

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

J. Identify coordination with appropriate municipal, state, and federal agencies.

Response: See Appendix Sections III.B and V.D of this Appendix for coordination conducted by the Company with appropriate municipal, state, and federal agencies regarding the proposed Project. Dominion Energy Virginia has continued to provide the staff of Fairfax County with updates on the scope of the Project. Also, see Attachment I.A.3 for the Fairfax County Resolution, as discussed in Appendix Section I.A, showing the County's support of the proposed Project and the future economic development resulting from the Project.

In addition, in early August 2020, the Company solicited comments via letter from several federally recognized Native American tribes, including the Chickahominy, Eastern Chickahominy, Nansemond, Monacan, Pamunkey, Rappahannock, and Upper Mattaponi, and several state recognized Native American tribes, including the Cheroenhaka, Mattaponi, Nottoway of Virginia, and Patawomeck. A copy of the letter template and project overview map are included as Attachment III.J.1.

On September 10, 2020, the Pamunkey Tribal Cultural Resource Office ("Tribal Office") responded to the Company's communication. In the letter, the Tribal Office expressed interest in the development of the Project. The Company responded to the Tribal Office on September 23, 2020. In addition, the Company will continue to coordinate and cooperate with the Tribal Office as the Company continues to develop and seek permits for the Project. See Attachment III.J.2 for the Company's letter.

Aug.17, 2020

Proposed Tysons-future Spring Hill Underground Electric Transmission Project

Dear,

At Dominion Energy, we are dedicated to finding the best solution for our long-term needs in the communities we serve. As a result of rapid growth and local comprehensive planning, Dominion Energy is proposing to underground an existing 230 kilovolt (kV) electric transmission line in Fairfax County.

While no historical or archeological sites have been identified along the approximate half-mile line between the existing Tysons Substation and the proposed Spring Hill Substation, we still invite your input as a valued stakeholder with a vested interest in the community.

We are currently in the conceptual phase and are seeking input prior to submitting an application to the Virginia State Corporation Commission (SCC) in fall 2020. Doing so allows us to hear any concerns you may have as we work to meet the project's needs. Enclosed is a project overview map to help in your review.

We are committed to purposeful and early inclusion of tribal communities in project communication processes. By reaching out early and encouraging meaningful conversation, we hope to keep tribal communities informed and engaged.

Please provide your comments by Aug.31, 2020, so we have adequate time to review and consider your comments in our project design and as part of our SCC application. We appreciate your assistance as we move through the planning process.

Due to the ongoing public health concerns resulting from the spread of the coronavirus, we do not plan to host an in-person community event at this time. In lieu of our traditional open house, we will host a virtual community meeting from 6:30 p.m. – 7:30 p.m. on Sept. 9, 2020. We encourage you to visit the project's dedicated webpage at DominionEnergy.com/springhill for information on the meeting, to view additional maps and to access details on the project.

If you have any questions or would like to set up a meeting to discuss the project, please do not hesitate to contact Ken Custalow, our Tribal Liaison. He can be reached by sending an email to ken.custalow@dominionenergy.com or by calling 804-771-4103.

Sincerely,

A handwritten signature in dark ink, appearing to read "Tiffany D. Jay". The signature is fluid and cursive, with a stylized "T" and "J".

Aug.17, 2020

Proposed Tysons-future Spring Hill Underground Electric Transmission Project

Page 2

Tiffany Taylor-Minor

Communications Consultant

The Electric Transmission Project Team

Enclosure: Project Overview Map

cc Ken Custalow

Dominion Energy Virginia
Electric Transmission
P.O. Box 26666, Richmond, VA 23261-6666
DominionEnergy.com



Sept. 23, 2020

Mr. Terry Clouthier
Cultural Resource Director
Pamunkey Indian Tribe
1054 Pocahontas Trail
King William, VA 23086

Proposed Tysons-future Spring Hill Underground Electric Transmission Project

Dear Mr. Clouthier:

Thank you for your response letter regarding the proposed plans for the Tysons-future Spring Hill Underground Electric Transmission Line Project in Fairfax County, Virginia. The project team appreciates the opportunity to review and consider your input on the project.

In consideration of your questions and recommendations proposed in your letter, our plan for surveying and accounting for cultural and historical resources is as follows.

- **Known Historical Resources Response:** Dominion Energy completed a Stage I Pre-Application Analysis for the project. Among other things, this analysis involves a review and survey of the Virginia Department of Historic Resources (VDHR) Virginia Cultural Resources Information System (V-CRIS) database to identify resources in the vicinity of the project that are listed on or eligible for listing on the National Register of Historic Places (NRHP). This work identified no National Historic Landmarks within a 1.5-mile buffer from the right-of-way (ROW); no NRHP-listed properties, battlefields, or historic landscape properties within a 1.0-mile buffer from the ROW; no NRHP-eligible sites within a 0.5 mile buffer from the ROW; and no archaeological, architectural, or other resource sites within the right-of-way. The Stage I Pre-Application Analysis was submitted to VDHR in August 2020.
- **Unknown Historical Resources Response:** To learn about unknown, potentially historic resources, the Company is reaching out as part of the Virginia State Corporation Commission (SCC) CPCN Pre-Application process to stakeholders and locals for any information about the area that is not available from a desktop review and site visits. This is the reason, among others, that we provided notice to the Pamunkey Tribe ("Tribe") about this project. Is the Tribe aware of any resources or places of historical or cultural interest in the vicinity of the project area, or anything else about the project area the Company should know about?
- With respect to the Tribe's suggestion regarding the initiation of a cultural resource survey (archaeological) in the areas of proposed ground disturbance, as noted above, we are not aware of any archaeological sites within the right-of-way (that is, the area of proposed ground disturbance). It is also important to note that this project takes place in

a highly urban, heavily developed area of Fairfax County, known as the Tysons Corner Urban Area or Tysons. There is little to no land within the project area that has not been disturbed by development and redevelopment over the last 50 years. It is the Company's standard practice when implementing excavation on a project to be conscious of encountering unknown resources. To that end, the Company has a plan in place on reporting any resources encountered. Any findings will be made available should they be encountered during construction.

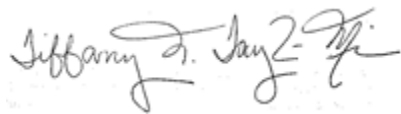
With respect to the statement that the Tribe wants to be a consulting party, unlike the Army Corps of Engineers' permitting process under the Clean Water Act, such a designation does not exist within the SCC process. Of course, like all members of the public, the Tribe is welcome to participate in the SCC process by submitting comments to the SCC about the project, or by filing a notice to become a formal party to that proceeding. Regardless of whether the Tribe chooses to participate in the SCC process, the Company will continue to coordinate and cooperate with the Tribe as the Company continues to develop and permit the project.

Also, it is important to note that based on field and desktop studies, no wetlands or other Army Corps of Engineers jurisdictional waters have been identified within the project area. Therefore, the Company does not anticipate seeking any approval from the Army Corps of Engineers (or any other federal agency) for this project.

We are committed to completing this important project mindfully and with respect to the Tribe. If the Tribe would like to share any pertinent cultural information with us that may not be included in publicly available databases to inform our survey approach, please let us know.

If you have any questions or would like to set up a meeting to discuss any details of our surveying or construction plans, please contact me by sending an email to t.taylor-minor@dominionenergy.com or calling 804-836-6390. You may also contact Tribal Relations Manager Ken Custalow by sending an email to ken.custalow@dominionenergy.com or calling 804-837-2067.

Sincerely,

A handwritten signature in black ink, appearing to read "Tiffany Taylor-Minor".

Tiffany Taylor-Minor
Communications Consultant
The Electric Transmission Project Team

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

K. Identify coordination with any non-governmental organizations or private citizen groups.

Response: In August 2020, the Company solicited comments via letter from the community leaders, environmental groups, and business groups identified below. A copy of the letter template and overview map is included as Attachment III.K.

Contact	Organization
Ms. Elizabeth S. Kostelny	Preservation Virginia
Mr. Thomas Gilmore	Civil War Trust
Mr. Jim Campi	Civil War Trust
Mr. Adam Gillenwater	Civil War Trust
Ms. Kym Hall	Colonial National Historical Park
Mr. Jack Gary	Council of Virginia Archaeologists
Ms. Leighton Powell	Scenic Virginia
Mr. Alexander Macaulay	Macaulay & Jamerson
Ms. Sharee Williamson	National Trust for Historic Preservation
Mr. Dan Holmes	Piedmont Environmental Council
Dr. Newby- Alexander, Dean	Norfolk State University
Mr. Roger Kirchen, Archaeologist	Virginia Department of Historic Resources
Ms. Adrienne Birge-Wilson	Virginia Department of Historic Resources
Mr. Dave Dutton	Dutton + Associates, LLC

The outreach focused on Project regulatory process, conversions of overhead to underground solution, and routing and siting.

Company representatives have continued to meet with and periodically update each member of Fairfax County Board of Supervisors in districts potentially affected by

the proposed Project.

The Company hosted a virtual open house on Wednesday, September 9, 2020, at 6:30 p.m., where six community members participated online. Since that time, the Company has seen 2,401 visitors to the website and recorded video from the event during the timeframe of September 9 to September 15, 2020. A transcript of the recorded video was also posted in Spanish and Vietnamese.

The Company sent approximately 200 Save the Date postcards and separate letters of invitation to owners of surrounding parcels within 500 feet of the centerline of the Proposed Route. Area homeowner associations, civic groups, and cultural and scenic oriented organizations were also mailed and emailed invitations to the open houses. See Attachments III.B.1, III.B.2, and III.K.

Newspaper print advertisements regarding the Project and virtual open house were placed in the McLean Connections (circ. 20,529), Fairfax Times (circ. 129,980), and Fairfax Suns Gazette (circ. 32,000). An example of such an ad is included as Attachment III.B.3. In addition, digital and social media advertisements ran on TysonsReporter.com, NextDoor, Google AdWords, Twitter, FaceBook, Instagram, and Spotify targeting Fairfax County residents in zip codes within close proximity to Project. An example of the ad is provided as Attachment III.B.4.

Additional information is provided to the public through a website dedicated to the Project: www.dominionenergy.com/springhill.

Aug. 17, 2020

Proposed Tysons-future Spring Hill Underground Electric Transmission Project

Dear _____,

At Dominion Energy, we are dedicated to finding the best solution for our long-term needs in the communities we serve. As a result of rapid growth and local comprehensive planning, Dominion Energy is proposing to underground an existing 230 kilovolt (kV) electric transmission line in Fairfax County.

While no historical or archeological sites have been identified along the approximate half-mile line between the existing Tysons Substation and the proposed Spring Hill Substation, we still invite your input as a valued stakeholder with a vested interest in the community.

We are currently in the conceptual phase and are seeking input prior to submitting an application to the Virginia State Corporation Commission (SCC) in fall 2020. Doing so allows us to hear any concerns you may have as we work to meet the project's needs. Enclosed is a project overview map to help in your review. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include countywide and statewide historic, cultural, and scenic organizations, as well as Native American tribes.

Please provide your comments by Aug. 31, 2020, so we have adequate time to review and consider your comments in our project design and as part of our SCC application. We appreciate your assistance as we move through the planning process.

Due to the ongoing public health concerns resulting from the spread of the coronavirus, we do not plan to host an in-person community event at this time. In lieu of our traditional open house, we will host a virtual community meeting from 6:30 p.m. – 7:30 p.m. on Sept. 9, 2020. We encourage you to visit the project's dedicated webpage at DominionEnergy.com/springhill for information on the meeting, to view additional maps and to access details on the project.

If you have any specific questions or would like to set up a meeting to discuss the project, please do not hesitate to contact me by email at t.taylor-minor@dominionenergy.com or by calling 804-836-6390.

Sincerely,

A handwritten signature in black ink, appearing to read "Tiffany Taylor-Minor". The signature is fluid and cursive, with a stylized "T" and "M".

Tiffany Taylor-Minor

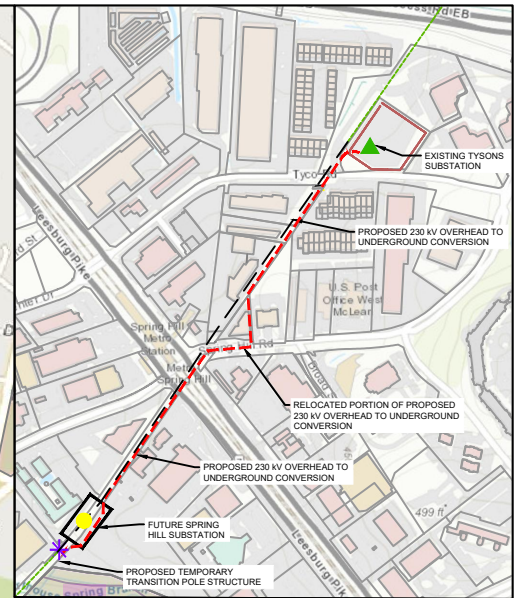
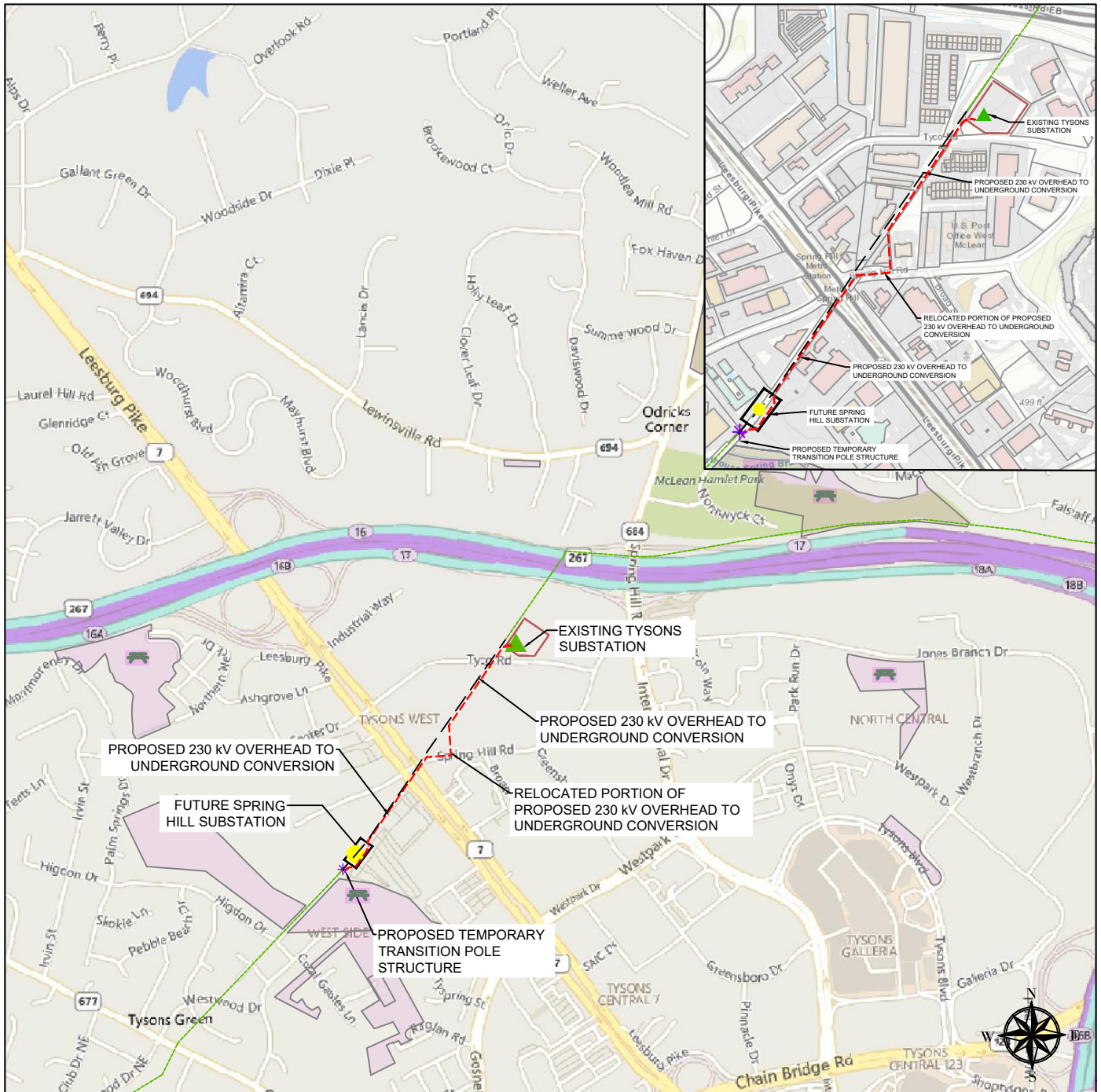
Aug. 17, 2020

Proposed Tysons-future Spring Hill Underground Electric Transmission Project
Page 2

Communications Consultant
The Electric Transmission Project Team

Enclosure: Project Overview Map

cc Ken Custalow



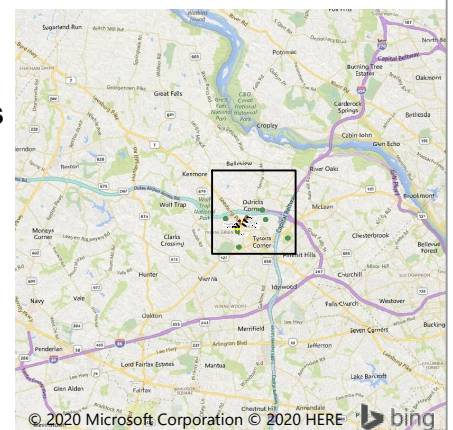
- ▲ Existing Substation
- Future Substation (Spring Hill)
- ✱ Proposed Temporary Transition Pole Structure
- Partial Proposed Underground Pilot Program
- Existing Overhead Line
- Partial Existing Overhead Line - To Be Removed

0' 700' (Main Map)
0 (Vicinity Map)

Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map

Fairfax County



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

L. Identify any environmental permits or special permissions anticipated to be needed.

Response: See table below.

Anticipated Permits

Activity	Permit	Agency
Erosions and Sediment Control and SWM Waiver	Construction General Permit	Virginia Department of Environmental Quality
Work within VDOT right-of-way	Land Use Permit	Virginia Department of Transportation
VDOT Entrance Permit	Land Use Permit	Virginia Department of Transportation
Work within WMATA right-of-way	WMATA Xing Construction Permit	Washington Metropolitan Area Transit Authority

IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS “EMF”)

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

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

This section describes the levels of EMF associated with the existing and proposed transmission line. EMF levels are provided for both historical (2019) and future (2025) annual average and maximum (peak) loading conditions.

Existing lines – Historical average loading

EMF levels were calculated for the existing line at the *historical average* load condition (200 amps) at an operating voltage of 241.5 kV when supported on the existing structures.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at an historical average load operating temperature.

EMF levels at the edge of the right-of-way for the existing line at the historical average loading:

<u>Northwest Edge</u>		<u>Southeast Edge</u>	
<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)	<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)
1.649	19.313	2.109	22.474

Existing lines – Historical peak loading

EMF levels were calculated for the existing line at the *historical peak* load condition (671 amps) and at an operating voltage of 241.5 kV when supported on the existing structures.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at an historical peak load operating temperature.

EMF levels at the edge of the right-of-way for the existing line at the historical peak loading:

<u>Northwest Edge</u>		<u>Southeast Edge</u>	
<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)	<u>Electric Field</u> (kV/m)	<u>Magnetic Field</u> (mG)
1.700	66.483	2.170	77.722

Underground line

In an underground cable, the electric field is contained entirely within the cable insulation. Therefore, there is no electric field at any point external to the cables.

The calculated peak magnetic field strength for the proposed underground facilities operating at maximum loading capability (*i.e.*, 900 MVA) is 99.92 milligauss (“mG”), at one meter above ground, directly above the duct bank. This calculation is based on those segments of the underground line installed through means of open trenching at a depth of approximately 3.0 feet from the top of the duct bank to the surface of the ground.

Magnetic field values, ranging to a distance of 20 feet from the duct bank edge, are shown in the table below:

Distance from Center of Duct Bank (ft)	Magnetic Field Value (mG)
-20	5.0596
-10	24.7062
0	99.9223
10	23.9102
20	4.9421

The Company is not able to provide a reasonably accurate estimate of the value of the magnetic field for the Transition Pole because a model is not presently available that includes the complexity necessary to calculate the value.

IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS (“EMF”)

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

Response: The conclusions of multidisciplinary scientific review panels assembled by national and international scientific agencies during the past two decades are the foundation of the Company’s opinion that no adverse health effects will result from the operation of the proposed Project. Each of these panels has evaluated the scientific research related to health and power-frequency EMF and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Research on EMF and human health varies widely in approach. Some studies evaluate the effects of high, short-term EMF exposures not typically found in people’s day-to-day lives on biological responses, while others evaluate the effects of common, lower EMF exposures found throughout communities. Studies also have evaluated the possibility of effects (e.g., cancer, neurodegenerative diseases, reproductive effects) of long-term exposure. Altogether, this research includes well over a hundred epidemiologic studies of people in their natural environment and many more laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures, such as weight-of-evidence methods, were used by the expert panels assembled by agencies to identify, review, and summarize the results of this large and diverse research.

The reviews of EMF biological and health research have been conducted by numerous scientific and health agencies, including the European Health Risk Assessment Network on Electromagnetic Fields Exposure (“EFHRAN”), the International Commission on Non-Ionizing Radiation Protection (“ICNIRP”), the World Health Organization (“WHO”), the International Committee on Electromagnetic Safety (“ICES”), the Scientific Committee on Emerging and Newly Identified Health Risks (“SCENIHR”) of the European Commission, and the Swedish Radiation Safety Authority (“SSM”) [formerly the Swedish Radiation Protection Authority (“SSI”)] (EFHRAN, 2010, 2012; ICNIRP, 2010; WHO, 2007; SCENIHR, 2009, 2015; SSM, 2015, 2016, 2018, 2019; ICES, 2019). The general scientific consensus of the agencies that have reviewed this research, relying on generally accepted scientific methods, is that the scientific evidence does not show that common sources of EMF in the environment, including transmission lines and other parts of the electric system, appliances, etc., are a cause of any adverse health effects. The WHO, for example, states on their website: “Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields” (WHO, 2020).

The most recent reviews on this topic include the 2015 report by SCENIHR and annual reviews published by SSM (e.g., for the years 2015, 2016, 2018, and 2019). These reports, similar to previous reviews, found that the scientific evidence does not confirm the existence of any adverse health effects caused by environmental or community exposure to EMF.

The WHO has recommended that countries adopt recognized international standards published by the International Commission on Non-ionizing Radiation (ICNIRP) and the IEEE's International Committee on Electromagnetic Safety (ICES). Typical levels of EMF from the Company's power lines outside its property and rights-of-way are far below the screening reference levels of EMF recommended for the general public and still lower than exposures equivalent to restrictions to limits on fields within the body (ICNIRP, 2010; ICES, 2019).

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

References

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

International Commission on Non-ionizing Radiation Protection (ICNIRP). Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 kHz). *Health Phys* 99: 818-36, 2010.

International Committee on Electromagnetic Safety (ICES). IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields 0 to 300 GHz. IEEE Std C95.1-2019. New York, NY: IEEE, 2019.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Health Effects of Exposure to EMF. Brussels, Belgium: European Commission, 2009.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF). Brussels, Belgium: European Commission, 2015.

Swedish Radiation Safety Authority (SSM). Research 2015:19. Recent Research on EMF and Health Risk – Tenth report from SSM's Scientific Council on Electromagnetic Fields. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2015.

Swedish Radiation Safety Authority (SSM). Research 2016:15. Recent Research on EMF and Health Risk – Eleventh report from SSM's Scientific Council on Electromagnetic Fields, 2016. Including Thirteen years of electromagnetic field research monitored by SSM's Scientific Council on EMF and health: How has the evidence changed over time? Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2016.

Swedish Radiation Safety Authority (SSM). Research 2018:09. Recent Research on EMF and Health Risk – Twelfth report from SSM's Scientific Council on Electromagnetic Fields, 2017. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2018.

Swedish Radiation Safety Authority (SSM). Research 2019:08. Recent Research on EMF and Health Risk – Thirteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2018. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2019.

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. Geneva, Switzerland: World Health Organization, 2007.

World Health Organization (WHO). Electromagnetic fields (EMF). World Health Organization, 2020.

<http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html> (last accessed March 23, 2020).

IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS (“EMF”)

C. Describe and cite any research studies on EMF the Applicant is aware of that meet the following criteria:

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

Response: The Virginia Department of Health (“VDH”) conducted its most recent review and issued its report on the scientific evidence on potential health effects of extremely low frequency (“ELF”) EMF in 2000: “[T]he Virginia Department of Health is of the opinion that there is no conclusive and convincing evidence that exposure to extremely low frequency EMF emanated from nearby high voltage transmission lines is causally associated with an increased incidence of cancer or other detrimental health effects in humans.”⁶

The continuing scientific research on EMF exposure and health has resulted in many peer-reviewed publications since 2000. The accumulating research results have been regularly and repeatedly reviewed and evaluated by national and international health, scientific, and government agencies. One of the most comprehensive and detailed reviews of the relevant scientific peer-reviewed literature was published by the WHO in 2007. The conclusion of the WHO, as currently expressed on its website, is consistent with the earlier VDH conclusions: “Based on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields.”⁷

Research published in the peer-reviewed literature subsequent to the WHO report has been reviewed by several scientific organizations, including most notably:

- SCENIHR, a committee of the European Commission, that published its assessments in 2009 and 2015;
- The Swedish Radiation Safety Authority (“SSM”), formerly the Swedish Radiation Protection Authority (“SSI”), that has published annual reviews of the relevant peer-reviewed scientific literature since 2003, with its most recent

⁶ See <http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/highfinal.pdf>.

⁷ See <http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html>.

review published in 2019; and,

- EFHRAN, that published its reviews in 2010 and 2012.

The above reviews provide detailed analyses and summaries of relevant recent peer-reviewed scientific publications. The conclusions of these reviews that the evidence overall does not confirm the existence of any adverse health effects due to exposure to EMF are consistent with the conclusions of the VDH and the WHO reports. With respect to the statistical association observed in some of the childhood leukemia epidemiologic studies, the most recent comprehensive review of the literature by SCENIHR, published in 2015, concluded that “no mechanisms have been identified and no support is existing [*sic*] from experimental studies that could explain these findings, which, together with shortcomings of the epidemiological studies prevent a causal interpretation” (SCENIHR, 2015, p. 16).

While research is continuing on multiple aspects of EMF exposure and health, many of the recent publications have focused on an epidemiologic assessment of the relationship between EMF exposure and childhood leukemia and neurodegenerative diseases. Of these, the following recent publications, published following the inclusion date (June 2014) for the SCENIHR (2015) report, provided additional evidence and contributed to clarification of previous findings. Overall, new research studies have not provided evidence to alter the previous conclusions of scientific and health organizations, including the WHO and SCENIHR.

Recent epidemiologic studies of EMF and childhood leukemia include:

- Bunch et al. (2015) assessed the potential association between residential proximity to high-voltage underground cables and development of childhood cancer in the United Kingdom largely using the same epidemiologic data as in a previously published study on overhead transmission lines (Bunch et al., 2014). No statistically significant associations or trends were reported with either distance to underground cables or calculated magnetic fields from underground cables for any type of childhood cancers.
- Pedersen et al. (2015) published a case-control study that investigated the potential association between residential proximity to power lines and childhood cancer in Denmark. The study included all cases of leukemia (n=1,536), central nervous system tumor, and malignant lymphoma (n=417) diagnosed before the age of 15 between 1968 and 2003 in Denmark, along with 9,129 healthy control children matched on sex and year of birth. Considering the entire study period, no statistically significant increases were reported for any of the childhood cancer types.
- Salvan et al. (2015) compared measured magnetic-field levels in the bedroom for 412 cases of childhood leukemia under the age of 10 and 587 healthy control children in Italy. Although the statistical power of the study was limited because of the small number of highly exposed subjects, no consistent statistical

associations or trends were reported between measured magnetic-field levels and the occurrence of leukemia among children in the study.

- Bunch et al. (2016) and Swanson and Bunch (2018) published additional analyses using data from an earlier study (Bunch et al., 2014). Bunch et al. (2016) reported that the association with distance to power lines observed in earlier years was linked to calendar year of birth or year of cancer diagnosis, rather than the age of the power lines. Swanson and Bunch (2018) re-analyzed data using finer exposure categories (e.g., cut-points of every 50-meter distance) and broader groupings of diagnosis date (e.g., 1960-1979, 1980-1999, and 2000-on) and reported no overall associations between exposure categories and childhood leukemia for the later time periods (1980 and on), and consistent pattern for time periods prior to 1980.
- Crespi et al. (2016) conducted a case-control epidemiologic study of childhood cancers and residential proximity to high-voltage power lines (60 kilovolts [“kV”] to 500 kV) in California. Childhood cancer cases, including 5,788 cases of leukemia and 3,308 cases of brain tumor, diagnosed under the age of 16 between 1986 and 2008, were identified from the California Cancer Registry. Controls, matched on age and sex, were selected from the California Birth Registry. Overall, no consistent statistically significant associations for leukemia or brain tumor and residential distance to power lines were reported.
- Kheifets et al. (2017) assessed the relationship between calculated magnetic-field levels from power lines and development of childhood leukemia within the same study population evaluated in Crespi et al. (2016). In the main analyses, which included 4,824 cases of leukemia and 4,782 controls matched on age and sex, the authors reported no consistent patterns, or statistically significant associations between calculated magnetic-field levels and childhood leukemia development. Similar results were reported in subgroup and sensitivity analyses. In two subsequent studies (Amoon et al., 2018a, 2019), the potential impact of residential mobility (i.e., moving residences between birth and diagnosis) on the associations reported in Crespi et al. (2016) and Kheifets et al. (2017) were examined. Amoon et al. (2019) concluded that while uncontrolled confounding by residential mobility had some impact on the association between EMF exposure and childhood leukemia, it was unlikely to be the primary driving force behind the previously reported associations.
- Amoon et al. (2018b) conducted a pooled analysis of 29,049 cases and 68,231 controls from 11 epidemiologic studies of childhood leukemia and residential distance from high-voltage power lines. The authors reported no statistically-significant association between childhood leukemia and proximity to transmission lines of any voltage. Among subgroup analyses, the reported associations were slightly stronger for leukemia cases diagnosed before 5 years of age and in study periods prior to 1980. Adjustment for various potential confounders (e.g., socioeconomic status, dwelling type, residential mobility) had little effect on the estimated associations.

- Kyriakopoulou et al. (2018) assessed the association between childhood acute leukemia and parental occupational exposure to social contacts, chemicals, and electromagnetic fields. The study was conducted at a major pediatric hospital in Greece and included 108 cases and 108 controls matched for age, gender, and ethnicity. Statistically non-significant associations were observed between paternal exposure to magnetic fields and childhood acute leukemia for any of the exposure periods examined (1 year before conception; during pregnancy; during breastfeeding; and from birth until diagnosis); maternal exposure was not assessed due to the limited sample size. No associations were observed between childhood acute leukemia and exposure to social contacts or chemicals.
- Auger et al. (2019) examined the relationship between exposure to EMF during pregnancy and risk of childhood cancer in a cohort of 784,000 children born in Québec. Exposure was defined using residential distance to the nearest high-voltage transmission line or transformer station. The authors reported statistically non-significant associations between proximity to transformer stations and any cancer, hematopoietic cancer, or solid tumors. No associations were reported with distance to transmission lines.
- Crespi et al. (2019) investigated the relationship between childhood leukemia and distance from high-voltage lines and calculated magnetic-field exposure, separately and combined, within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors reported that neither close proximity to high-voltage lines nor exposure to calculated magnetic fields alone were associated with childhood leukemia; an association was observed only for those participants who were both close to high-voltage lines (< 50 meters) and had high calculated magnetic fields (≥ 0.4 microtesla [i.e., 4 milligauss]). No associations were observed with low-voltage power lines (< 200 kV).
- Talibov et al. (2019) conducted a pooled analysis of 9,723 cases and 17,099 controls from 11 epidemiologic studies to examine the relationship between parental occupational exposure to magnetic fields and childhood leukemia. No statistically significant association was found between either paternal or maternal exposure and leukemia (overall or by subtype). No associations were observed in the meta-analyses.

Recent epidemiologic studies of EMF and neurodegenerative diseases include:

- Seelen et al. (2014) conducted a population-based case-control study in the Netherlands and included 1,139 cases diagnosed with amyotrophic lateral sclerosis (“ALS”) between 2006 and 2013 and 2,864 frequency-matched controls. The shortest distance from the case’ and control residences to the nearest high-voltage power line (50 kV to 380 kV) was determined by geocoding. No statistically significant associations between residential proximity to power lines with voltages of either 50 to 150 kV or 220 to 380 kV

and ALS were reported.

- Sorahan and Mohammed (2014) analyzed mortality from neurodegenerative diseases in a cohort of approximately 73,000 electricity supply workers in the United Kingdom. Cumulative occupational exposure to magnetic-fields was calculated for each worker in the cohort based on their job titles and job locations. Death certificates were used to identify deaths from neurodegenerative diseases. No associations or trends for any of the included neurodegenerative diseases (Alzheimer's disease, Parkinson's disease, and ALS) were observed with various measures of calculated magnetic fields.
- Koeman et al. (2015, 2017) analyzed data from the Netherlands Cohort Study of approximately 120,000 men and women who were enrolled in the cohort in 1986 and followed up until 2003. Lifetime occupational history, obtained through questionnaires, and job-exposure matrices on ELF magnetic fields and other occupational exposures were used to assign exposure to study subjects. Based on 1,552 deaths from vascular dementia, the researchers reported a statistically not significant association of vascular dementia with estimated exposure to metals, chlorinated solvents, and ELF magnetic fields. However, because no exposure-response relationship for cumulative exposure was observed and because magnetic fields and solvent exposures were highly correlated with exposure to metals, the authors attributed the association with ELF magnetic fields and solvents to confounding by exposure to metals (Koeman et al., 2015). Based on a total of 136 deaths from ALS among the cohort members, the authors reported a statistically significant, approximately two-fold association with ELF magnetic fields in the highest exposure category. This association, however, was no longer statistically significant when adjusted for exposure to insecticides (Koeman et al., 2017).
- Fischer et al. (2015) conducted a population-based case-control study that included 4,709 cases of ALS diagnosed between 1990 and 2010 in Sweden and 23,335 controls matched to cases on year of birth and sex. The study subjects' occupational exposures to ELF magnetic fields and electric shocks were classified based on their occupations, as recorded in the censuses and corresponding job-exposure matrices. Overall, neither magnetic fields nor electric shocks were related to ALS.
- Vergara et al. (2015) conducted a mortality case-control study of occupational exposure to electric shock and magnetic fields and ALS. They analyzed data on 5,886 deaths due to ALS and over 58,000 deaths from other causes in the United States between 1991 and 1999. Information on occupation was obtained from death certificates and job-exposure matrices were used to categorize exposure to electric shocks and magnetic fields. Occupations classified as "electric occupations" were moderately associated with ALS. The authors reported no consistent associations for ALS, however, with either electric shocks or magnetic fields, and they concluded that their findings did not support the hypothesis that exposure to either electric shocks or magnetic fields

explained the observed association of ALS with “electric occupations.”

- Pedersen et al. (2017) investigated the occurrence of central nervous system diseases among approximately 32,000 male Danish electric power company workers. Cases were identified through the national patient registry between 1982 and 2010. Exposure to ELF magnetic fields was determined for each worker based on their job titles and area of work. A statistically significant increase was reported for dementia in the high exposure category when compared to the general population, but no exposure-response pattern was identified, and no similar increase was reported in the internal comparisons among the workers. No other statistically significant increases among workers were reported for the incidence of Alzheimer’s disease, Parkinson’s disease, motor neuron disease, multiple sclerosis, or epilepsy, when compared to the general population, or when incidence among workers was analyzed across estimated exposure levels.
- Vinceti et al. (2017) examined the association between ALS and calculated magnetic-field levels from high-voltage power lines in Italy. The authors included 703 ALS cases and 2,737 controls; exposure was assessed based on residential proximity to high-voltage power lines. No statistically significant associations were reported and no exposure-response trend was observed. Similar results were reported in subgroup analyses by age, calendar period of disease diagnosis, and study area.
- Checkoway et al. (2018) investigated the association between Parkinsonism⁸ and occupational exposure to magnetic fields and several other agents (endotoxins, solvents, shift work) among 800 female textile workers in Shanghai. Exposure to magnetic fields was assessed based on the participants’ work histories. The authors reported no statistically significant associations between Parkinsonism and occupational exposure to any of the agents under study, including magnetic fields.
- Jalilian et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of occupational exposure to magnetic fields and Alzheimer’s disease. The authors reported a moderate, statistically significant overall association; however, they noted substantial heterogeneity among studies and evidence for publication bias.
- Gervasi et al. (2019) assessed the relationship between residential distance to overhead power lines in Italy and risk of Alzheimer’s dementia and Parkinson’s disease. The authors included 9,835 cases of Alzheimer’s dementia and 6,810 cases of Parkinson’s disease; controls were matched by sex, year of birth, and municipality of residence. A weak, statistically non-significant association was

⁸ Parkinsonism is defined by Checkoway et al. (2018) as “a syndrome whose cardinal clinical features are bradykinesia, rest tremor, muscle rigidity, and postural instability. Parkinson disease is the most common neurodegenerative form of [parkinsonism]” (p. 887).

observed between residences within 50 meters of overhead power lines and both Alzheimer's dementia and Parkinson's disease, compared to distances of over 600 meters.

- Peters et al. (2019) examined the relationship between ALS and occupational exposure to both magnetic fields and electric shock in a pooled study of data from three European countries. The study included 1,323 ALS cases and 2,704 controls matched for sex, age, and geographic location; exposure was assessed based on occupational title and defined as low (background), medium, or high. Statistically significant associations were observed between ALS and ever having been exposed above background levels to either magnetic fields or electric shocks; however, no clear exposure-response trends were observed with exposure duration or cumulative exposure. The authors also noted significant heterogeneity in risk by study location.
- Huss et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of ALS and occupational exposure to magnetic fields. The authors reported a weak overall association; a slightly stronger association was observed in a subset analysis of six studies with full occupational histories available. The authors noted substantial heterogeneity among studies, evidence for publication bias, and a lack of a clear exposure-response relationship between exposure and ALS.
- Rösli and Jalilian (2018) performed a meta-analysis using data from five epidemiologic studies examining residential exposure to magnetic fields and ALS. A statistically non-significant negative association was reported between ALS and the highest exposed group, where exposure was defined based on distance from power lines or calculated magnetic-field level.

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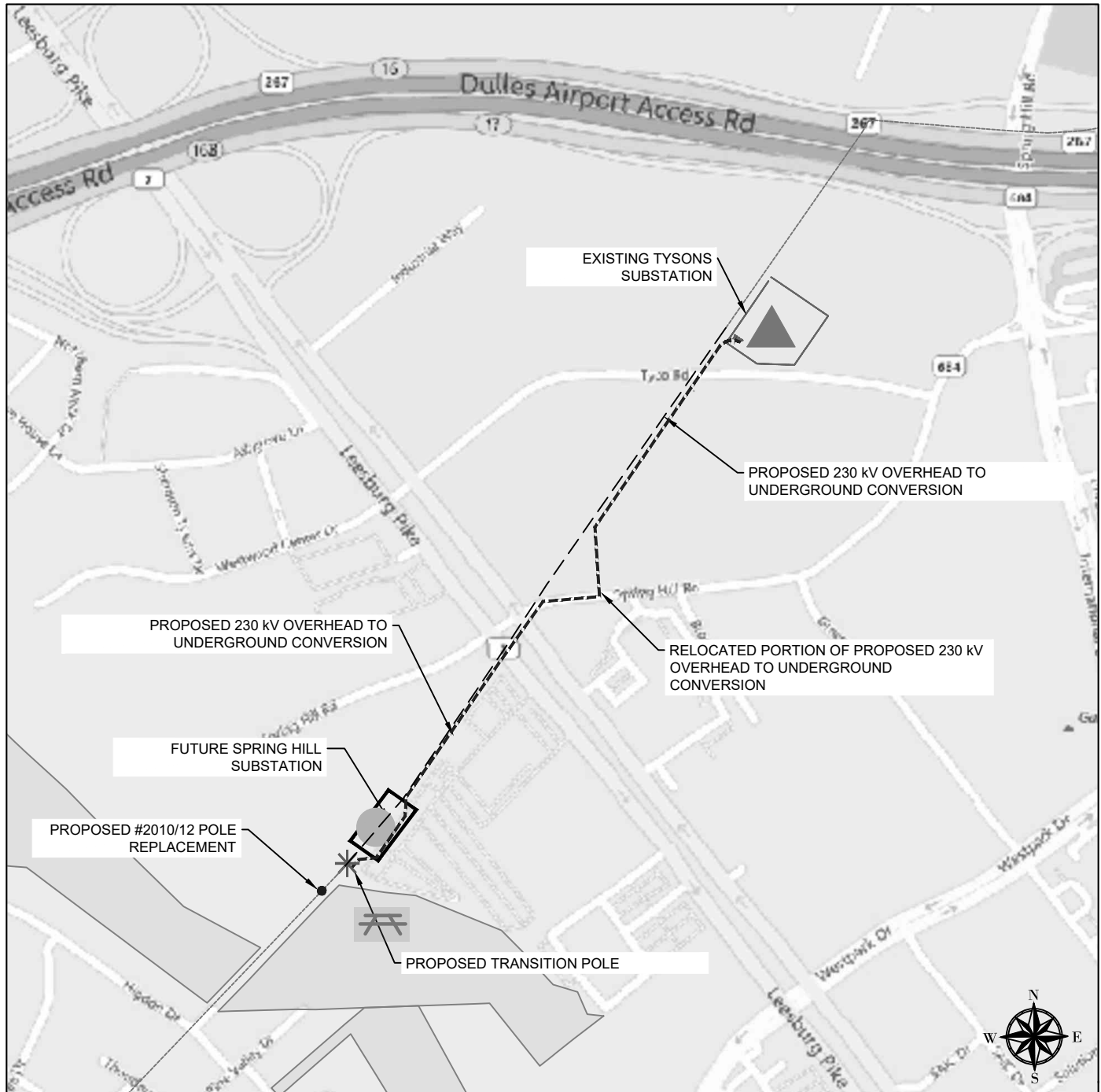
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V. NOTICE

- A. Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project. For all routes that the Applicant proposed to be noticed, provide minimum, maximum and average structure heights.**

Response: See Attachment V.A. The Proposed Route consists of approximately 0.58 mile of variable width right-of-way along existing Line #2010 between Tysons Substation and just south of the future Spring Hill Substation site. It largely will be on existing Company owned right-of-way and deviates for approximately 0.10 mile to accommodate the future site of The View development. The Line will exit the existing Tysons Substation across Tyco Road via VDOT permit and continue southwest for approximately 0.20 mile on existing 42-foot right-of-way. Temporary construction easements will be needed along this segment as will a VDOT permit. At this point, the Line will depart from the existing right-of-way and turn south within a private service road for approximately 0.05 mile on a newly acquired 30-foot easement until it reaches Spring Hill Road (Route 684). Temporary construction easement will be required along this segment. At Spring Hill Road, the Line will turn west within Spring Hill Road for approximately 0.05 mile via a VDOT permit until it reaches Leesburg Pike (Route 7). These two 0.05 mile sections of the Line are being relocated outside of the existing right-of-way to accommodate The View, a future development. At Leesburg Pike, the Line turns southwest crossing under the elevated Metro Train Line and crossing Leesburg Pike via a VDOT permit for approximately 0.05 mile and then continues on existing 42-foot right-of-way for approximately 0.14 mile where it turns southeast and goes around the east side of the future Spring Hill Substation site within existing easement and the future Substation parcel. Temporary construction easements will be required along this segment. Just south of the future Spring Hill Substation parcel, the Line continues on existing 42-foot right-of-way to terminate at a Transition Pole.

For purposes of this Project, the Company intends to build a Transition Pole just south of the location where the Company plans to construct the future Spring Hill Substation. The Transition Pole will be approximately 140 feet tall, subject to final engineering. The Company also intends to replace the existing Structure #2010/12 located south of the future Spring Hill Substation and the Transition Pole. The existing approximately 61-foot Structure #2010/12 will be replaced with an approximately 90-foot structure, subject to final engineering.



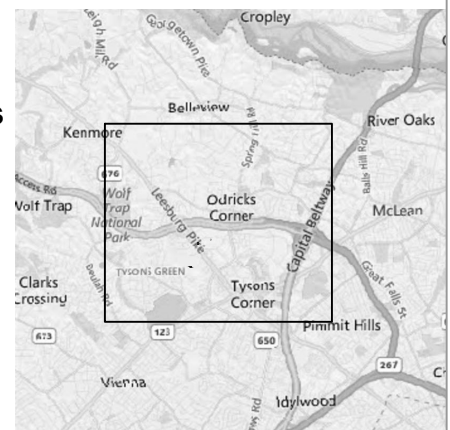
- ▲ Existing Substation
- Future Substation (Spring Hill)
- * Proposed Transition Pole
- Proposed #2010/12 Pole Replacement
- Partial Proposed Underground Pilot Program
- Existing Overhead Line
- - - Partial Existing Overhead Line - To Be Removed

Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map
Fairfax County



0' 300' (Main Map)
0 7000' (Vicinity Map)



V. NOTICE

- B. List Applicant offices where members of the public may inspect the application. If applicable, provide a link to website(s) where the application may be found.**

Response: The Application is available for public inspection at the following link:
www.dominionenergy.com/springhill.

V. NOTICE

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

Response: The following persons listed below have been contacted by email:

Mr. Benli Li, Manager Adjacent Construction
Washington Metropolitan Area Transit Authority
Office of Joint Development & Adjacent Construction
3500 Pennsy Drive, Bldg. C, Room C106
Landover, MD 20785

Ms. Bettina Rayfield, Manager, Environmental Impact Review
and Long Range Priorities Program
Office of Environmental Impact Review
Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

Mr. Scott Denny
Virginia Department of Aviation
Airport Services Division, Planning and Environmental Section
5702 Gulfstream Road
Richmond, Virginia 23250

Ms. Joan Tengowski
Federal Aviation Administration
Obstruction Evaluation Group, AJV-A520, Tetra Tech AMT Support
10101 Hillwood Parkway
Fort Worth, Texas 76177

Ms. Amy Ewing, Biologist
Virginia Department of Game and Inland Fisheries
7870 Villa Park Drive, Suite 400
Henrico, VA 23228

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

Ms. S. Rene Hypes, Project Review Coordinator
Natural Heritage Program

Virginia Department of Conservation and Recreation
Division of Natural Heritage- Project Review Coordinator
600 East Main St, 24th Floor
Richmond, VA 23219

Ms. Theresita Crockett-Augustine
U.S. Army Corps of Engineers-Norfolk District
Northern Virginia Field Office
18139 Triangle Plaza, Suite 213
Dumfries, VA 22026

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

Mr. Troy Anderson
U.S. Fish and Wildlife Services
Ecological Services Virginia Field Offices
6669 Short Lane Gloucester, VA 23061

Ms. Robbie Rhur
Virginia Department of Conservation and Recreation
Planning Bureau
600 East Main Street, 24th Floor
Richmond, Virginia 23219

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

Mr. Greg Evans
Virginia Department of Forestry
Assistant Director for Forestland Conservation office
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

Mr. Abraham Lerner.
Associate Manager of Special Project Development
VDOT-NOVA District
4975 Alliance Drive
Fairfax, Virginia 22030

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

Ms. Michelle Henicheck, PWS
Senior Wetland Ecologist
Virginia Department of Environmental Quality
1111 East Main Street, Suite 1400
Richmond, Virginia 23291

Ms. Trisha Beasley
Virginia Department of Environmental Quality
Wetlands Protection Program
13901 Crown Court
Woodbridge, VA 22193

Mr. Walter L. Alcorn
Hunter Mill District
1801 Cameron Glen Drive
Reston, VA 20190

Ms. Dalia A. Palchik
Providence District
Providence Community Center
3001 Vaden Drive (2nd Floor)
Fairfax, VA 22031

Ms. Barbara Byron
Fairfax County
Department of Planning and Development
12055 Government Center Parkway
10th Floor
Fairfax, Virginia 22035

V. NOTICE

- D. If the application is for a transmission line with a voltage of 138 kV or greater, provide a statement and any associated correspondence indicating that prior to the filing of the application with the SCC the Applicant has notified the chief administrative officer of every locality in which it plans to undertake construction of the proposed line of its intention to file such an application, and that the Applicant gave the locality a reasonable opportunity for consultation about the proposed line (similar to the requirements of § 15.2-2202 of the Code for electric transmission lines of 150 kV or more).**

Response: In accordance with Va. Code § 15.2-2202 E, letters and emails dated July 31, 2020, and September 4, 2020, respectively, included as Attachments V.D.1-V.D.3, were sent to Mr. Walter L. Alcorn, Fairfax County Supervisor for the Hunter Mill District; Ms. Dalia A. Palchik, Fairfax County Supervisor for the Providence District; and Ms. Barbara Byron, Department of Planning and Development, Fairfax County, advising of the Company's intention to file this Application and inviting this locality to consult with the Company about the Project.

July 31, 2020

BY EMAIL

Mr. Walter L. Alcorn
Hunter Mill District
1801 Cameron Glen Drive
Reston, VA 20190

**RE: Dominion Energy Virginia's Proposed Partial Line #2010 230 kV Single Circuit
Transmission Line Underground Pilot Program (Tysons–Future Spring Hill Substation),
Tysons Corner, Fairfax County, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E**

Dear Mr. Alcorn,

Dominion Energy Virginia (the “Company”) is proposing the Partial Line #2010 230 kV Single Circuit Transmission Line Underground Pilot Program Project (Tysons–Future Spring Hill Substation) (“Project”) located in Fairfax County, Virginia. The Project proposes to remove an approximate 0.44 mile segment of its existing overhead 230 kV Reston-Tysons Line #2010 (the “Existing Facilities”), and relocate the line underground (the “Relocated Facilities”). The proposed 230 kV underground transmission line will be constructed along the Proposed Route through means of open trenching, and other suitable methods, on new 30-foot wide right-of-way permanent easements, transportation rights-of-way of varying width by permit, and on the Company’s existing rights-of-way.

The Project is necessary in order to support economic development priorities of the Commonwealth, including the economic development priorities and the comprehensive plan of Fairfax County. Section 56-585.1:5 of the Virginia Code (“Va. Code”), which was enacted as part of the 2018 Grid Transformation and Security Act, was amended recently by the General Assembly of Virginia and signed into law by the Governor on March 4, 2020, to allow for additional projects to qualify for the underground transmission line pilot program authorized therein. Under this amendment, the Company plans to relocate and convert a portion of Transmission Line #2010 (230 kV) between existing Tysons Substation and the future Spring Hill Substation from overhead to underground to facilitate the construction of a large, planned mixed-use development. The portion of the Project that is proposed to be relocated currently transverse the area planned for development.

The Company is preparing an application for a certificate of public convenience and necessity (“CPCN”) from the State Corporation Commission (“SCC”). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify you of the specific plans for the proposed Project in advance of the SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of this letter. Enclosed is a Project Overview Map depicting the Proposed Route and Project location.

If you would like to receive a GIS shapefile of the Proposed Route to assist in your Project review or if you have any questions, please do not hesitate to contact me at (804) 771-4458 or Charles.H.Weil@dominionenergy.com.

Dominion Energy Virginia appreciates your assistance with this Project review and looks forward to any additional information you may have to offer

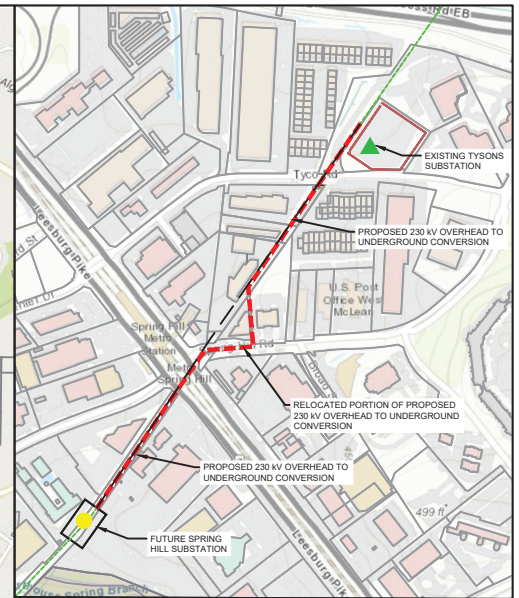
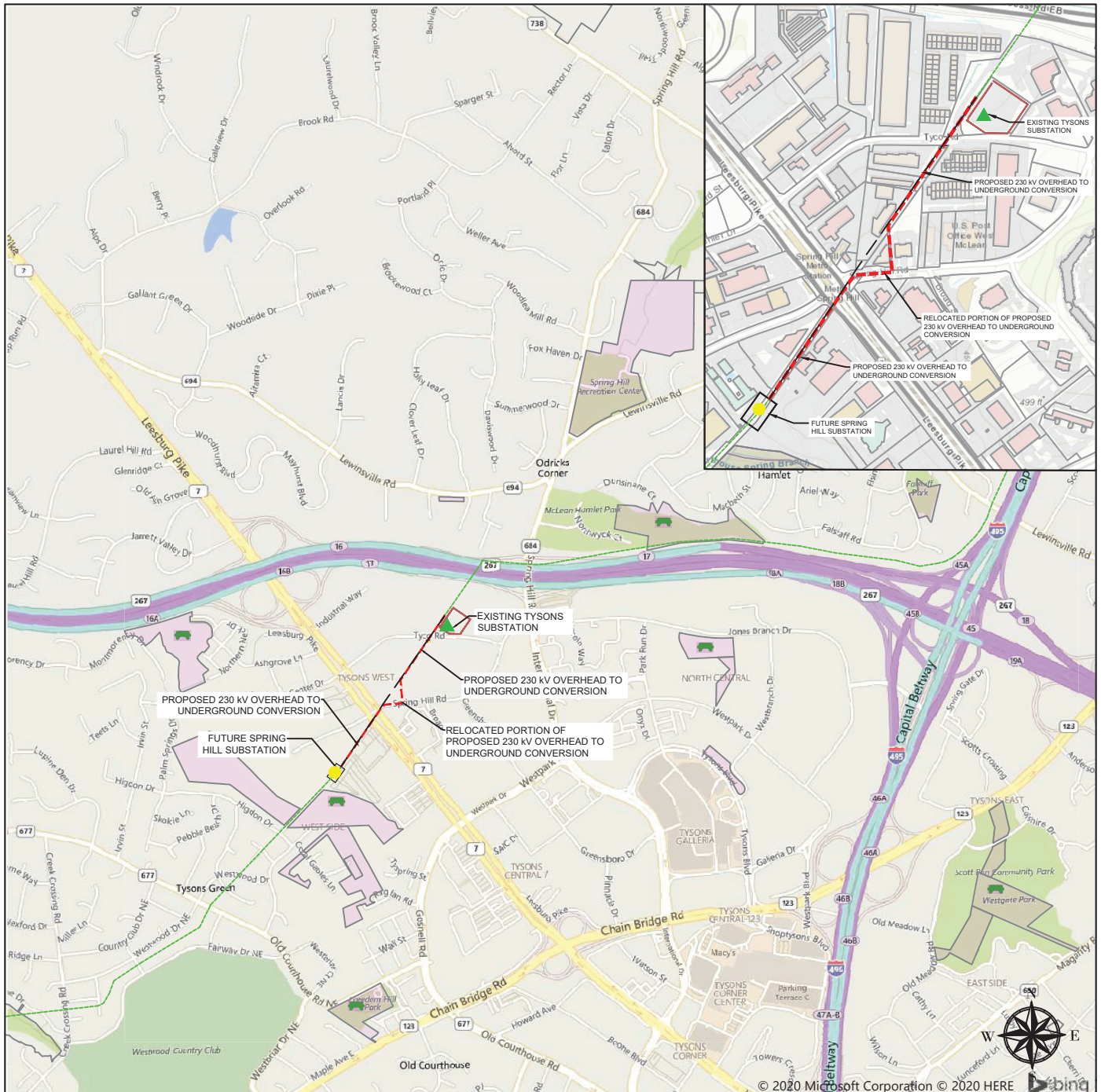
Sincerely ,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "Charles H. Weil". The signature is fluid and cursive, with the first name "Charles" and last name "Weil" clearly distinguishable.

Charles H. Weil, PE
Engineer II, Siting and Permitting

Attachment: Project Overview Map



- ▲ Existing Substation
- Future Substation (Spring Hill)
- Partial Proposed Underground Pilot Program
- Existing Overhead Line
- Partial Existing Overhead Line - To Be Removed

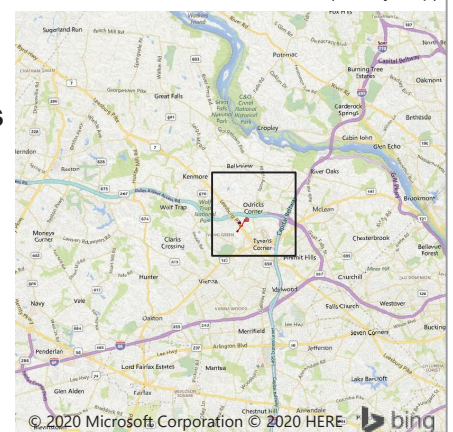
Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map

Fairfax County



0' 1000' (Main Map)
0 (Vicinity Map)



From: [Charles H Weil \(Services - 6\)](#)
To: HunterMillBOS@fairfaxcounty.gov
Subject: #2010 230kV Single Circuit Transmission Line Underground Pilot Program - Updated Project Map
Date: Friday, September 4, 2020 7:46:00 AM
Attachments: [V.A - Notice Map Spring Hill - Tysons COLOR.pdf](#)
[image001.png](#)

Good morning Mr. Alcorn,

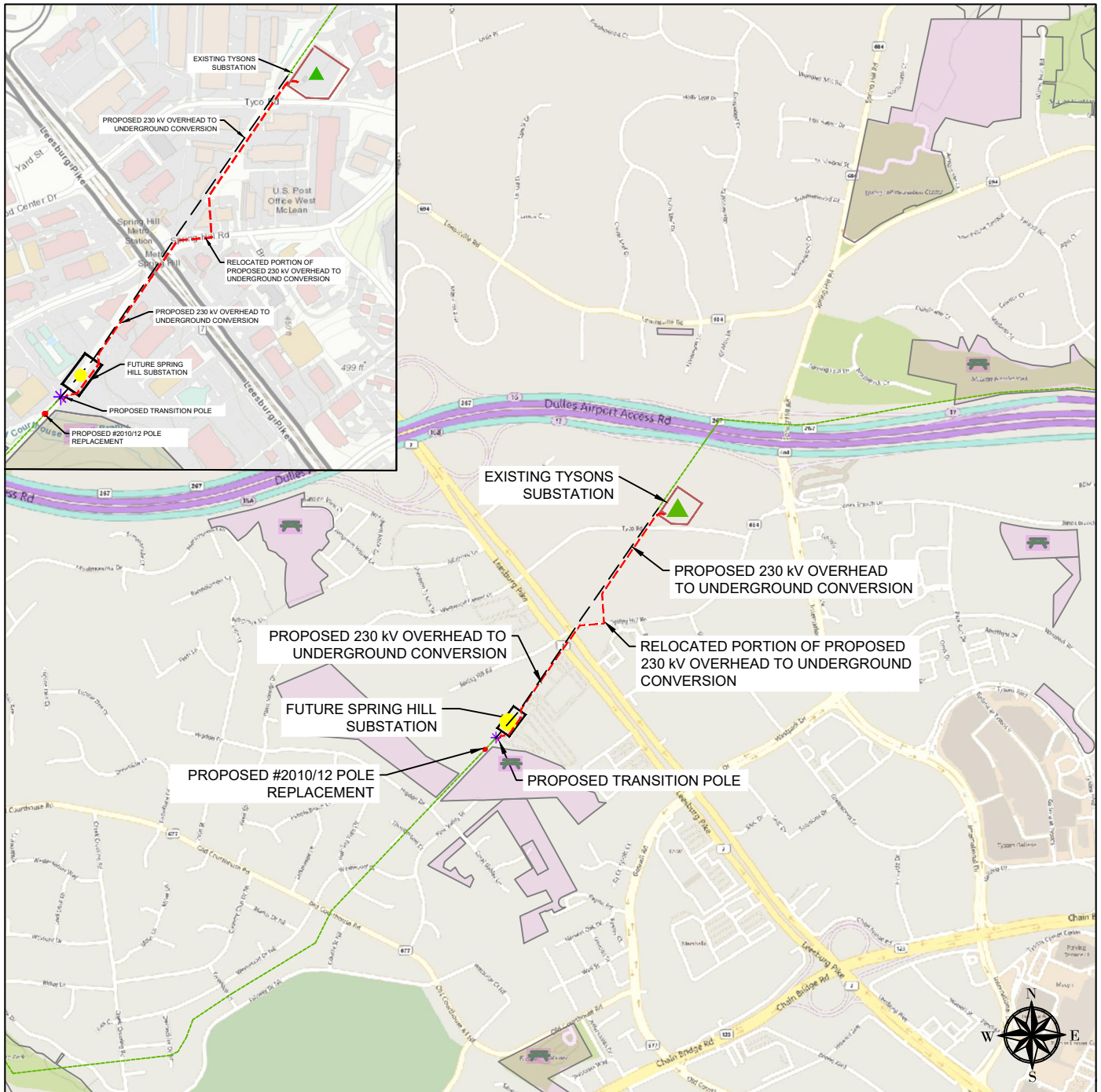
I wrote to you on July 31 regarding our Underground 230kV relocation project in Fairfax County (Spring Hill Substation to Tysons Substation). We updated our project map to include a new transmission structure (2010/12) and transition pole just south of our Spring Hill Substation of which I wanted to make you aware. Please see the attached updated map. If you have any questions or concerns, please let me know.

Thank you,

Chuck Weil, PE

Engineer II
Siting & Permitting, Electric Transmission
10900 Nuckols Rd, 4th Floor, Glen Allen, VA 23060
O: 804-771-4458 M: 804-239-6450



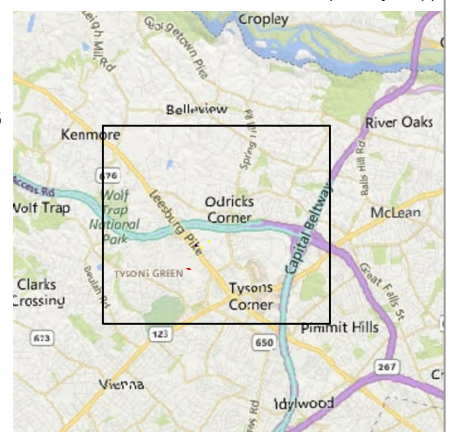


- ▲ Existing Substation
- Future Substation (Spring Hill)
- * Proposed Transition Pole
- Proposed #2010/12 Pole Replacement
- Partial Proposed Underground Pilot Program
- Existing Overhead Line
- Partial Existing Overhead Line - To Be Removed

Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map

Fairfax County





July 31, 2020

BY EMAIL

Ms. Dalia Palchik
Providence District, Fairfax County Supervisor
Providence Community Center
3001 Vaden Drive
Fairfax, VA 22031

RE: Dominion Energy Virginia's Proposed Partial Line #2010 230 kV Single Circuit Transmission Line Underground Pilot Program (Tysons–Future Spring Hill Substation), Tysons Corner, Fairfax County, Virginia Notice Pursuant to Va. Code § 15.2-2202 E

Dear Ms. Palchik,

Dominion Energy Virginia (the “Company”) is proposing the Partial Line #2010 230 kV Single Circuit Transmission Line Underground Pilot Program Project (Tysons–Future Spring Hill Substation) (“Project”) located in Fairfax County, Virginia. The Project proposes to remove an approximate 0.44 mile segment of its existing overhead 230 kV Reston-Tysons Line #2010 (the “Existing Facilities”), and relocate the line underground (the “Relocated Facilities”). The proposed 230 kV underground transmission line will be constructed along the Proposed Route through means of open trenching, and other suitable methods, on new 30-foot wide right-of-way permanent easements, transportation rights-of-way of varying width by permit, and on the Company’s existing rights-of-way.

The Project is necessary in order to support economic development priorities of the Commonwealth, including the economic development priorities and the comprehensive plan of Fairfax County. Section 56-585.1:5 of the Virginia Code (“Va. Code”), which was enacted as part of the 2018 Grid Transformation and Security Act, was amended recently by the General Assembly of Virginia and signed into law by the Governor on March 4, 2020, to allow for additional projects to qualify for the underground transmission line pilot program authorized therein. Under this amendment, the Company plans to relocate and convert a portion of Transmission Line #2010 (230 kV) between existing Tysons Substation and the future Spring Hill Substation from overhead to underground to facilitate the construction of a large, planned mixed-use development. The portion of the Project that is proposed to be relocated currently transverses the area planned for development.

The Company is preparing an application for a certificate of public convenience and necessity (“CPCN”) from the State Corporation Commission (“SCC”). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify you of the specific plans for the proposed Project in advance of the SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of this letter. Enclosed is a Project Overview Map depicting the Proposed Route and Project location.

If you would like to receive a GIS shapefile of the Proposed Route to assist in your Project review or if you have any questions, please do not hesitate to contact me at (804) 771-4458 or Charles.H.Weil@dominionenergy.com.

Dominion Energy Virginia appreciates your assistance with this Project review and looks forward to any additional information you may have to offer

Sincerely ,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "Charles H. Weil". The signature is fluid and cursive, with the first name "Charles" and last name "Weil" clearly distinguishable.

Charles H. Weil, PE
Engineer II, Siting and Permitting

Attachment: Project Overview Map

From: [Charles H Weil \(Services - 6\)](#)
To: provdist@fairfaxcounty.gov
Subject: #2010 230kV Single Circuit Transmission Line Underground Pilot Program - Updated Project Map
Date: Friday, September 4, 2020 8:03:00 AM
Attachments: [V.A - Notice Map Spring Hill - Tysons COLOR.pdf](#)
[image001.png](#)

Good morning Ms. Palchik,

I wrote to you on July 31 regarding our Underground 230kV relocation project in Fairfax County (Spring Hill Substation to Tysons Substation). We updated our project map to include a new transmission structure (2010/12) and transition pole just south of our Spring Hill Substation of which I wanted to make you aware. Please see the attached updated map. If you have any questions or concerns, please let me know.

Thank you,

Chuck Weil, PE

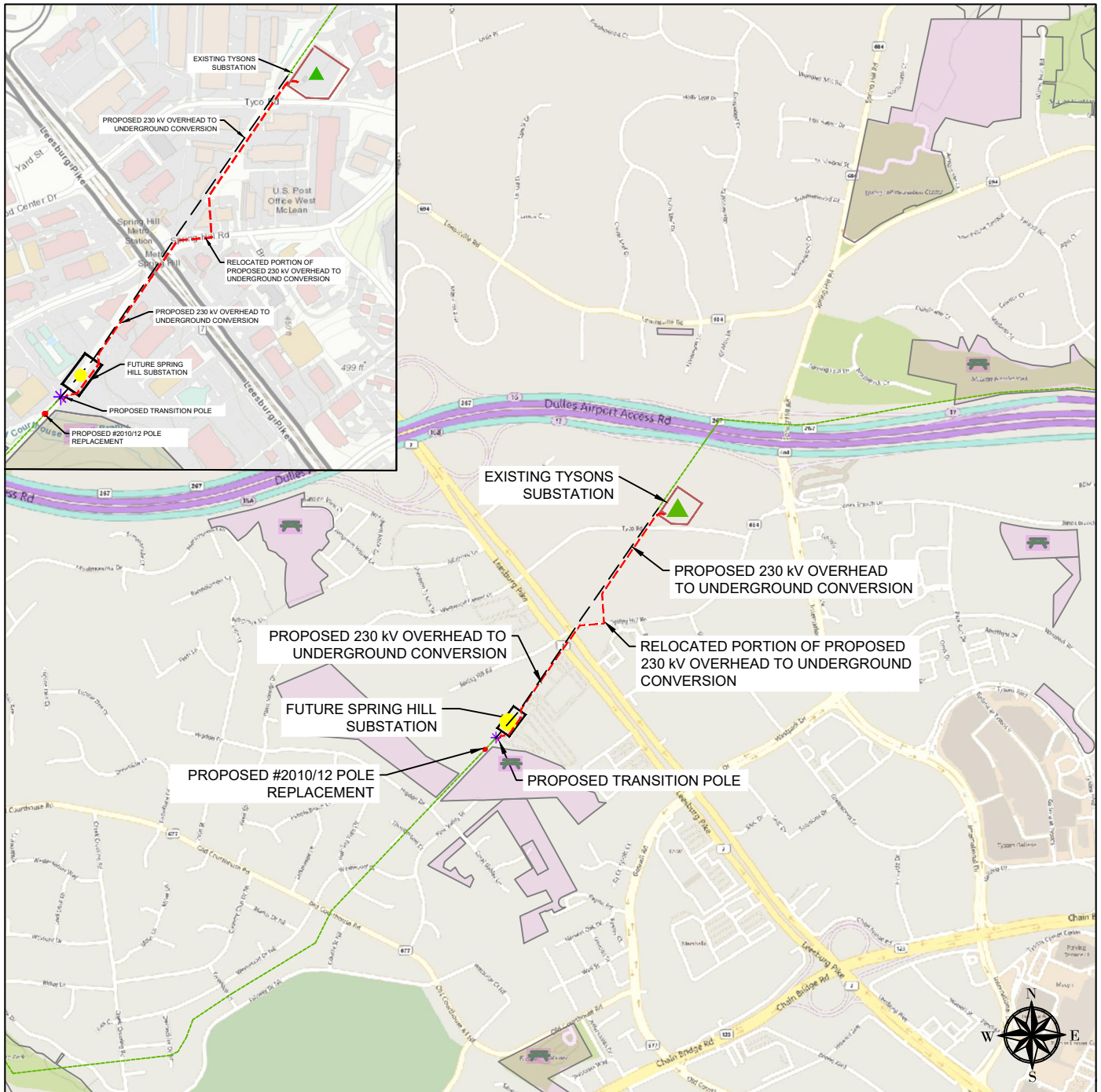
Engineer II

Siting & Permitting, Electric Transmission

10900 Nuckols Rd, 4th Floor, Glen Allen, VA 23060

O: 804-771-4458 M: 804-239-6450





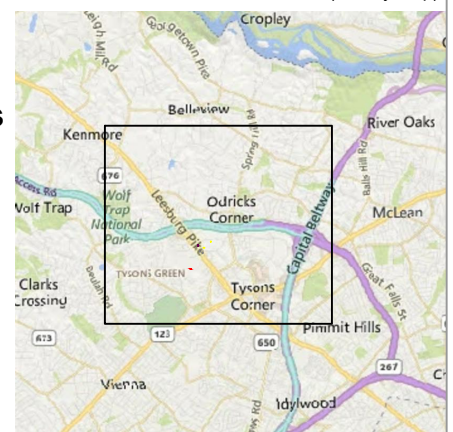
- ▲ Existing Substation
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- Partial Existing Overhead Line - To Be Removed

Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map

Fairfax County

0' 700' (Main Map)
0 7000' (Vicinity Map)



July 31, 2020

BY EMAIL

Ms. Barbara Byron
Fairfax County
Department of Planning and Development
12055 Government Center Parkway
10th Floor
Fairfax, Virginia 22035

**RE: Dominion Energy Virginia's Proposed Partial Line #2010 230 kV Single Circuit
Transmission Line Underground Pilot Program (Tysons–Future Spring Hill Substation),
Tysons Corner, Fairfax County, Virginia
Notice Pursuant to Va. Code § 15.2-2202 E**

Dear Ms. Byron,

Dominion Energy Virginia (the “Company”) is proposing the Partial Line #2010 230 kV Single Circuit Transmission Line Underground Pilot Program Project (Tysons–Future Spring Hill Substation) (“Project”) located in Fairfax County, Virginia. The Project proposes to remove an approximate 0.44 mile segment of its existing overhead 230 kV Reston-Tysons Line #2010 (the “Existing Facilities”), and relocate the line underground (the “Relocated Facilities”). The proposed 230 kV underground transmission line will be constructed along the Proposed Route through means of open trenching, and other suitable methods, on new 30-foot wide right-of-way permanent easements, transportation rights-of-way of varying width by permit, and on the Company’s existing rights-of-way.

The Project is necessary in order to support economic development priorities of the Commonwealth, including the economic development priorities and the comprehensive plan of Fairfax County. Section 56-585.1:5 of the Virginia Code (“Va. Code”), which was enacted as part of the 2018 Grid Transformation and Security Act, was amended recently by the General Assembly of Virginia and signed into law by the Governor on March 4, 2020, to allow for additional projects to qualify for the underground transmission line pilot program authorized therein. Under this amendment, the Company plans to relocate and convert a portion of Transmission Line #2010 (230 kV) between existing Tysons Substation and the future Spring Hill Substation from overhead to underground to facilitate the construction of a large, planned mixed-use development. The portion of the Project that is proposed to be relocated currently transverses the area planned for development.

The Company is preparing an application for a certificate of public convenience and necessity (“CPCN”) from the State Corporation Commission (“SCC”). Pursuant to Va. Code § 15.2-2202, the Company is writing to notify you of the specific plans for the proposed Project in advance of the SCC filing. We respectfully request that you submit any comments or additional information you feel would have bearing on the Project within 30 days of this letter. Enclosed is a Project Overview Map depicting the Proposed Route and Project location.

If you would like to receive a GIS shapefile of the Proposed Route to assist in your Project review or if you have any questions, please do not hesitate to contact me at (804) 771-4458 or Charles.H.Weil@dominionenergy.com.

Dominion Energy Virginia appreciates your assistance with this Project review and looks forward to any additional information you may have to offer

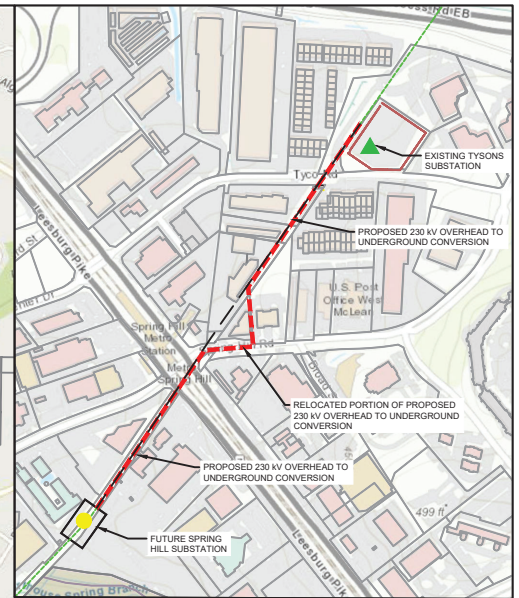
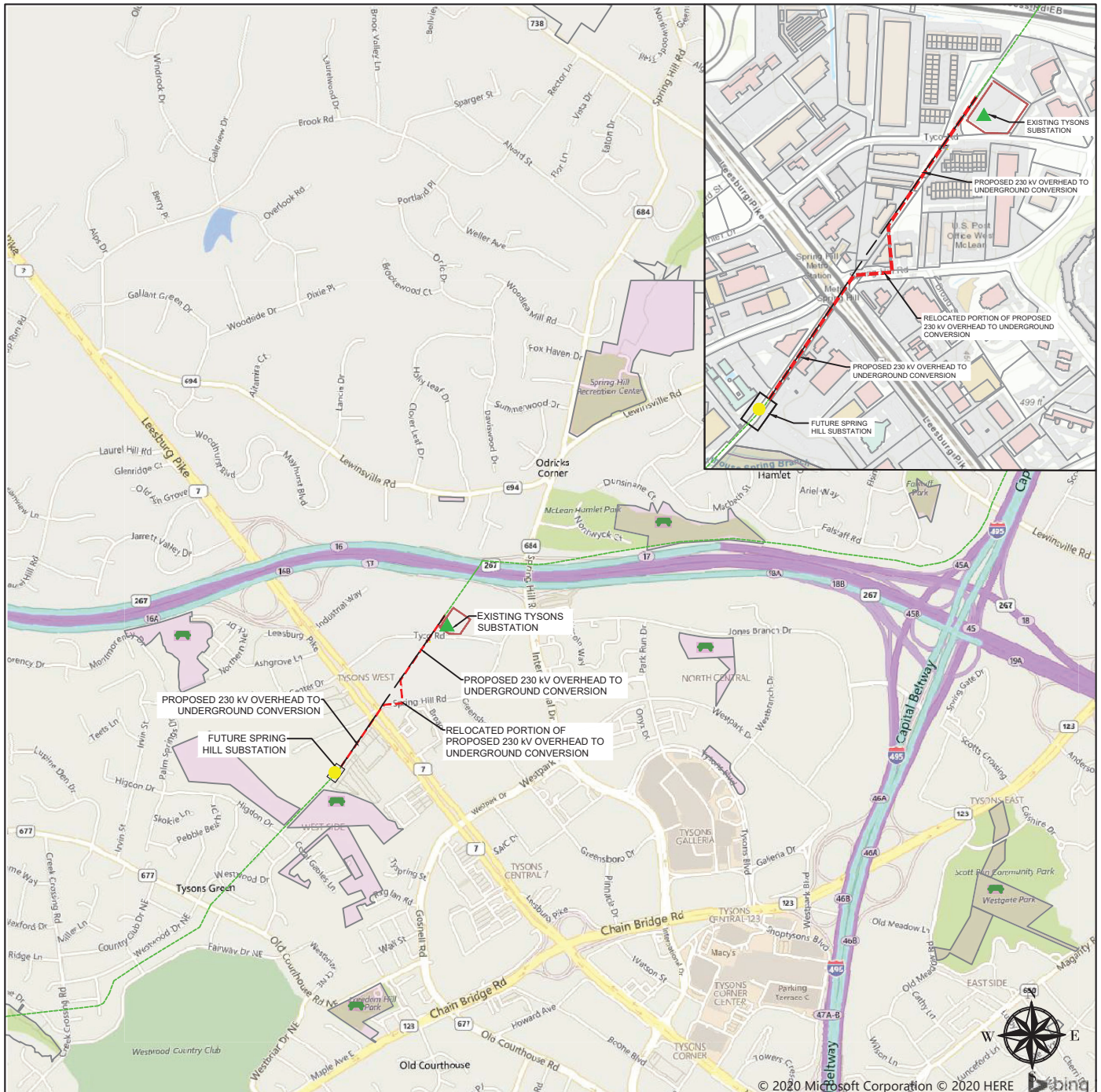
Sincerely ,

Dominion Energy Virginia

A handwritten signature in black ink, appearing to read "Charles H. Weil". The signature is fluid and cursive, with the first name "Charles" and last name "Weil" clearly distinguishable.

Charles H. Weil, PE
Engineer II, Siting and Permitting

Attachment: Project Overview Map



- ▲ Existing Substation
- Future Substation (Spring Hill)
- Partial Proposed Underground Pilot Program
- Existing Overhead Line
- Partial Existing Overhead Line - To Be Removed

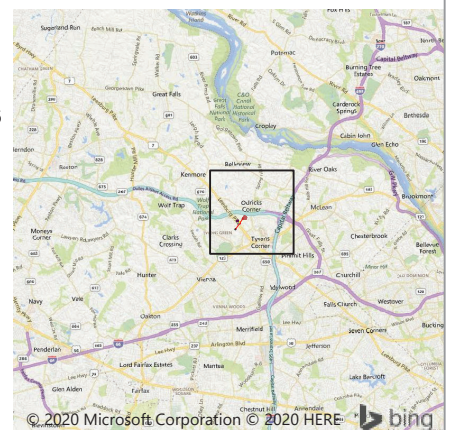
Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map

Fairfax County



0' 1000' (Main Map)
0 (Vicinity Map)



From: [Charles H Weil \(Services - 6\)](#)
To: Barbara.Byron@fairfaxcounty.gov
Subject: #2010 230kV Single Circuit Transmission Line Underground Pilot Program - Updated Project Map
Date: Friday, September 4, 2020 8:05:00 AM
Attachments: [V.A - Notice Map Spring Hill - Tysons COLOR.pdf](#)
[image001.png](#)

Good morning Ms. Byron,

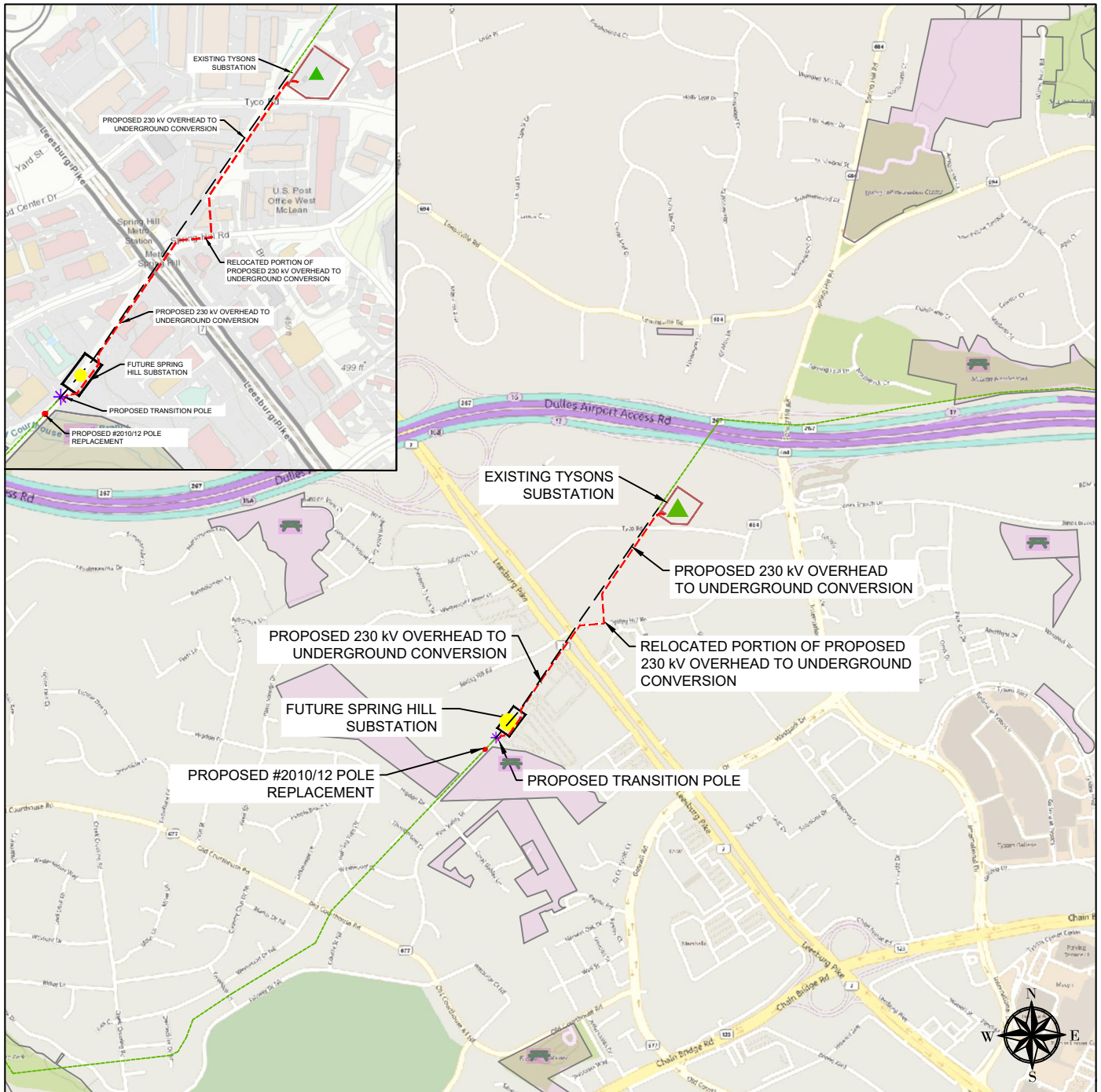
I wrote to you on July 31 regarding our Underground 230kV relocation project in Fairfax County (Spring Hill Substation to Tysons Substation). We updated our project map to include a new transmission structure (2010/12) and transition pole just south of our Spring Hill Substation of which I wanted to make you aware. Please see the attached updated map. If you have any questions or concerns, please let me know.

Thank you,

Chuck Weil, PE

Engineer II
Siting & Permitting, Electric Transmission
10900 Nuckols Rd, 4th Floor, Glen Allen, VA 23060
O: 804-771-4458 M: 804-239-6450

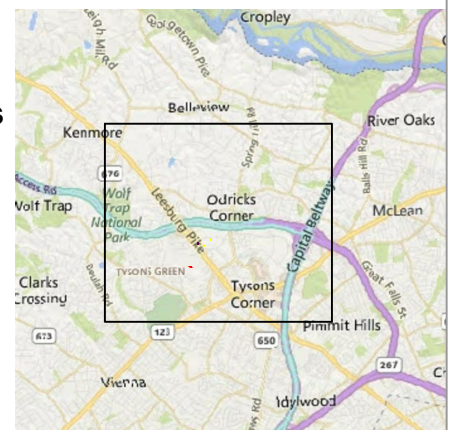




- ▲ Existing Substation
- Future Substation (Spring Hill)
- ✱ Proposed Transition Pole
- Proposed #2010/12 Pole Replacement
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Partial Line #2010 230kV Single Circuit Transmission Line Underground Pilot Program (Tysons - Future Spring Hill Substation)

Notice Map
Fairfax County



COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION OF)	
)	
VIRGINIA ELECTRIC AND POWER COMPANY)	Case No. PUR-2020-00198
)	
For approval and certification of electric transmission)	
facilities: Partial Line #2010 230 kV Single Circuit)	
Transmission Line Underground Pilot Project)	
(Tysons-Future Spring Hill Substation))	

**IDENTIFICATION, SUMMARIES AND TESTIMONY OF DIRECT WITNESSES OF
VIRGINIA ELECTRIC AND POWER COMPANY**

Harrison S. Potter

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Robert J. Shevenock II

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Stephen O. Taylor

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Kenneth W. Wagner

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualification

Mohammad M. Othman

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Charles H. Weil

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Harrison S. Potter

Title: Engineer III – Electric Transmission Planning

Summary:

Company Witness Harrison Potter sponsors those portions of the Appendix describing the Company's transmission system and need for, and benefits of, the proposed Project, as follows:

- Section I.C: Not applicable to the Project.
- Section I.D: Not applicable to the Project.
- Section I.E: This section explains that no electrical alternatives to the Project were considered.
- Section I.H: This section provides the desired in-service date of the proposed Project and the estimated construction time.
- Section I.J: This section provides information about the Project if approved by the RTO.
- Section I.K: Not applicable to the Project.
- Section I.M: Not applicable to the Project.
- Section I.N: This section, when applicable, provides the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations, and other ground facilities associated with the proposed Project.
- Section II.A.10: This section provides details of the construction plans for the proposed Project, including requested and approved line outage schedules.

Additionally, Company Witness Potter co-sponsors the following portions of the Appendix:

- Section I.A (co-sponsored with Company Witnesses Robert J. Shevenock II and Stephen O. Taylor): This section details the primary justifications for the proposed Project.
- Section I.B (co-sponsored with Company Witnesses Stephen O. Taylor and Kenneth W. Wagner): This section details the engineering justifications for the proposed Project.
- Section I.G (co-sponsored with Company Witness Charles H. Weil): This section provides a system map for the affected area.
- Section II.A.3 (co-sponsored with Company Witness Charles H. Weil): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed Project.

A statement of Mr. Potter's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
HARRISON S. POTTER
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00198**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Harrison S. Potter, and I am an Engineer III in Electric Transmission
4 Planning for the Company. My business address is 10900 Nuckols Road, Glen Allen,
5 Virginia 23060. A statement of my qualifications and background is provided as
6 Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for planning the Company’s electric transmission system for voltages of
9 69 kilovolt (“kV”) through 500 kV.

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. Pursuant to § 56-585.1:5 of the Code of Virginia (“Va. Code”), the Company proposes:

- 12 (i) to remove an approximate 0.56 mile segment of its existing overhead 230
13 kV Reston-Tysons Line #2010 from the Tysons Substation to just south of
14 the site for the future Spring Hill Substation (the “Existing Facilities”),
15 and relocate and replace the line underground (the “Relocated Facilities”);
16
17 (ii) to complete work at the Tysons Substation to allow this segment of Line
18 #2010 to be relocated underground; and
19
20 (iii) to construct a transition pole (“Transition Pole”) just south of the future
21 Spring Hill Substation to transition Line #2010 from an underground line
22 to an overhead line

23 (collectively, the “Underground Project” or “Project”).

1 The Project is necessary to support economic development priorities of the
2 Commonwealth, including the economic development priorities and the comprehensive
3 plan of Fairfax County, Virginia. Section 56-585.1:5 of Va. Code, which was enacted as
4 part of the 2018 Grid Transformation and Security Act, recently was amended by the
5 General Assembly of Virginia, signed into law by Governor Ralph Northam on March 4,
6 2020, and effective July 1, 2020, to allow for an additional project to qualify for the
7 underground transmission line pilot program authorized therein.

8 The purpose of my testimony is to describe the Company's transmission system and the
9 need for, and benefits of, the proposed Project. I am sponsoring Sections I.C, I.D, I.E,
10 I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I also co-sponsor
11 Section I.A with Company Witnesses Robert J. Shevenock II and Stephen O. Taylor;
12 Section I.B with Company Witnesses Stephen O. Taylor and Kenneth W. Wagner; and
13 Sections I.G and II.A.3 with Company Witness Charles H. Weil.

14 **Q. Does this conclude your pre-filed direct testimony?**

15 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
HARRISON S. POTTER**

Harrison Potter is a 2012 graduate from Virginia Commonwealth University with a Masters in Business Administration and a 2005 graduate from Virginia Polytechnic Institute and State University with a Bachelor of Science in Mechanical Engineering. Mr. Potter has been employed by the Company for 15 years. His experience with the Company includes distribution planning (eleven years), distribution design (two years), and GIS services (two years). Mr. Potter was promoted to his current role in transmission planning in 2019.

Mr. Potter has previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Robert J. Shevenock II

Title: Principal Engineer – Electric Transmission Line Engineering

Summary:

Company Witness Robert J. Shevenock II will sponsor those portions of the Appendix providing an overview of the design characteristics of the overhead transmission facilities for the proposed Project, and discussing electric and magnetic field levels, as follows:

- Section I.F: This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed Project.
- Section I.L: Not applicable to the Project.
- Section II.B.4: Not applicable to the Project.

Additionally, Company Witness Shevenock co-sponsors the following portions of the Appendix:

- Section I.A (co-sponsored with Company Witnesses Harrison S. Potter and Stephen O. Taylor): This section details the primary justifications for the proposed Project.
- Section I.I (co-sponsored with Company Witnesses Stephen O. Taylor and Mohammad M. Othman): This section provides the estimated total cost of the proposed Project.
- Section II.A.5 (co-sponsored with Company Witness Stephen O. Taylor): This section provides drawings of the right-of-way cross section showing typical transmission lines structure placements.
- Section II.B.3 (co-sponsored with Stephen O. Taylor): This section provides the line design and operational features of the proposed Project.
- Section II.B.5 (co-sponsored with Company Witness Stephen O. Taylor): This section provides the mapping and structure heights for the existing overhead structures.
- Section IV (co-sponsored with Company Witness Stephen O. Taylor): This section provides analysis on the health aspects of electric and magnetic field levels.

A statement of Mr. Shevenock's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
ROBERT J. SHEVENOCK II
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00198**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Robert J. Shevenock II, and I am a Principal Engineer in the Electric
4 Transmission Line Engineering Department of the Company. My business address is
5 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and
6 background is provided as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for the estimating and conceptual design of high voltage transmission
9 line projects from 69 kilovolt (“kV”) to 500 kV.

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. Pursuant to § 56-585.1:5 of the Code of Virginia (“Va. Code”), the Company proposes:

- 12 (i) to remove an approximate 0.56 mile segment of its existing overhead 230
13 kV Reston-Tysons Line #2010 from the Tysons Substation to just south of
14 the site for the future Spring Hill Substation (the “Existing Facilities”),
15 and relocate and replace the line underground (the “Relocated Facilities”);
16
17 (ii) to complete work at the Tysons Substation to allow this segment of Line
18 #2010 to be relocated underground; and
19
20 (iii) to construct a transition pole (“Transition Pole”) just south of the future
21 Spring Hill Substation to transition Line #2010 from an underground line
22 to an overhead line

23 (collectively, the “Underground Project” or “Project”).

1 The Project is necessary to support economic development priorities of the
2 Commonwealth, including the economic development priorities and the comprehensive
3 plan of Fairfax County, Virginia. Section 56-585.1:5 of Va. Code, which was enacted as
4 part of the 2018 Grid Transformation and Security Act, recently was amended by the
5 General Assembly of Virginia, signed into law by Governor Ralph Northam on March 4,
6 2020, and effective July 1, 2020, to allow for an additional project to qualify for the
7 underground transmission line pilot program authorized therein.

8 The purpose of my testimony is to describe the design characteristics of the overhead
9 transmission facilities for the proposed Project, and also to discuss electric and magnetic
10 field (“EMF”) levels. I sponsor Sections I.F, I.L, and II.B.4 of the Appendix. I also co-
11 sponsor Section I.A of the Appendix with Company Witnesses Harrison S. Potter and
12 Stephen O. Taylor; Section I.I of the Appendix with Company Witnesses Stephen O.
13 Taylor and Mohammad M. Othman; and Sections II.A.5, II.B.3, II.B.5, and IV with
14 Company Witness Stephen O. Taylor.

15 **Q. Does this conclude your pre-filed direct testimony?**

16 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
ROBERT J. SHEVENOCK II**

Robert J. Shevenock II graduated from Pennsylvania State University in 1985 with a Bachelor of Science in Electrical Engineering. He joined the Company in 1985 and has held various engineering titles within the Electric Transmission Engineering department, where he currently works as a Principal Engineer.

Mr. Shevenock has previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Stephen O. Taylor

Title: Engineer II – Electric Transmission Line Engineering

Summary:

Company Witness Stephen Taylor will sponsor those portions of the Appendix providing an overview of the design characteristics of the underground transmission facilities for the proposed Project, and discussing electric and magnetic field levels, as follows:

- Sections II.B.1 to II.B.2: These sections provide the line design and operational features of the proposed Project.

Additionally, Company Witness Taylor co-sponsors the following portions of the Appendix:

- Section I.A (co-sponsored with Company Witnesses Harrison S. Potter and Robert J. Shevenock II): This section details the primary justifications for the proposed Project.
- Section I.B (co-sponsored with Company Witnesses Harrison S. Potter and Kenneth W. Wagner): This section details the engineering justifications for the proposed Project.
- Section I.I (co-sponsored with Company Witnesses Robert J. Shevenock II and Mohammad M. Othman): This section provides the estimated total cost of the proposed Project.
- Section II.A.5 (co-sponsored with Company Witness Robert J. Shevenock II): This section provides drawings of the right-of-way cross section showing typical transmission lines structure placements.
- Section II.B.3 (co-sponsored with Company Witness Robert J. Shevenock II): This section provides the line design and operational features of the proposed Project.
- Section II.B.5 (co-sponsored with Company Witness Robert J. Shevenock II): This section provides the mapping and structure heights for the existing overhead structures.
- Section II.C (co-sponsored with Company Witness Mohammad M. Othman): This section describes and furnishes plan drawings of all new substations associated with the proposed Project.
- Section IV (co-sponsored with Company Witness Robert J. Shevenock II): This section provides analysis on the health aspects of electric and magnetic field levels.

A statement of Mr. Taylor's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
STEPHEN O. TAYLOR
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00198**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Stephen O. Taylor, and I am an Engineer II in the Electric Transmission Line
4 Engineering Department of the Company. My business address is 10900 Nuckols Road,
5 Glen Allen, Virginia 23060. A statement of my qualifications and background is
6 provided as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for the estimating and conceptual design of high voltage transmission
9 line projects from 69 kilovolt (“kV”) to 500 kV.

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. Pursuant to § 56-585.1:5 of the Code of Virginia (“Va. Code”), the Company proposes:

- 12 (i) to remove an approximate 0.56 mile segment of its existing overhead 230
13 kV Reston-Tysons Line #2010 from the Tysons Substation to just south of
14 the site for the future Spring Hill Substation (the “Existing Facilities”),
15 and relocate and replace the line underground (the “Relocated Facilities”);
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17 (ii) to complete work at the Tysons Substation to allow this segment of Line
18 #2010 to be relocated underground; and
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23 (collectively, the “Underground Project” or “Project”).

1 The Project is necessary to support economic development priorities of the
2 Commonwealth, including the economic development priorities and the comprehensive
3 plan of Fairfax County, Virginia. Section 56-585.1:5 of Va. Code, which was enacted as
4 part of the 2018 Grid Transformation and Security Act, recently was amended by the
5 General Assembly of Virginia, signed into law by Governor Ralph Northam on March 4,
6 2020, and effective July 1, 2020, to allow for an additional project to qualify for the
7 underground transmission line pilot program authorized therein.

8 The purpose of my testimony is to describe the design characteristics of the underground
9 transmission facilities for the proposed Project, and also to discuss electric and magnetic
10 field (“EMF”) levels. I sponsor Sections II.B.1 to II.B.2 of the Appendix. I also co-
11 sponsor Section I.A of the Appendix with Company Witnesses Harrison S. Potter and
12 Robert J. Shevenock; Section I.B with Company Witnesses Harrison S. Potter and
13 Kenneth W. Wagner; Section I.I of the Appendix with Company Witnesses Robert J.
14 Shevenock II and Mohammad M. Othman; Sections II.A.5, II.B.3, II.B.5, and IV with
15 Company Witness Robert J. Shevenock II; and Section II.C with Company Witness
16 Mohammad M. Othman.

17 **Q. Does this conclude your pre-filed direct testimony?**

18 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
STEPHEN O. TAYLOR**

Stephen O. Taylor graduated from Virginia Military Institute in 2016 with a Bachelor of Science in Mechanical Engineering. The Company originally hired Mr. Taylor in 2015 where he assisted in the installation of temporary underground cable. Upon graduation in 2016, Stephen took over the role of temporary underground coordinator at the Company. In 2018, Stephen was promoted to his current position as an Engineer II. In this position, Mr. Taylor is one of two transmission underground line engineers.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Kenneth W. Wagner

Title: Program Manager – Draper Aden Associates

Summary:

Company Witness Kenneth W. Wagner co-sponsors the following portion of the Appendix:

- Section I.B (co-sponsored with Company Witnesses Harrison S. Potter and Stephen O. Taylor): This section details the engineering justifications for the proposed Project.

A statement of Mr. Wagner's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
KENNETH W. WAGNER
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00198**

1 **Q. Please state your name, business address and position of employment.**

2 A. My name is Kenneth W. Wagner, and I am a Program Manager for Draper Aden
3 Associates. My business address is 1030 Wilmer Avenue, Suite 100, Richmond, Virginia
4 23227. A statement of my qualifications and background is provided as Appendix A.

5 **Q. Please describe your areas of responsibility at Draper Aden Associates.**

6 A. I am responsible for executing schedules, understanding all elements of a design, and
7 preparing construction documents. My responsibilities also include all aspects of site
8 development and permitting. My experiences include preparation of engineering studies,
9 hydrologic and hydraulic studies, and utility service studies. When it comes to design
10 elements, my experience consists of planning, grading, drainage, stormwater
11 management, erosion and sediment control, stream evaluation, wetland delineation,
12 permitting, mitigation, technical specifications, and construction administration for civil
13 engineering projects to meet agency approval for construction.

14 **Q. On whose behalf are you testifying in this proceeding?**

15 A. I am testifying on behalf of Virginia Electric and Power Company (“Dominion Energy
16 Virginia” or the “Company”).

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. Pursuant to § 56-585.1:5 of the Code of Virginia (“Va. Code”), the Company proposes:

- 3 (i) to remove an approximate 0.56 mile segment of its existing overhead 230
4 kV Reston-Tysons Line #2010 from the Tysons Substation to just south of
5 the site for the future Spring Hill Substation (the “Existing Facilities”),
6 and relocate and replace the line underground (the “Relocated Facilities”);
7
8 (ii) to complete work at the Tysons Substation to allow this segment of Line
9 #2010 to be relocated underground; and
10
11 (iii) to construct a transition pole (“Transition Pole”) just south of the future
12 Spring Hill Substation to transition Line #2010 from an underground line
13 to an overhead line

14 (collectively, the “Underground Project” or “Project”).

15 The Project is necessary to support economic development priorities of the
16 Commonwealth, including the economic development priorities and the comprehensive
17 plan of Fairfax County, Virginia. Section 56-585.1:5 of Va. Code, which was enacted as
18 part of the 2018 Grid Transformation and Security Act, recently was amended by the
19 General Assembly of Virginia, signed into law by Governor Ralph Northam on March 4,
20 2020, and effective July 1, 2020, to allow for an additional project to qualify for the
21 underground transmission line pilot program authorized therein.

22 I co-sponsor Section I.B of the Appendix with Company Witnesses Harrison S. Potter
23 and Stephen O. Taylor. Specifically, the purpose of my testimony is to discuss the
24 engineering analysis completed to select the preferred construction method for the
25 proposed Project. This analysis is included as Appendix Attachment I.B.1.

26 **Q. Does this conclude your pre-filed direct testimony?**

27 A. Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
KENNETH W. WAGNER**

Kenneth W. Wagner attended both Pennsylvania State University and Toledo University. He has held various Site/Civil Engineering roles across multiple Engineering Consultant firms across the Northeast since 1979. He has supported various Dominion Energy Virginia Electric Transmission Engineering Projects, mainly in developing Substation Site Plans and preparing Transmission Line Routing Studies in heavy urbanized areas of Northern Virginia since 2007.

He currently works as a Program Manager in the Site Development and Infrastructure Department of Draper Aden Associates in Richmond, Virginia. He has over 30 years' experience as a site development and stormwater management engineer.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Mohammad M. Othman

Title: Engineer III – Substation Engineering

Summary:

Company Witness Mohammad M. Othman sponsors or co-sponsors the following portions of the Appendix describing the work to be performed at the existing substation for the Project, as follows:

- Section I.I (co-sponsored with Company Witnesses Robert J. Shevenock II and Stephen O. Taylor): This section provides the estimated total cost of the proposed Project.
- Section II.C (co-sponsored with Company Witness Stephen O. Taylor): This section describes impacts to substations and substation locations associated with the proposed Project.

A statement of Mr. Othman's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
MOHAMMAD M. OTHMAN
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00198**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Mohammad M. Othman, and I am an Engineer III in the Substation
4 Engineering section of the Electric Transmission group of the Company. My business
5 address is 2400 Grayland Avenue, Richmond, Virginia 23220. A statement of my
6 qualifications and background is provided as Appendix A.

7 **Q. What are your responsibilities as an Engineer III?**

8 A. I am responsible for evaluation of the substation project requirements, conceptual
9 physical design, scope development, preliminary engineering and cost estimating for high
10 voltage transmission and distribution substations.

11 **Q. What is the purpose of your testimony in this proceeding?**

12 A. Pursuant to § 56-585.1:5 of the Code of Virginia (“Va. Code”), the Company proposes:

- 13 (i) to remove an approximate 0.56 mile segment of its existing overhead 230
14 kV Reston-Tysons Line #2010 from the Tysons Substation to just south of
15 the site for the future Spring Hill Substation (the “Existing Facilities”),
16 and relocate and replace the line underground (the “Relocated Facilities”);
17
18 (ii) to complete work at the Tysons Substation to allow this segment of Line
19 #2010 to be relocated underground; and
20
21 (iii) to construct a transition pole (“Transition Pole”) just south of the future
22 Spring Hill Substation to transition Line #2010 from an underground line
23 to an overhead line

1 (collectively, the “Underground Project” or “Project”).

2 The Project is necessary to support economic development priorities of the
3 Commonwealth, including the economic development priorities and the comprehensive
4 plan of Fairfax County, Virginia. Section 56-585.1:5 of Va. Code, which was enacted as
5 part of the 2018 Grid Transformation and Security Act, recently was amended by the
6 General Assembly of Virginia, signed into law by Governor Ralph Northam on March 4,
7 2020, and effective July 1, 2020, to allow for an additional project to qualify for the
8 underground transmission line pilot program authorized therein.

9 The purpose of my testimony is to describe the work to be performed at the proposed
10 Project’s substation. I co-sponsor Section I.I of the Appendix with Company Witnesses
11 Robert J. Shevenock II and Stephen O. Taylor, specifically, as it pertains to substation
12 work; and Section II.C with Company Witness Stephen O. Taylor.

13 **Q. Does this conclude your pre-filed direct testimony?**

14 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
MOHAMMAD M. OTHMAN**

Mohammad M. Othman received a Bachelor of Science degree in Electrical Engineering from Virginia Commonwealth University in 2008. Mr. Othman's responsibilities include the evaluation of the substation project requirements, development of scope documents and schedules, preparation of estimates and proposals, preparation of specifications and bid documents, material procurement, design substation physical layout, development of detailed physical drawings, bill of materials, electrical schematics and wiring diagrams. Mr. Othman joined the Dominion Energy Virginia Substation Engineering department in 2010 as an Engineer II and was later promoted to Engineer III, the title he currently holds.

Mr. Othman has previously submitted pre-filed testimony to the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Charles H. Weil

Title: Engineer II - Siting and Permitting Group

Summary:

Company Witness Charles H. Weil will sponsor those portions of the Appendix providing an overview of the design of the route for the proposed Underground Project, and related permitting, as follows:

- Section II.A.1: This section provides the length of the proposed corridor and viable alternatives to the proposed Project.
- Section II.A.2: This section provides a map showing the route of the proposed Project in relation to notable points close to the proposed Project.
- Section II.A.4: This section explains why the existing right-of-way is not adequate to serve the need, to the extent applicable.
- Sections II.A.6 to II.A.8: These sections provide detail regarding the right-of-way for the proposed Project.
- Section II.A.9: This section describes the proposed route selection procedures and details alternative routes considered.
- Section II.A.11: This section details how the construction of the proposed Project follows the provisions discussed in Attachment 1 of the Transmission Appendix Guidelines.
- Section II.A.12: This section identifies the counties and localities through which the proposed Project will pass and provides General Highway Maps for these localities.
- Section II.B.6: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.
- Section III: This section details the impact of the proposed project on scenic, environmental, and historic features.
- Section V: This section provides information related to public notice of the proposed Project.

Additionally, Mr. Weil co-sponsors the following portion of the Appendix:

- Section I.G (co-sponsored with Company Witness Harrison S. Potter): This section provides a system map for the affected area.
- Section II.A.3 (co-sponsored with Company Witness Harrison S. Potter): This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed Project.

Finally, Mr. Weil sponsors the DEQ Supplement filed with the Application.

A statement of Mr. Weil's background and qualifications is attached to his testimony as Appendix A.

**DIRECT TESTIMONY
OF
CHARLES H. WEIL
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2020-00198**

1 **Q. Please state your name, business address and position with Virginia Electric and**
2 **Power Company (“Dominion Energy Virginia” or the “Company”).**

3 A. My name is Charles H. Weil, and I serve as an Engineer II in the Siting and Permitting
4 Group for Virginia Electric and Power Company (“Dominion Energy Virginia” or the
5 “Company”). My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060.
6 A statement of my qualifications and background is provided as Appendix A.

7 **Q. Please describe your areas of responsibility with the Company.**

8 A. I am responsible for identifying appropriate routes for transmission lines and obtaining
9 necessary federal, state, and local approvals and environmental permits for those
10 facilities. In this position, I work closely with government officials, permitting agencies,
11 property owners, and other interested parties, as well as with other Company personnel,
12 to develop facilities needed by the public so as to reasonably minimize environmental
13 and other impacts on the public in a reliable, cost-effective manner.

14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. Pursuant to § 56-585.1:5 of the Code of Virginia (“Va. Code”), the Company proposes:

- 16 (i) to remove an approximate 0.56 mile segment of its existing overhead 230
17 kV Reston-Tysons Line #2010 from the Tysons Substation to just south of
18 the site for the future Spring Hill Substation (the “Existing Facilities”),
19 and relocate and replace the line underground (the “Relocated Facilities”);
20

- 1 (ii) to complete work at the Tysons Substation to allow this segment of Line
2 #2010 to be relocated underground; and
3
4 (iii) to construct a transition pole (“Transition Pole”) just south of the future
5 Spring Hill Substation to transition Line #2010 from an underground line
6 to an overhead line

7 (collectively, the “Underground Project” or “Project”).

8 The Project is necessary to support economic development priorities of the
9 Commonwealth, including the economic development priorities and the comprehensive
10 plan of Fairfax County, Virginia. Section 56-585.1:5 of Va. Code, which was enacted as
11 part of the 2018 Grid Transformation and Security Act, recently was amended by the
12 General Assembly of Virginia, signed into law by Governor Ralph Northam on March 4,
13 2020, and effective July 1, 2020, to allow for an additional project to qualify for the
14 underground transmission line pilot program authorized therein.

15 The purpose of my testimony is to provide an overview of the route and permitting for
16 the proposed Project. As it pertains to routing and permitting, I sponsor Sections II.A.1,
17 II.A.2, II.A.4, II.A.6, II.A.7, II.A.8, II.A.9, II.A.11, II.A.12, II.B.6, III., and V. of the
18 Appendix. I also sponsor the DEQ Supplement filed with the Application; and co-
19 sponsor Sections I.G and II.A.3 with Company Witness Harrison S. Potter.

20 **Q. Has the Company complied with Va. Code § 15.2-2202 E?**

21 A. Yes. In accordance with Va. Code § 15.2-2202 E, letters and emails dated July 31, 2020,
22 and September 4, 2020, respectively, were sent to Fairfax County stating the Company’s
23 intent to file this Application, describing the Project, and offering the locality an
24 opportunity to comment. Copies of these letters are included as Appendix Attachments
25 V.D.1-V.D.3.

1 **Q.** **Does this conclude your pre-filed direct testimony?**

2 **A.** Yes, it does.

**BACKGROUND AND QUALIFICATIONS
OF
CHARLES H. WEIL**

Charles H. Weil graduated from Virginia Tech in 2012 with a Bachelor of Science in Civil and Environmental Engineering. He has a professional license in Civil Engineering. He was previously a transportation engineer with various consulting firms and the City of Suffolk, Virginia before joining Dominion Energy Virginia as an Engineer II in the Siting and Permitting Group in 2019.