane and in the Dominion Heights Herrell Addition subdivision were notified via certified mail of their eligibility to receive off-site landscaping. The Applicant shall begin working with the adjacent homeowners anytime thereafter. Landscaping may be installed prior to or following construction of the substation, as determined by the individual landowner, including the Holly Crest Community Association. Prior to release of the project's performance bond, the Applicant shall demonstrate final compliance of this development condition with either approved landscape layouts including property owner signatures verifying installation of respective off-site landscaping, a property owner's election to not receive off-site landscaping, or evidence of the Applicant's good faith effort to obtain such approval. The Applicant shall work with UFMD and the Providence District Supervisor's office to resolve any differences that arise during this process.*

10. Prior to the installation of plants to meet requirements of the approved landscape plan, the Applicant, with the Contractor/Developer serving as the agent, shall coordinate a pre-installation meeting on site with the contractor/developer of the site and a representative of the County Urban Forest Management Division (UFMD). Any proposed changes to the location of planting, size of trees/shrubs, and any proposed plant substitutions for species specified on the approved plan shall be reviewed at this time and must be approved prior to planting. The installation of plants not specified on the approved plan, and not previously approved by UFMD, may require submission of a revision to the landscape plan or removal and replacement with approved material, prior to bond release. UFMD shall be contacted (703-324-1770) a minimum of three (3) days prior to the meeting on site.*

11. The wall shall be constructed as generally depicted on the SEA Plat and shall be precast masonry panels and pilasters with brick façade along the north, east and west boundaries. Pre-cast concrete masonry panels and pilasters may be installed for the southern wall with matching brick color. The wall shall be built in general conformance with the SEA Plat and meet the Applicant's latest security requirements. A 7 foot high chain link fence with barbed wire shall be provided along Lots 18, 19 and 20 of Holly Crest in a similar location to the existing chain link fence. (Tax Map Parcels 49-2 ((41)), 0018, 0019 and 0020) This area between the fence and the wall shall be gated to prohibit unauthorized access. The gate along the front shall be 16 feet tall to match the rest of the wall height along Shreve Road, and shall open in towards the substation, slide or roll upwards.*
12. A) The vegetation and wall proposed on-site are required to remain as generally depicted on the SEA Plat. Minor modifications as allowed by the Zoning Ordinance may be permitted; however, replacement and appropriate maintenance of the vegetation and wall shall be provided as necessary to ensure the survival of the vegetation and aesthetic quality of the wall. Should the vegetation not survive, the Applicant shall replace such vegetation and maintain it thereafter.*

B) To increase the survivability of the new plantings, the Applicant shall enter into a one (1) year maintenance contract for the on-site landscaping. Further, in order to minimize the likelihood of vegetation replacement, for a period of two (2) years, Dominion's arborist shall inspect the overall health of the plantings each spring, summer, and fall season to determine if appropriate actions, such as additional watering or insect management, are necessary. Records of inspections and necessary actions shall be maintained during this 2-year period and be made available upon request from Fairfax County or the Providence District Supervisor's office.
13. If a gate is necessary in the chain link fence along the southern boundary adjacent to the Dominion Power easement, a gap in the vegetation may be permitted up to 14 feet wide upon review by the Urban Forestry Management Division.*
14. As a condition of the 10-year tree canopy modification, a contribution of \$19,538.00 shall be made to the Tree Preservation and Planting Fund at the time of site plan approval.*
15. Tree Preservation: The Applicant shall submit a tree preservation plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.*
16. The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage

rating for all individual trees to be preserved, as well as all on- and off-site trees, living or dead with trunks 12 inches in diameter and greater (measured at 4 ½ -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet of the limits of clearing and grading within the undisturbed area. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the SEA and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.*

17. Tree Preservation Walk-Through. The limits of clearing and grading are proposed to cover the entire site and it is unlikely that these will be significantly altered. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. The Providence District Supervisor's office and adjacent neighbors shall be notified in writing in advance of this walk-through for their opportunity to participate in the walk-through. During the tree preservation walk-through meeting, the Applicant's certified arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions. Any trimming of trees on adjacent properties for purposes of construction shall be done under the supervision of a certified arborist and after notification of the property owner.*
18. Limits of Clearing and Grading. The Applicant shall conform strictly to the limits of clearing and grading as shown on the SEA Plat, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SEA Plat, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be

disturbed for such trails or utilities.*

19. Tree Preservation Fencing: All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" proffer below.*
20. All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES.*
21. Root Pruning. The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:
 - Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
 - Root pruning shall take place prior to any clearing and grading, or demolition of structures.
 - Root pruning shall be conducted with the supervision of a certified arborist.
 - An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete."*
22. A plan for the care and maintenance of the trees to be managed and maintained onsite along Shreve Road and for protection of offsite trees shall be developed during site plan review based on consultation and coordination with a certified arborist. The care and maintenance of the onsite trees could include pruning and

supplemental planting to meet the intent of Transitional Screening 2. The offsite trees shall include but not be limited to trees numbered 104, 105, 131, 132, 133, 134, 114, 116, 117, 113, 107, 109 and 111. During site plan review, the total square footage of the canopy area associated with those trees to be protected, managed and maintained shall be provided. Based on the square footage of canopy, a replacement cost will be prepared by the Urban Forest Management Division (UFMD) based on the latest County of Fairfax, Department of Public Works and Environmental Services Comprehensive Unit Price Schedule. Once the cost estimate is approved, a bond or letter of credit shall be provided for the replacement value for the onsite trees. For the offsite trees, the trees shall either be replaced or replacement value shall be provided to the property owner (based on the preference of the property owner).*

23. The wall may be built in stages. Upon installation of the distribution 38kV GIS vault and the installation of the distribution circuits, the Applicant shall use expeditious efforts to complete the wall frontage along Shreve Road. Thereafter, all reasonable efforts shall be made to complete as much of the wall as possible at the earliest stage possible.*
24. Construction and demolition debris waste shall be recycled to the maximum extent practicable during the various stages of the existing substation demolition.*
25. During site plan review, a plan for the mitigation of construction impacts shall be developed by the Applicant. Measures to alleviate construction impacts on Shreve Road and the surrounding communities will include a flag person as necessary during construction, setting up a schedule for deliveries of large construction equipment or materials (subject to VDOT regulations), locating dumpsters and other similar devices behind covered fencing, the future wall, or in a location on the Dominion property to reasonably limit public visibility and providing timely removal of the same when full, establishment and continuation of a website for the project which will provide alerts (which could include mass emails or use of social media) on high impact (for instance noise or traffic impacts) activities or other measures, designed to provide timely notification to the area residents and those traveling on Shreve Road. This plan shall be provided to the Providence District Supervisors office. Pedestrian access across the property shall be maintained at all times throughout construction.*
26. This use shall be subject to the Noise Ordinance of Fairfax County. The following noise and glare mitigation measures shall be implemented during construction:
 - All motorized vehicles and equipment used on this project shall be equipped with proper mufflers.
 - Delivery routes shall be arranged to minimize the use of backup alarms on commercial vehicles and equipment.
 - The banging of tail gates shall be prohibited. All drivers associated with this

project shall be informed each day about this prohibition.

- All lights used to illuminate the project site, including any staging areas, shall be full cut-off or directionally shielded so that the directed light shall be substantially confined to the construction site.

27. All applicable permits from the US Army Corps of Engineers, Virginia Department of Environmental Quality, and Virginia Department of Conservation and Recreation shall be obtained prior to obtaining site plan approval.*
28. Construction hours shall be limited as follows:

Initial Site Work Period (Grading/Excavation/SWM/E&S): Monday through Friday 7:00 am to 7:00 pm; Saturdays from 9:00 am – 5:00 pm. No construction work during this period shall be performed on Sundays or major federal holidays. The proposed 15' tall mobile sound mitigations panels shall be completely installed prior to the initial site work period and remain for the duration of construction. The schedule for the extended construction hours associated with the Initial Site Work Period shall be seven (7) weeks, and no more than a maximum of ten (10) weeks to allow for uncertainties such as weather, as measured from the date of the required pre construction meeting.

Post-Site Work Period (Re-build Period) - Monday through Friday 7:30am to 6:00 pm. Should work on Saturdays be necessary, hours shall be limited from 9:00 am to 5:00 pm. No construction work shall be performed on Sundays or major federal holidays.

The Applicant shall notify the Holly Crest HOA and the Providence District Supervisor's office when the Initial Site Work Period commences and when it is complete. For either Work Period, signage shall be posted on-site in English and Spanish, or any other language which may become necessary based on construction personnel, notifying construction personnel of residential properties in close proximity to the substation and to limit truck idling. Construction vehicles shall not idle or park along Holly Manor Drive and signs for the construction and prohibition on idling shall be placed on the nearby streets subject to VDOT approval. In addition to the proposed 15' tall mobile sound mitigation panels, noise reducing efforts such as using flags or a single buzzer instead of beepers, use of temporary construction noise abatement techniques or such other measures shall be diligently pursued. The Applicant shall provide the Providence District Supervisor's office with a point of contact for construction related issues. The Applicant shall provide a response to construction related issues/questions/complaints within 24 hours of receiving notice. The construction hours noted above shall not prohibit the Applicant from performing emergency construction or maintenance on the substation or adjacent power lines as necessary.*

29. All signs onsite shall be subject to Article 12.*
30. Storage of materials, equipment or trucks not needed for operation of the substation or adjacent power lines is not permitted onsite once construction activities have been completed.*
31. All graffiti shall be removed as expeditiously as possible, and shall be removed no later than a week after the Applicant is notified of the issue. A point of contact for ongoing maintenance issues shall be established with the Providence District Supervisors office and updated as the contact may change.*
32. Construction traffic shall be limited to the Shreve Road entrances.*
33. All reasonable efforts shall be made to reduce construction noise on the east side of the property due to the close proximity of residences. Multi-lingual signage shall be posted on-site notifying construction personnel of these efforts.*
34. Electromagnetic field (EMF) readings at the perimeter of the site shall be provided to the Holly Crest Community Association and other interested property owners within 6 months after the substation equipment becomes operational, or prior to bond release, whichever occurs first.*
35. Following construction of the substation wall and installation of the landscaping at the property's northeastern corner (including the Holly Crest off-site landscaping that is located in this general area and depicted at the northeast corner on the plat), the Applicant shall work with the Holly Crest HOA to determine if there is a need to relocate or replace the Holly Crest entrance sign. The Applicant will fund the relocation or replacement of the entrance sign up to \$35,000.00 if it is determined that the sign is not adequately screened from the substation or if the sign appears disconnected from the residential community. The intent is to ensure the sign is associated with the Holly Crest neighborhood and not the substation. If the new landscaping satisfactory separates the sign from the substation use, the \$35,000.00 contribution shall be not required. Prior to the issuance of the non-RUP, the applicant shall obtain a letter from the Holly Crest HOA indicating that this condition has been satisfied.*
36. A soil remediation plan will be submitted on the first and all subsequent site plans for review and approval by UFMD. The soil remediation plan shall comply with ANSI A300-Part 2 Standards and its accompanying Best Management Practices. The remediation plan shall include, but not be limited to, Section 14 Soil Management a. Soil Modification, of ANSI A300-Part 2, latest edition. The remediation plan shall also be generally consistent with the drawing entitled "Areas of Anticipated Soil Remediation", prepared by Dewberry Engineering, Inc. and dated May 15, 2017, and included as Attachment 1 to these development conditions. The remediation plan shall demonstrate where soil remediation will take

place within all of the required Transitional Screening buffer areas around the full perimeter of the site. These areas shall include where construction activities have or have not already occurred.

37. The backbone structure generally shown on the special exception plat in the northwestern corner of the approved substation and the associated two (2) spans of conductors/shield wire shall not be constructed unless such backbone and associated conductors/shield wire are required to reflect approvals by the State Corporation Commission. Should the backbone not be constructed, alternative line connection/transitions from the substation to the applicable transmission line may also be provided from that shown on the SEA plat.
38. A 7' chain-link construction fence with an additional foot of barbed wire shall be placed around the perimeter of the construction area, except on the Shreve Road frontage and the approximately 115 linear foot area generally behind the existing Hollycrest Subdivision sign, which shall be 10' in height with no barbed wire. In addition, the 10' construction fence on the Shreve Road frontage will have a fabric screen design that is chosen by the Applicant after obtaining input from the Holly Crest HOA and Dominion Heights Herrell Addition subdivision.
39. The Applicant shall remove vines and invasive species, do soil testing, amending of soils based on the results from the soil testing, prune broken and dead limbs, and add 3 inches of shredded hardwood mulch by hand within the proposed tree save area along Shreve Road. Understory plantings may be installed within the tree save area as generally depicted on the drawing and narrative entitled "Mitigation Landscape Plan – Enhance Existing Tree Area," prepared by Dewberry Engineering, Inc., dated April 6, 2017, and included as Attachment 2 to these development conditions.
40. The high bus may be constructed in advance of its energization. The Applicant shall provide notice to the Holly Crest HOA of when the high bus is to be energized. Similar notice shall be provided when the high bus is to be de-energized, along with an anticipated date of structure removal. Removal of the high bus shall be completed as soon as practical following de-energization.
41. The Applicant may pursue processing of the site plan and/or rough grading permit with DPWES; however, no plans shall be approved and no permits shall be issued until the State Corporation Commission has issued a Final Order and a Certificate of Public Convenience and Necessity in or related to Case No. PUR-2017-00002.
42. The 120-foot lattice tower (identified as #2097/177) is creating an adverse visual impact on neighboring properties and is nearing the end of its useful life. Therefore, the Applicant shall take the following steps:
 - (a) The Applicant will inspect the 120-foot lattice tower (identified as

#2097/177) for possible replacement within commercially reasonable timeframes, but not less than every year. The Applicant will submit the findings of such inspections to Fairfax County and the office of the Providence District Supervisor.

- (b) To the extent lattice tower 2097/177 is deemed to meet the Applicant's criteria for replacement before its next transmission project on the subject property, the Applicant will remove the existing lattice tower and install a replacement tower or pole structure of a design and materials intended to minimize adverse visual impacts on neighboring properties, as determined by the Zoning Administrator.
- (c) If such tower replacement has not already occurred or is not already underway at the time Dominion initiates its next transmission project that includes the subject property, the Applicant will design and propose to the Virginia State Corporation Commission (SCC) replacement of the tower based on visual mitigation reasons, and advocate in good faith for such replacement, at the time it initiates the next transmission project that includes the subject property. While this condition does not mandate a specific type or form of tower replacement, the Applicant will exercise its best efforts to replace the tower in a manner that minimizes the adverse visual impact on neighboring properties. Upon approval by the SCC, the Applicant will replace the 120-foot tower as expeditiously as possible.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining the required Non-Residential Use Permit through established procedures, and this Special Exception shall not be valid until this has been accomplished.

Pursuant to Section 9-015 of the Zoning Ordinance, this Special Exception shall automatically expire, without notice, 30 months after the date of approval unless the use has been established or construction has commenced and been diligently prosecuted. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the Special Exception. The request must explain why additional time is required, specify the amount of additional time requested, and explain the basis for the amount of time requested.

The Board also:

- Waived the major paved trail shown on the Countywide Trails Plan in favor of the five foot wide sidewalk that is proposed along the entire Shreve Road frontage

SEA 2014-PR-032
September 13, 2017

22.07.2017

- Waived the actual striping for the proposed bike lane along Shreve Road shown on the Countywide Bicycle Master Plan
- Reaffirmed all previously approved waivers and modifications, as listed below:
 - Modification of transitional screening requirements along all boundaries of the site in favor of that shown on the special exception (SE) plat
 - Directed the Director of the Department of Public Works and Environmental Services (DPWES) to approve a modification of 10-year tree canopy requirements in favor of that shown on the SE plat
 - Directed the Director of DPWES to approve a waiver of the tree preservation target requirements in favor of that shown on the SE plat

Sincerely,



Catherine A. Chianese

cc: Chairman Sharon Bulova

Supervisor Linda Smyth, Providence District

Howard Goodie, Director, Real Estate Division, Dept. of Tax Administration

Tracy D. Strunk, Director, Zoning Evaluation Division, DPZ

Diane Johnson-Quinn, Deputy Zoning Administrator, Dept. of Planning and Zoning

Thomas Conry, Dept. Manager, GIS, Mapping/Overlay

Michael Davis, Section Chief, Transportation Planning Division

Ken Williams, Plans & Document Control, ESRD, DPWES

Andrea Dorlester, Park Planning Branch Manager, FCPA

Abdi Hamud, Development Officer, DHCD/Design Development Division

Jill Cooper, Executive Director, Planning Commission

Karyn Moreland, Chief Capital Projects Sections, Dept. of Transportation



COUNTY OF FAIRFAX
 Department of Planning and Zoning
 Zoning Evaluation Division
 12055 Government Center Parkway, Suite 801
 Fairfax, VA 22035 (703) 324-1290, TTY 711
www.fairfaxcounty.gov/dpz/zoning/applications

APPLICATION No: SEA 2014-PR-032
 (Staff will assign)

RECEIVED
 Department of Planning & Zoning

JAN 17 2017

APPLICATION FOR A SPECIAL EXCEPTION

Zoning Evaluation Division

(PLEASE TYPE or PRINT IN BLACK INK)

APPLICANT	NAME VA. Electric & Power Co., d/b/a Dominion Virginia Power <i>Energy Virginia</i> <i>del 6/24/17</i>	
	MAILING ADDRESS 701 E. Cary Street, Richmond, VA 23219	
	PHONE HOME ()	WORK (804) 771-6408
	PHONE MOBILE (804) 380-9335	
PROPERTY INFORMATION	PROPERTY ADDRESS 7701 & 7707 Shreve Road, Falls Church, VA 22043	
	TAX MAP NO. 49-2-((1))-151 and 49-2-((12))-001A	SIZE (ACRES/SQ FT) 7.15 ac / 311,367 sf
	ZONING DISTRICT R-3	MAGISTERIAL DISTRICT Providence
	PROPOSED ZONING IF CONCURRENT WITH REZONING APPLICATION:	
SPECIAL EXCEPTION REQUEST INFORMATION	ZONING ORDINANCE SECTION 9-014; 9-101	
	PROPOSED USE Amend SE 2014-PR-032 previously approved for an Electric Substation and Telecommunication Facility to modify site and development conditions	
AGENT/CONTACT INFORMATION	NAME Gregory A. Riegler, Esquire / Sheri L. Akin, Senior Land Use Planner	
	MAILING ADDRESS McGuireWoods LLP 1750 Tysons Boulevard, Suite 1800, Tysons Corner, VA 22102	
	PHONE HOME ()	WORK (703) 712-5483 (SLA)
	PHONE MOBILE ()	
MAILING	Send all correspondence to (check one): <input type="checkbox"/> Applicant -or- <input checked="" type="checkbox"/> Agent/Contact	
<p>The name(s) and addresses of owner(s) of record shall be provided on the affidavit form attached and made part of this application. The undersigned has the power to authorize and does hereby authorize Fairfax County staff representatives on official business to enter the subject property as necessary to process the application.</p> <p>Sheri L. Akin, Senior Land Use Planner</p> <p>TYPE/PRINT NAME OF APPLICANT/AGENT SIGNATURE OF APPLICANT/AGENT</p> <p><i>Sheri L. Akin</i></p>		

DO NOT WRITE IN THIS SPACE

Date Application accepted: January 24, 2017

Application Fee Paid: \$ 16,575.00

Name change only June 26, 2017

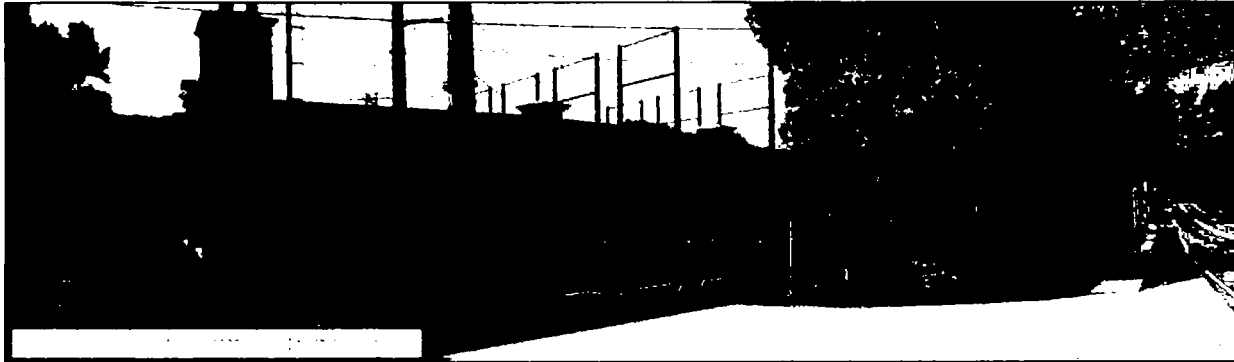
SEA 2016-0376

mpc
1/24/17

March 24, 2021

210720042

Idylwood Substation Rearrangement Project



Project Overview

The Idylwood Substation Rearrangement Project rebuilds the existing Idylwood Substation at Shreve Road, originally built in the late 1950s, in order to support growing capacity and projected reliability concerns in the region. These enhancements will allow us to continue providing safe and reliable electric service to the community.

Due to the limited space at the site, Dominion Energy is investing in Gas Insulated Substation (GIS) technology. The existing substation currently uses Air-Insulated Technology. By utilizing GIS technology, Dominion Energy will be able to largely utilize our existing footprint while modernizing the facility to meet area demand and minimizing impact to surrounding neighbors.

GIS is the best available technology and offers several benefits:

- GIS equipment takes up less space, allowing Dominion Energy to accommodate growth in the area, while operating within the existing property
- GIS is more reliable than traditional air-insulated substations, meaning fewer outages for customers
- GIS requires less maintenance than traditional substations

Construction Timeline

The below timeline was created after receiving final permits needed to begin construction and reflect the most accurate and realistic timeframe to complete the project based on current known circumstances. This timeline does not include every aspect of the project, rather a high-level timeline of the key components needed to complete this project, as well as other construction activity that may be more noticeable by the community. Our project team would like to thank the community for their patience throughout this process and remember the timeline for individual activities is subject to change based on weather and other unforeseeable factors. The Company does believe, however, that the June. 30, 2026 energization date and overall construction completion date of Dec. 31, 2026 is achievable. The Company will periodically review this document and update it for changed circumstances.

March 24, 2021

210720042

January-June	38 kV GIS Building	Complete construction of the new GIS building that will house future distribution equipment.
June-December	38 kV GIS Connection	Connecting distribution equipment to 38 kV GIS building.
September-December	Brick Enclosure	Installation of permanent brick security enclosure section 1 (Shreve Road facing side). Landscaping to be installed after, timing subject to time of year to ensure successful growth. *Pending contractor engineering completion.
November	High Bus	Connect temporary construction high bus to new transformers and energize.
November	Transformer #4	Remove transformer #4 from service and remove from site.

January-March	Installing temporary structures to relocate transmission line to west side of the substation. Will be removed when 230 kV GIS building is complete.	
March	Energizing circuits out of the 38 kV GIS building.	
April	Replace overdutied breaker.	
May	<ul style="list-style-type: none"> Remove two existing transmission structures in the center of the substation. Install foundation and bottom half of new transmission structure (remaining half to be installed towards the end of the project). 	
February	Remove distribution transformer #2 from service and remove from site.	
May-July	Install 230 kV control house building foundations.	
August	230 kV control house building installed.	
August-November	Install four 230 kV backbone structures near 230 kV control house building and future 230 kV GIS building.	
November-December	Install foundations for 230 kV GIS building.	

January-October	Construct 230 kV GIS building and install associated equipment.	
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March 24, 2021

210720042

July-September	Install three 230 kV backbone structures on west side of 230 kV GIS building.
October-June 2024	Installing control cable and testing of equipment.

January	Install reactor foundations. Flexible timeline, subject to change.
June-February 2025	Transmission line conductors moved to new 230 kV GIS building. Crews visible working on bucket trucks. *Subject to change based on outage approvals, weather, etc.
Fall	De-energize temporary construction high bus structure.

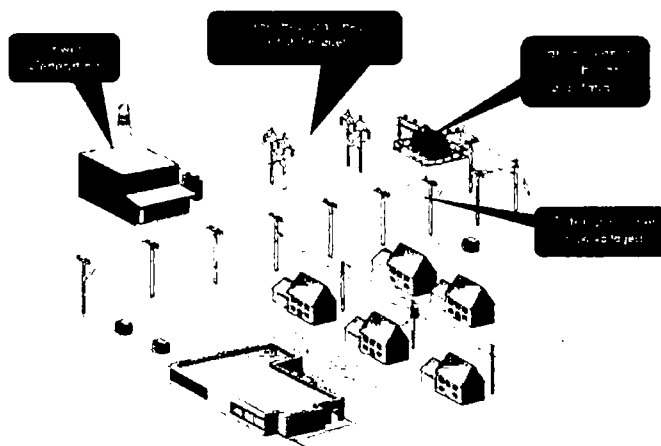
February-March	Relocating 230 kV reactor and re-assembling and processing. *Will involve running equipment 24 hours for approximately one week.
March	Transmission line work associated with the 230 kV GIS building complete.
June	Energize 230 kV reactor.
July	Install 230 kV capacitor bank. *Last piece of transmission equipment to be installed
July-January 2026	Remove old 230 kV equipment.

January-December	<ul style="list-style-type: none"> Construct remaining sides of permanent brick security enclosure. Remove old fence. Replace existing chain link fence with non-conductive fence in the back of the substation.
January-December	Grading, clean up, restoration, landscaping.
June 30	All new equipment expected to be energized.
December	Target construction completion date

March 24, 2021

What is a substation?

A substation is a facility that changes voltage from high to low or from low to high, among other important functions. When electric transmission lines enter a substation, the voltage is lowered using transformers. The lower voltage electricity is delivered to customers using electric distribution lines.



Item	Definition
Backbone Structure	A structure that drops the electric transmission conductor heights from an overhead structure to connect to the substation equipment.
Breaker	Protects other substation equipment in the event of an overload by detecting a fault and discontinuing electrical flow.
Bus	Metallic strip or bar (typically copper, brass or aluminum) that conducts electricity.
Circuit	Path in which electrons from a voltage or current source flow.
Conductor	A metallic wire that allows electrical current to flow through it. Conductors are the "lines" you see connected to electric transmission and distribution structures.
Construction Bus	A steel, linear structure which will bring the transmission power source from one end of a substation to another; Temporary in nature.
De-Energize	Remove from electrical service.
Energize	Electrical service is "live" or in service.
GIS	Gas insulated substation; specialized equipment used in areas where expansion of existing equipment is limited.
GIS Vault	Underground housing for electrical cable and equipment.
In-Service Date	Date that substation equipment is energized.
Reactor	Controls reactants on the system by regulating and stabilizing the impedance and capacitance on an electric transmission line.
SCC	State Corporation Commission - provides utility oversight in Virginia.
Transformer	Device that increases or decreases voltage.