

part 3

151220387

Kaminsky

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Dennis D. Kaminsky

Title: Consulting Engineer – Electric Transmission Planning

Summary:

In order to maintain the structural integrity and reliability of its transmission system and perform needed maintenance on its existing facilities, Virginia Electric and Power Company (“Dominion Virginia Power” or the “Company”) proposes to rebuild, entirely within an existing right-of-way, approximately 2.6 miles of existing 230 kV double circuit transmission lines, Jefferson Street-Gum Springs Line #204 and Ox-Gum Springs Line #220, located entirely in Fairfax County, Virginia (the “Rebuild Project”). The portion of these lines being rebuilt extends between the Company’s existing Belvoir Substation and existing Gum Springs Substation.

Company Witness Dennis D. Kaminsky provides an overview of the Company’s transmission system and transmission planning process, and the transmission facilities in the Rebuild Project that are part of the Company’s 230 kV network in Northern Virginia and also provide direct delivery to the customers served out of Belvoir, Franconia and Gum Springs Substations.

The Company plans to remove or replace aging transmission facilities that are reaching the end of their service lives, and thereby enable the Company to maintain the overall long-term reliability of its transmission system.

**DIRECT TESTIMONY  
OF  
DENNIS D. KAMINSKY  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUE-2015-00133**

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

3 **A.** My name is Dennis D. Kaminsky, and I am a Consulting Engineer in the Electric  
4 Transmission Planning Department for Dominion Virginia Power. My office is located  
5 at One James River Plaza, 701 East Cary Street, Richmond, Virginia 23219.

6 **Q. What is your educational and professional background?**

7 **A.** I am a 1982 graduate of Western Michigan University with a Bachelor’s Degree in  
8 Electrical Engineering. I started with the Company in May 1983 as an Associate  
9 Engineer in the System Protection Department, and since then my experience has  
10 included System Protection, Transmission and Distribution Projects, Substation  
11 Construction and Maintenance, Distribution Planning, Regional Operations, and  
12 Transmission Planning. I was promoted to Consulting Engineer in April 2007 and then  
13 transferred to my present position in the Electric Transmission Planning Department in  
14 October 2008.

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

16 **A.** I am responsible for planning the Company’s electric transmission system in the central  
17 region of Virginia for voltages 115 kV through 230 kV.

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

2 A. In order to maintain the structural integrity and reliability of its transmission system and  
3 perform needed maintenance on its existing facilities, Dominion Virginia Power proposes  
4 to rebuild, entirely within an existing right-of-way, approximately 2.6 miles of existing  
5 230 kV double circuit transmission lines, Jefferson Street-Gum Springs Line #204 and  
6 Ox-Gum Springs Line #220, located entirely in Fairfax County, Virginia (the "Rebuild  
7 Project").

8 The purpose of my testimony is to discuss the need for, and benefits of, the proposed  
9 Rebuild Project. I am sponsoring Sections I.B, I.C, I.E, I.F, I.H and I.I of the Appendix,  
10 and co-sponsoring Sections 1.A and I.F of the Appendix with Company Witness Jacob G.  
11 Heisey.

12 **Q. Please provide an overview of the Company's transmission system and transmission  
13 planning process.**

14 A. Dominion Virginia Power's transmission system is responsible for providing  
15 transmission service to the Company's retail customers and also to Appalachian Power  
16 Company, Old Dominion Electric Cooperative, Northern Virginia Electric Cooperative,  
17 Central Virginia Electric Cooperative, and Virginia Municipal Electric Association for  
18 redelivery to their retail customers in Virginia, as well as to North Carolina Electric  
19 Membership Corporation and North Carolina Eastern Municipal Power Agency for  
20 redelivery to their customers in North Carolina. The Company needs to be able to  
21 maintain the overall, long-term reliability of its transmission system, as its customers  
22 require more power in the future.

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

8 Dominion Virginia Power also is part of the PJM Interconnection L.L.C. ("PJM")  
9 regional transmission organization (RTO) providing service to a large portion of the  
10 eastern United States. PJM is currently responsible for ensuring the reliability and  
11 coordinating the movement of electricity through all or parts of Delaware, Illinois,  
12 Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio,  
13 Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. This  
14 service area has a population of about 60 million and on July 21, 2011, set a record high  
15 of 158,450 MW for summer peak demand, of which Dominion Virginia Power's load  
16 portion was approximately 19,636 MW serving 2.4 million customers. On July 22, 2011,  
17 the Company set a record high of 20,061 MW for summer peak demand. On February  
18 20, 2015, the Company set a winter and all-time record demand of 21,651 MW.  
19 Moreover, based on the 2015 PJM Load Forecast, the Dominion Zone is expected to be  
20 one of the fastest growing zones in PJM with an average growth rate of 1.7% over the  
21 next 10 years compared to the PJM average of 1.0% over the same period.

1 **Q. Please describe the present transmission system in the vicinity of the proposed**  
2 **Rebuild Project.**

3 A. Existing Jefferson Street-Gum Springs Line #204 and Ox-Gum Springs Line #220 are  
4 part of the Company's 230 kV network, which supports the delivery of generation to  
5 retail and wholesale customers. These two lines support the network in the Northern  
6 Virginia area and provide direct delivery to the customers served out of Belvoir,  
7 Franconia and Gum Springs Substations. There are presently over 36,000 customers  
8 served from these three substations, including the Fort Belvoir Army Base.

9 **Q. Why do the proposed facilities need to be built at this time?**

10 A. The Rebuild Project will meet an immediate operational need by replacing aging  
11 transmission facilities. Specifically, the Rebuild Project provides the benefit of removing  
12 or replacing aging transmission facilities that are reaching the end of their service lives.  
13 The 2.6-mile section of Lines #204 and #220 is constructed with double circuit  
14 weathering steel towers and double circuit three-pole wooden H-frames.

15 The original wooden section of the line between Belvoir Substation and Gum Springs  
16 Substation was built in the late 1960s. The double circuit three-pole H-frame was a non-  
17 standard structure design used to suit an adjacent Naval Facility. Due to those  
18 limitations, the structures lacked a shield wire for lightning fault protection. Although  
19 not in violation of any code, this is not typical of Dominion Virginia Power's practices.  
20 In the late 1990s, most of the wooden crossarms on Line #220 were replaced with steel  
21 crossarms. Also, some of the remaining wooden crossarms on Line #204 were replaced.  
22 The Company performed emergency repairs on the line in 2014 to address broken  
23 crossarms and a temporary solution in summer of 2014, as more fully described by

1 Company Witness Jacob Heisey. The structures have been inspected and maintained per  
2 established Dominion Virginia Power schedules, and inspection records confirm that  
3 these 45+ year old wooden structures need to be replaced. Typical descriptions include  
4 “rotten,” “hollow,” “leaning,” “decay,” and “split top of pole.”

5 The proposed Rebuild Project will replace aging infrastructure at the end of its service  
6 life, thereby enabling the Company to maintain the overall long-term reliability of its  
7 transmission system.

8 **Q. Did the Company consider whether there are feasible alternatives to construction of**  
9 **the proposed transmission facilities?**

10 A. The 230 kV Lines #204 and #220 play an important role in the reliable operation of the  
11 Company’s electric transmission system and provide direct delivery of power to over  
12 36,000 customers. As detailed in Section I.A of the Appendix, the Company has  
13 recognized that the section of existing Lines #204 and #220 between the Belvoir and  
14 Gum Springs Substations and associated facilities are approaching the end of their service  
15 lives. Because the existing corridor is adequate to construct the proposed Rebuild  
16 Project, no new real estate rights are needed; therefore, any alternative to this Rebuild  
17 Project requiring the addition of new 230 kV facilities in new rights-of-way at significant  
18 expense was not considered.

19 In addition, undergrounding the Rebuild Project has been rejected by the Company due to  
20 the significantly greater costs, environmental impacts, and added construction time  
21 impacting the immediate need to replace the existing structures.

1 **Q. Have you reviewed the demand-side resources incorporated in the Company's**  
2 **planning studies used in support of this application, as directed by the Commission**  
3 **in its Order issued on November 26, 2013 in Case No. PUE-2012-00029?**

4 **A. No, not for the proposed Rebuild Project. The need for this project is not based on the**  
5 **planning studies of the Company or PJM but rather aging infrastructure.**

6 **Q. Does this conclude your prefiled direct testimony?**

7 **A. Yes, it does.**

1220387

Heisey

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Jacob G. Heisey

Title: Transmission Line Engineer II – Electric Transmission Line Engineering

Summary:

In order to maintain the structural integrity and reliability of its transmission system and perform needed maintenance on its existing facilities, Virginia Electric and Power Company (“Dominion Virginia Power” or the “Company”) proposes to rebuild, entirely within an existing right-of-way, approximately 2.6 miles of existing 230 kV double circuit transmission lines, Jefferson Street-Gum Springs Line #204 and Ox-Gum Springs Line #220, located entirely in Fairfax County, Virginia (the “Rebuild Project”). The portion of these lines being rebuilt extends between the Company’s existing Belvoir Substation and existing Gum Springs Substation.

Company Witness Jacob G. Heisey provides an overview of the design of the transmission line components of the proposed electric transmission facilities from a transmission line engineering perspective.

The proposed Rebuild Project Company plans to remove or replace aging transmission facilities that are reaching the end of their service lives, and thereby enable the Company to maintain the overall long-term reliability of its transmission system. A total of 21 existing wooden H-frame structures, 21 wooden two-pole braced post structures, four double circuit weathering steel towers, and two double circuit three-pole wooden H-frames will be removed within the scope of this proposed Rebuild Project. Replacing these structures will be 15 weathering steel double circuit monopole structures, two weathering steel double circuit two-pole structures, and one galvanized steel double circuit guyed two-pole structure. In total, 48 existing structures consisting of 90 individual poles and four towers will be removed, and 18 new structures consisting of 21 individual poles will be erected within the scope of this proposed Rebuild Project. In addition to the structure replacement, approximately 2.6 miles of double circuit, three-phase 1109 ACAR (24/13) conductor will be replaced with approximately 2.6 miles of double circuit, three-phase twin-bundled 636 ACSR (24/7) conductor. Both the structure and conductor replacements will take place between Belvoir Substation and Gum Spring Substation.

The estimated cost for the proposed Rebuild Project is approximately \$10.4 million. All costs are in 2015 dollars. There is minimal station work within the fence associated with the Rebuild Project as described above. The costs of this minimal station work are included in the Rebuild Project.

**DIRECT TESTIMONY  
OF  
JACOB G. HEISEY  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUE-2015-00133**

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

3 A. My name is Jacob G. Heisey, and I am a Transmission Line Engineer II for the Company.  
4 My office is located at One James River Plaza, 701 East Cary Street, Richmond, Virginia  
5 23219.

6 **Q. What is your educational and professional background?**

7 A. I graduated from Virginia Polytechnic Institute and State University in 2013 with a  
8 Bachelor of Science degree in Civil and Environmental Engineering and a minor in  
9 Green Engineering. Since that time, I have held various engineering titles with the  
10 Company in the Electric Transmission Line Engineering department.

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

12 A. I am responsible for developing detailed design, material requirements and construction  
13 specifications for new projects and modifications to existing infrastructure with voltages  
14 ranging from 115 kV to 500 kV.

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

16 A. In order to maintain the structural integrity and reliability of its transmission system and  
17 perform needed maintenance on its existing facilities, Dominion Virginia Power proposes

1 to rebuild, entirely within an existing right-of-way, approximately 2.6 miles of existing  
2 230 kV double circuit transmission lines, Jefferson Street-Gum Springs Line #204 and  
3 Ox-Gum Springs Line #220, located entirely in Fairfax County, Virginia (the “Rebuild  
4 Project”).

5 I will describe the design characteristics of the transmission line proposed in the  
6 Application. Although outside my area of expertise, I will report the electric and  
7 magnetic field (“EMF”) data for the proposed facilities. I will also describe the minimal  
8 station work associated with the Rebuild Project. I am sponsoring Sections I.D, I.G,  
9 II.A.3, II.B, II.C and IV of the Appendix. I am also co-sponsoring Sections I.A and I.F  
10 with Company Witness Dennis D. Kaminsky.

11 **Q. What are the transmission engineering considerations driving the need for the**  
12 **Rebuild Project?**

13 A. The proposed Rebuild Project will replace aging infrastructure at the end of its service  
14 life, thereby enabling the Company to maintain the overall long-term reliability of its  
15 transmission system. The 2.6-mile section of Lines #204 and #220 is constructed with  
16 double circuit weathering steel towers and double circuit three-pole wooden H-frames.

17 The original wooden section of the line between Belvoir Substation and Gum Springs  
18 Substation was built in the late 1960s. The double circuit 3-pole H-frame was a non-  
19 standard structure design used to suit an adjacent Naval Facility. Due to those  
20 limitations, the structures lacked a shield wire for lightning fault protection. Although  
21 not in violation of any code, this is not typical of Dominion Virginia Power’s practices.

1 In the late 1990s, most of the wooden crossarms on Line #220 were replaced with steel  
2 crossarms. Also, some of the remaining wooden crossarms on Line #204 were replaced.

3 In early 2014, an issue was brought to the attention of the Transmission Operations and  
4 Maintenance group at Dominion Virginia Power. It was discovered that one of the  
5 wooden crossarms on a structure in the wood pole section on Line #204 had broken. As  
6 shown on Attachment I.A.1 attached to the Appendix, the crossarm broke in such a  
7 manner that half of the arm held two phases balanced on one bolt and the other half of the  
8 arm caught on the other crossarm. The line never operated. Accordingly, the remainder  
9 of the wooden section of line was inspected and structures were prioritized based on their  
10 condition. The structures assessed as the highest priority were repaired with available  
11 emergency material in the spring of 2014 with the understanding that a more permanent  
12 rebuild would follow shortly. This is evident because it is a Dominion Virginia Power  
13 standard to no longer use wooden poles for new construction. The rehabilitation work  
14 included splitting the structures for Lines #204 and #220 in several locations. Line #204  
15 was placed on salvaged wood poles with polymer braced post insulators, and Line #220  
16 was left in a 2-pole H-frame configuration utilizing mostly original poles. Several of  
17 these structures were guy braced because of the physical separation of the supporting  
18 structures.

19 In the summer of 2014, another wooden crossarm on a structure in the wood pole section  
20 of Line #204 broke. During this failure the line operated and "locked out," preventing  
21 reclosure. Consequently, modifications similar to the spring 2014 work were performed  
22 on the remaining structures, again with available emergency material.

1 The structures have been inspected and maintained per established Dominion Virginia  
2 Power schedules, and inspection records confirm that these 45+ year old wooden  
3 structures need to be replaced. Typical descriptions include “rotten,” “hollow,”  
4 “leaning,” “decay,” and “split top of pole.”

5 **Q. Please describe the design of the transmission lines for the proposed Rebuild**  
6 **Project.**

7 A. A total of 21 existing wooden H-frame structures, 21 wooden two-pole braced post  
8 structures, four double circuit weathering steel towers, and two double circuit three-pole  
9 wooden H-frames will be removed within the scope of this proposed Rebuild Project.  
10 Replacing these structures will be 15 weathering steel double circuit monopole structures,  
11 two weathering steel double circuit two-pole structures, and one galvanized steel double  
12 circuit guyed two-pole structure. In total, 48 existing structures consisting of 90  
13 individual poles and four towers will be removed, and 18 new structures consisting of 21  
14 individual poles will be erected within the scope of this proposed Rebuild Project.

15 In addition to the structure replacement, approximately 2.6 miles of double circuit, three-  
16 phase 1109 ACAR (24/13) conductor will be replaced with approximately 2.6 miles of  
17 double circuit, three-phase twin-bundled 636 ACSR (24/7) conductor. Both the structure  
18 and conductor replacements will take place between Belvoir Substation and Gum Springs  
19 Substation.

20 **Q. Why were the proposed structures chosen?**

21 A. There are several reasons why the proposed structures were chosen for the Rebuild  
22 Project. First, the proposed structures will allow the installation of two circuits on a

1 single structure in the existing right-of-way, thereby minimizing the footprint of the  
2 proposed rebuilt double circuit 230 kV lines. In addition to the smaller footprint, the  
3 proposed structure types also allow for longer span lengths between structures than the  
4 existing structure types, requiring fewer structures to travel the same distance. This  
5 minimizes the number of structures in the right-of-way, providing operations and  
6 maintenance benefits.

7 Next, the proposed structure type provides operational benefits not only by reducing the  
8 number of structures requiring maintenance, but also by providing more reliable service  
9 than a like-kind replacement of the existing structures would provide due to the superior  
10 static wire lightning protection offered by the proposed structure type. In addition to  
11 reducing the likelihood of lightning-induced faults, the proposed structures also minimize  
12 the probability of a line outage caused by danger trees. Because the proposed structure  
13 type allows the conductors to be mounted both at a greater elevation, and in a more  
14 central location in the right-of-way than the existing structure type does, the chance of a  
15 tree falling into the line is greatly reduced. As the relevant section of line is surrounded  
16 by mature trees on both sides of the right-of-way, this was an important reliability  
17 consideration.

18 Finally, in addition to the engineering benefits provided by the proposed structure, the  
19 proposed structure type offers environmental and recreational benefits over the existing  
20 structure type. Because the section of line in question is positioned on a Dominion  
21 Virginia Power easement that runs through Huntley Meadows Park in Fairfax County,  
22 and contains a significant amount of wetlands, minimizing the amount of land disturbed  
23 by the Rebuild Project was a priority in order to reasonably minimize impacts. As

1 previously mentioned, the structure type chosen minimizes the footprint of the towers and  
2 therefore reduces the impact of the line on both park users and wetland habitat.

3 **Q. Please describe the minimal substation work required as part of the Rebuild**  
4 **Project.**

5 A. No new structures will be installed inside the Belvoir Substation or the Gum Springs  
6 Substation as a result of the proposed Rebuild Project. As part of the Rebuild Project,  
7 new conductor and fiber optic shield wire will be installed from the existing backbone  
8 structures inside the Belvoir Substation, to the existing steel backbones inside the Gum  
9 Springs Substation. As a result, new conductor and fiber optic shield wire hardware will  
10 be installed on the existing backbone structures inside the substations. The new fiber  
11 optic wire will be installed in each substation's control house through conduits from the  
12 backbone structure. Additionally, the wire connecting the transmission line conductor to  
13 substation bus work, or "riser" as it is called, will be replaced inside each of the  
14 substations.

15 **Q. What is the estimated construction cost for the proposed Rebuild Project?**

16 A. The estimated cost for the proposed Rebuild Project is approximately \$10.4 million. All  
17 costs are in 2015 dollars. There is minimal station work within the fence associated with  
18 the Rebuild Project as described above. The costs of this minimal station work are  
19 included in the Rebuild Project.

20 **Q. How long will it take to construct the proposed Rebuild Project?**

21 A. There is an immediate need for the Rebuild Project. If the Company can obtain  
22 Commission authorization by June 2016 and the necessary outages, then the Company

1 anticipates that the Rebuild Project could be in service by December 2016.

2 The estimated construction time for this Rebuild Project is four months. The Company  
3 anticipates that all engineering, material procurement, and construction permitting will be  
4 completed by September 2016, with construction completed by December 2016.

5 **Q. Have you made calculations of the EMF for the proposed lines?**

6 A. Yes, and they are shown in Section IV.A of the Appendix for various loading conditions  
7 expected to occur at the edges of the right-of-way. Magnetic field levels ranging from  
8 18.782 milligauss ("mG") to 80.777 mG were calculated for existing lines at the edges of  
9 the right-of-way based on historical average and peak loading. In comparison, magnetic  
10 field levels ranging from 5.552 mG to 44.029 mG were calculated for the proposed  
11 Rebuild Project at the edges of the right-of-way based on average historical loading in  
12 2014 and peak loading expected to occur in 2020 with the Rebuild Project in service.

13 **Q. The information you have provided in Section IV.A of the Appendix shows the**  
14 **calculated maximum EMF at the edge of the rights-of-way. How do the strengths of**  
15 **the maximum magnetic fields at the edge of the right-of-way compare to magnetic**  
16 **fields found elsewhere?**

17 A. Although I did not produce the field strength readings, information and calculations  
18 shown in Section IV.A of the Appendix, those field strengths can be compared to those  
19 created by other electrical sources. For example, a hair dryer produces 300 mG or more,  
20 a copy machine can produce 90 mG or more, and an electric power saw can produce 40  
21 mG or more, depending on the circumstances and operation of these devices. The  
22 strength of the field received by the person operating these devices would, of course,

1 depend on the distance between the device and the person operating it. Magnetic field  
2 strength diminishes rapidly as distance from the source increases. The decrease is  
3 proportional to the inverse square of the distance. For example, a hypothetical magnetic  
4 field strength of 10 mG at the edge of the right-of-way (defined as 50 feet from the  
5 centerline) would decrease to 2.5 mG at a point 50 feet outside of the right-of-way.

6 **Q. Does this conclude your prefiled direct testimony?**

7 **A. Yes, it does.**



WITNESS DIRECT TESTIMONY SUMMARY

Witness: Benjamin A. Saunders

Title: Senior Siting & Permitting Specialist – Electric Transmission Right-of-Way

Summary:

In order to maintain the structural integrity and reliability of its transmission system and perform needed maintenance on its existing facilities, Virginia Electric and Power Company (“Dominion Virginia Power” or the “Company”) proposes to rebuild, entirely within an existing right-of-way, approximately 2.6 miles of existing 230 kV double circuit transmission lines, Jefferson Street-Gum Springs Line #204 and Ox-Gum Springs Line #220, located entirely in Fairfax County, Virginia (the “Rebuild Project”). The portion of these lines being rebuilt extends between the Company’s existing Belvoir Substation and existing Gum Springs Substation.

Company Witness Benjamin A. Saunders supports the routing evaluation undertaken for the proposed Rebuild Project and provides a description of the permitting required. In addition, Company Witness Saunders addresses the Company’s public outreach activities for the Rebuild Project and sponsors the DEQ Supplement.

As Company Witness Saunders discusses, because the existing right-of-way is adequate to construct the proposed Rebuild Project, no new right-of-way is necessary. By using the existing right-of-way for its entire length, the Rebuild Project is expected to have minimal impact on area resources. Given the availability of existing right-of-way and the statutory preference given to the use of existing rights-of-way, and because additional costs and environmental impacts would be associated with the acquisition and construction of new right-of-way, the Company did not consider any alternate routes for this Rebuild Project

The Company consulted with local, state and federal agencies to evaluate environmental, historical, scenic, cultural and architectural constraints existing in the vicinity of the Project.

**DIRECT TESTIMONY  
OF  
BENJAMIN A. SAUNDERS  
ON BEHALF OF  
VIRGINIA ELECTRIC AND POWER COMPANY  
BEFORE THE  
STATE CORPORATION COMMISSION OF VIRGINIA  
CASE NO. PUE-2015-00133**

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

3 A. My name is Benjamin A. Saunders, and I am a Senior Siting and Permitting Specialist –  
4 Electric Transmission Right-of-Way for the Company. My office is located at One James  
5 River Plaza, 701 East Cary Street, Richmond, Virginia 23219.

6 **Q. What is your educational and professional background?**

7 A. I graduated from Sewanee: The University of the South in 2003 with a Bachelor of Arts  
8 in Political Science. I also obtained a Master of Science in Environmental Studies from  
9 Virginia Commonwealth University in 2007. I joined the Company’s Transmission  
10 Right-of-Way group in February 2014 as a Senior Siting and Permitting Specialist, the  
11 position I presently hold. Prior to working for the Company’s Transmission Right-of-  
12 Way group, I worked as an Environmental Auditor for the Company’s Auditing  
13 Department from June 2010 to February 2014. Prior to joining the Company, I was  
14 employed as an Environmental Consultant at Aegis Environmental from April 2008 to  
15 June 2010. Before that I worked as an Environmental Technician for the City of  
16 Richmond, Virginia from April 2007 to April 2008. Prior to my work with the City, I  
17 was employed as a GIS Watershed Technician for the Chesterfield County Office of  
18 Water Quality from January 2005 to December 2007.

1 **Q. What are your responsibilities as Senior Siting and Permitting Specialist?**

2 A. My responsibilities include identification of appropriate routes for transmission lines and  
3 obtaining necessary federal, state, and local approvals, and environmental permits for  
4 those facilities. In this position, I work closely with government officials, permitting  
5 agencies, property owners, and other interested parties, as well as with other Company  
6 personnel, to develop facilities needed by the public so as to reasonably minimize  
7 environmental and other impacts on the public in a reliable, cost-effective manner.

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

9 A. In order to maintain the structural integrity and reliability of its transmission system and  
10 perform needed maintenance on its existing facilities, Dominion Virginia Power proposes  
11 to rebuild, entirely within an existing right-of-way, approximately 2.6 miles of existing  
12 230 kV double circuit transmission lines, Jefferson Street-Gum Springs Line #204 and  
13 Ox-Gum Springs Line #220, located entirely in Fairfax County, Virginia (the "Rebuild  
14 Project").

15 The purpose of my testimony is to discuss the route for the Rebuild Project presented in  
16 Appendix Attachment II.A.2. In addition, I am sponsoring Sections II.A.1, 2, 4-6 and 7-  
17 9; III and V of the Appendix, and the DEQ Supplement.

18 **Q. Please provide a description of the existing right-of-way to be used for the Rebuild  
19 Project.**

20 A. The entire 2.6-mile long transmission line corridor in Fairfax County is an existing  
21 transmission line right-of-way currently containing existing 230 kV Jefferson Street-Gum  
22 Springs Line #204 and Ox-Gum Springs Line #220. The existing right-of-way is

1 primarily 145 feet wide. The easement for this right-of-way was acquired in the late  
2 1960s. The new structures will be located entirely within the existing right-of-way. No  
3 new easements will be required for this Rebuild Project. Section II.B.3 of the Appendix  
4 provides additional design details of the proposed structures.

5 **Q. Please describe the Company's initial outreach on the Rebuild Project.**

6 A. Dominion Virginia Power has met or spoken with a number of officials to inform them of  
7 the need for this Rebuild Project. In the spring and summer of 2015 the Company met  
8 with the County Administrators of Fairfax County to discuss the Rebuild Project,  
9 including representatives from the Fairfax County Park Authority and both the Board of  
10 Supervisors, and/or their staff, in the impacted area.

11 **Q. What are the environmental impacts of the Rebuild Project?**

12 A. By using the existing right-of-way for its entire length, the Rebuild Project is expected to  
13 have minimal impact on area resources.

14 The general character of the Rebuild Project area is a conserved wetland and forested  
15 park bordering a densely populated suburban residential area.

16 The existing right-of-way is believed to include Mt. Vernon property boundary marking  
17 ditches noted in George Washington's Will. An archeological study of the ditches, dated  
18 October 28, 2015, was completed by the Fairfax County Park Authority and is included  
19 as Attachment 2.H.3 to the DEQ Supplement. Based on this study and subject to final  
20 engineering design, it does not appear that construction of the Rebuild Project will have  
21 an impact on the remnants of these boundary marking ditches. Rebuild Project  
22 construction techniques will preserve or avoid artifacts mentioned in the study as they are

1 fully delineated by the Fairfax County Park Authority. The Company will coordinate  
2 with the Fairfax County Park Authority.

3 According to United States Geological Survey (“USGS”) Topographic maps, there are  
4 three streams crossed by this Rebuild Project. The Rebuild Project will not cross any  
5 scenic byways.

6 **Q. Did the Company consider any alternate routes for the Rebuild Project?**

7 A. Because the existing right-of-way is adequate to construct the proposed Rebuild Project,  
8 no new right-of-way is necessary. Given the availability of existing right-of-way and the  
9 statutory preference given to the use of existing rights-of-way, and because additional  
10 costs and environmental impacts would be associated with the acquisition and  
11 construction of new right-of-way, the Company did not consider any alternate routes for  
12 this Rebuild Project.

13 **Q. Please discuss the resources in the Rebuild Project area and the activities that have  
14 been and will be undertaken to reasonably minimize adverse impacts of the  
15 proposed lines on the environment.**

16 A. On July 25, 2014, a waters of the U.S. delineation was completed on behalf of the  
17 Company in accordance with the U.S. Army Corps of Engineers’ (“USACE”) Wetlands  
18 Delineation Manual (Environmental Laboratory, 1987), as well as the Regional  
19 Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf  
20 Coastal Plain (Version 2.0) to identify those areas that are most likely within the  
21 regulatory purview of the USACE. Limits of mapped wetlands and streams are depicted  
22 in the attached Waters of the U.S. Delineation Report (Attachment 2.D.1 to the DEQ

1 Supplement). Based on the on-site field investigation of the approximately 51 acre +/-  
2 Rebuild Project area, the Company has identified potential jurisdictional waters of the  
3 U.S. consisting of 13.56 acres of palustrine emergent wetlands, 0.02 acre of palustrine  
4 forested wetlands, and 0.24 acre (1,060 linear feet) of stream.

5 The wetlands delineation report was submitted to the DEQ in October 2015. The DEQ  
6 completed its review of the report and advised in a response dated December 3, 2015,  
7 that a wetland delineation be conducted and verified by USACE. The DEQ response is  
8 included as Attachment 2.D.4 to the DEQ Supplement. The Company will follow this  
9 directive. The Company has received the DEQ permit and will follow the requirements.

10 In accordance with the *Guidelines for Assessing Impacts of Proposed Transmission Lines*  
11 *and Associated Facilities on Historic Resources in the Commonwealth of Virginia*  
12 *(2008)*, a Stage I pre-application analysis was conducted by Dutton + Associates  
13 (“Dutton”) as recommended in the letter from the Virginia Department of Historic  
14 Resources (“DHR”), and is included as Attachment 2.H.1 to the DEQ Supplement. This  
15 report was provided to the DHR on November 13, 2015, and is included as Attachment  
16 2.H.2 to the DEQ Supplement. The report includes the results of background research  
17 Dutton conducted to identify previously recorded cultural resources within the tiered  
18 study areas identified in the DHR guidelines, including visual simulations. Results of  
19 the background research identified two previously recorded historic properties located  
20 within the established tiered buffers for the Rebuild Project. These properties are  
21 Woodlawn, a National Historic Landmark, and the Hollin Hills Historic District. Based  
22 upon field reconnaissance and photo simulations, it was determined that given the  
23 distance and presence of existing mature vegetation between the proposed Rebuild

1 Project and Woodlawn and the Hollin Hills Historic District, that the proposed  
2 replacement towers will not be visible. Therefore, there will be no impact to either  
3 resource. There were no previously recorded eligible properties located within 0.5 mile of  
4 the Rebuild Project's right-of-way and no previously recorded archaeological sites  
5 located within or immediately adjacent to the alignment of the Rebuild Project's right-of-  
6 way.

7 A search of the U.S. Fish & Wildlife ("USFWS") public database identified several  
8 federal and state threatened and endangered species that have the potential to occur  
9 within the Rebuild Project area. These resources are identified in the report included as  
10 Attachment 2.F.1 to the DEQ Supplement. The Company intends to minimize any  
11 impact on these resources and will coordinate with the Virginia Department of Game and  
12 Inland Fisheries and USFWS as appropriate.

13 There are 304 single family homes and 18 multi-family residences located within 500  
14 feet of the centerline of existing Line #204 and #220. There are 6 permanent residences  
15 located within 100 feet of the centerline of the Rebuild Project.

16 **Q. What activities have been or will be undertaken to reasonably minimize the**  
17 **environmental impact of the proposed line, and describe the environmental**  
18 **permitting process that will follow Commission approval of the Rebuild Project?**

19 **A.** DEQ will conduct an environmental and permitting review of the Company's application,  
20 including the solicitation of comments from relevant agencies. The Company developed  
21 the DEQ Supplement that is attached to this application based on previous Company  
22 coordination with the DEQ. The DEQ Supplement contains, in addition to a brief

1 description of the Rebuild Project, information on impacts and the status of agency  
2 review with respect to the following: air quality; water withdrawals and discharges;  
3 wetlands; solid and hazardous waste; natural heritage and threatened and endangered  
4 species; erosion and sediment control; archeological, historic, scenic, cultural and  
5 architectural resources; use of pesticides and herbicides; geology and mineral resources;  
6 wildlife resources; recreation, agricultural and forest resources; and transportation  
7 infrastructure. The Rebuild Project is located entirely on existing right-of-way so  
8 impacts will be reasonably minimized. The appropriate environmental studies will be  
9 made of these areas before construction begins. Clearing and maintenance of the right-  
10 of-way will be done in such a manner that low buffers of vegetation will be retained as  
11 much as possible. The DEQ Supplement also discusses the permits that will be required  
12 and comment letters and other materials the Company has obtained regarding the Rebuild  
13 Project from relevant agencies as a result of its own efforts.

14 **Q. When will the Company apply for the required permits?**

15 A. After approval by the Commission, the Company will survey the existing right-of-way  
16 and then perform the necessary environmental surveys (wetlands, cultural resources and  
17 rare species). After these surveys are complete, any required applications to the USACE,  
18 Virginia Marine Resources Commission, DEQ and the Virginia Department of  
19 Transportation will be submitted.

20 **Q. What contacts has the Company made with impacted localities?**

21 A. Dominion Virginia Power held one public information open house at Mt. Vernon High  
22 School in Fairfax County to inform the public about the Rebuild Project. Approximately  
23 900 letters went out to area property owners crossed by or adjacent to the existing right-

1 of-way that will be used for the proposed Rebuild Project. The mailing to these property  
2 owners included a Rebuild Project fact sheet with a map of the line route, details  
3 regarding the Rebuild Project, and a process map describing the SCC transmission line  
4 approval process.

5 There were 23 attendees at the informational open house. Finally, Dominion Virginia  
6 Power has launched a dedicated webpage for the project (www.dom.com, keyword:  
7 Gum Springs) to keep stakeholders up to date on details of the project and maintains toll-  
8 free telephone number and email address to answer any questions from the public.

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

10 A. Yes, in accordance with Va. Code § 15.2-2202 E, a letter dated December 1, 2015  
11 (included as Attachment III.B.1 to the Appendix) was sent to Mr. Edward L. Long, Jr.,  
12 Fairfax County Executive, advising of the Company's intention to file this application  
13 and inviting the County to consult with the Company about the Rebuild Project.

14 **Q. Does this conclude your prefiled direct testimony?**

15 A. Yes, it does.