

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

CASE NO. PUE-2015-00117

**For approval and certification of
electric transmission facilities:
Remington-Gordonsville 230 kV Double Circuit
Transmission Line**

REPORT OF DEBORAH V. ELLENBERG, CHIEF HEARING EXAMINER

June 13, 2017

Virginia Electric and Power Company (“Dominion Virginia Power” or “Company”) seeks a certificate of public convenience and necessity for the proposed Remington-Gordonsville 230 kilovolt (“kV”) Double Circuit Transmission Line (“Application”). The Company proposed to (a) construct, entirely along and primarily within existing right-of-way, approximately 38.2 miles of the 230 kV Remington-Gordonsville Line #2153 in Fauquier, Culpeper, Orange, and Albemarle Counties between its existing Remington Substation in Fauquier County and existing Gordonsville Substation in Albemarle County; and (b) construct and install associated 230 kV facilities at the Company’s Gordonsville and Remington Substations (collectively, the “Project”). In its Application, the Company proposed double circuit single-shaft steel pole structures with an average height of 103-107 feet to allow the installation of a second circuit along the existing right-of-way between the Remington Junction and the Gordonsville Substation. The right-of-way is 70 feet wide along 16 miles of the route, and 100 feet along 22.2 miles of the route. The Company’s proposal would require expansion of the right-of-way to 100 feet where feasible.

In response to public concern and the testimony of the Commission Staff (“Staff”), the Company evaluated the potential use of shorter H-frame structures with an average height of 85 feet (“Shorter Structure Option”) where feasible along portions of the route. The Shorter Structure Option would require expansion of the right-of-way to 140 feet to accommodate the shorter structures. The Company concluded that it is technically feasible and may be reasonable to install the Shorter Structure Option for portions of the right-of-way where there are not constraints subject to four conditions. The Shorter Structure Option is feasible for 24.1 miles of the route.

I recommend the Commission grant a certificate of public convenience and necessity for the Remington-Gordonsville 230 kV Double Circuit Transmission Line; direct the Company to implement the Shorter Structure Option where feasible and provide the Company with the necessary flexibility to do so along the 24.1 miles of the 38.2 miles of the route identified by the Company as feasible with just compensation to the land owners for the additional right-of-way; and direct the Company to seek agency consent where applicable.

HISTORY OF THE CASE

On November 13, 2015, Dominion Virginia Power filed an Application with the State Corporation Commission (“Commission”) for a certificate of public convenience and necessity for the proposed Remington-Gordonsville 230 kilovolt Double Circuit Transmission Line. The Application was filed pursuant to § 56-46.1 and the Utility Facilities Act, § 56-265.1 *et seq.* of the Code of Virginia (“Code”).

The Company proposed to (a) construct, entirely along and primarily within existing right-of-way, approximately 38.2 miles of the 230 kV Remington-Gordonsville Line #2153 in Fauquier, Culpeper, Orange, and Albemarle Counties between its existing Remington Substation in Fauquier County and existing Gordonsville Substation in Albemarle County (“Proposed Route”); and (b) construct and install associated 230 kV facilities at the Company’s Gordonsville and Remington Substations. The Company proposed two alternatives that were variations of an electrical solution which would connect the existing Remington Substation to a new switching station in the vicinity of the existing Rappahannock Electric Cooperative’s Pratts Delivery Point in Madison County, Virginia (“Remington-Pratts Alternatives”).

On December 29, 2015, the Commission issued an Order for Notice and Hearing that, among other things: (1) required the Company to publish notice of the Application; (2) established a schedule for the filing of notices of participation and the submission of prefiled testimony; (3) scheduled a local hearing in Orange, Virginia, for April 28, 2016, and a hearing in Richmond for June 28, 2016; and (4) assigned this case to a Hearing Examiner to conduct all further proceedings on the Commission’s behalf and to file a final report.

Timely notices of participation were filed before the March 12, 2016, deadline by the Board of Supervisors of Culpeper County, the County of Madison, the County of Orange, Piedmont Environmental Council (“PEC”), Old Dominion Electric Cooperative (“ODEC”), the Orange Madison Culpeper (“OMC”) Alliance¹, Amcarwill Limited Partnership, William J. Davis, Jr., Michael Mosko, Jr., Herbert R. Putz, William W. Sanford, and David Taylor.²

Additional notices of participation were filed on March 14, 2016, by Tombstone Limited Partnership and Charlotte E. Chumlea. On March 17, 2016, notices of participation were also received from Stephen B. Carpenter and Jeffrey A. Tillery. Although not filed by the scheduled deadline, these late filings did not prejudice this proceeding and were received.

On April 1, 2016, Staff filed a Motion for Expedited Summary Ruling that the Proposed Remington-Pratts Alternative Should Not Continue as Part of this Proceeding (“Motion for Summary Ruling”). Therein, Staff asserted that the Remington-Pratts Alternatives were procedurally unique in that they do not, in and of themselves, constitute electrical solutions of the loading problems in the area. Rather, they both rely upon a rebuild by FirstEnergy Corporation (“FirstEnergy”) of facilities owned by FirstEnergy, which is not a party to this proceeding and has

¹ OMC Alliance later asked its counsel to withdraw its representation, and asked that its chairman, John Grano, receive notices and filings on behalf of the OMC Alliance for monitoring purposes.

² Mr. Taylor withdrew his participation on May 19, 2016.

not agreed, or in any way represented that it would agree, to rebuild the required component of the Remington-Pratts Alternatives. Staff contended that the Remington-Pratts Alternatives fail to address the identified need unless all required components are built.

Staff also represented that the Company supported the Motion for Summary Ruling, and all other participants either supported or did not oppose it. A number of participants filed responses in support of the Motion for Summary Ruling. By Ruling dated April 12, 2016, the Motion for Summary Ruling was granted, and the Remington-Pratts Alternatives were removed from further consideration in this proceeding.

On May 16, 2016, the Company filed a Motion for Entry of a Protective Ruling which was granted with the entry of the Hearing Examiner's Protective Ruling dated May 17, 2016.

On June 13, 2016, the Company filed a Motion for Extension and for Expedited Consideration ("Motion for Extension") seeking additional time to evaluate and present evidence for the Commission's consideration on the potential to utilize shorter structures where feasible along portions of the route, taking into consideration the potential need to expand right-of-way to accommodate shorter structures, and to present the results of the evaluation in rebuttal testimony. To accommodate evaluation of reduced structure heights, the Company requested modification of the procedural schedule, specifically the deadline for filing its rebuttal testimony, the deadline for receiving public comments, and the commencement of the hearing scheduled on June 28, 2016, in Richmond. By Ruling dated June 14, 2016, the Motion for Extension was granted, the remaining filing dates were extended, and the hearing scheduled for June 28, 2016, was retained for the sole purpose of receiving testimony from public witnesses, and a later hearing was scheduled for July 28, 2016, to receive the testimony of public witnesses and the evidence of the Company, Staff, and respondents.

The local hearing in Orange, Virginia, was convened on April 28, 2016. Charlotte P. McAfee, Esquire, appeared on behalf of the Company. William H. Chambliss, Esquire, represented Staff. No respondents entered appearances at that local hearing. However, John Grano, chairman of OMC Alliance, elected to offer testimony as a public witness. In total, 28 public witnesses offered testimony at that local hearing.

The scheduled Richmond hearing was convened on June 28, 2016, for the sole purpose of receiving testimony from public witnesses, if any appeared on the date noticed to the public. Kristian Dahl, Esquire, Anne Hampton Andrews, Esquire, and Charlotte McAfee, Esquire, appeared on behalf of the Company. William H. Chambliss, Esquire, Alisson Klaiber, Esquire, and Andrea B. Macgill, Esquire, appeared on behalf of Staff. No public witnesses appeared to testify, and the hearing was continued to July 28, 2016.

On July 28, 2016, the hearing was again convened. Kristian Dahl, Esquire, and Elaine S. Ryan, Esquire, appeared on behalf of the Company. William H. Chambliss, Esquire, and Andrea B. Macgill, Esquire, appeared on behalf of Staff. Robert Marmet, Esquire, appeared on behalf of PEC. No other respondents entered appearances. John Grano offered additional testimony as a public witness to supplement the testimony he offered at the April 28th local hearing in Orange County.

SUMMARY OF THE RECORD

Public Witnesses

Public Hearing, Orange – April 28, 2016

Joe Grills of Rapidan, Virginia, spoke on behalf of his wife and himself requesting that the Commission and Dominion Virginia Power do all they can to minimize the environmental impact of the new power line and to preserve the scenic beauty of Clark Mountain. He is against the height increase of the poles from 53 feet to 107 feet. Mr. Grills requested that alternatives, such as shorter or wider poles and coating the power lines to make them less obvious, be seriously considered.³

Walker Somerville of Mitchells, Virginia, spoke on behalf of himself requesting a compromise with Dominion Virginia Power. He explained that his family has farmed a tract of land along the Rapidan River for over 220 years and he loves this area. Mr. Somerville stated, “The present 115 k[V] line requires a 23-foot ground clearance, and the proposed 230 k[V] line, a 28-foot clearance. We feel that [a] 107-foot tall pole is unnecessary to meet these requirements. We’d like to see a double pole set much lower to maintain the flow over the terrain.”⁴ Mr. Somerville stated that along with the compromise on the pole height, agreements could be made over the additional right-of-way allowing the Company to make progress and advancements while maintaining the views along the river, Clark Mountain, and the Blue Ridge.⁵

Rita Somerville of Mitchells, Virginia, spoke on behalf of herself as a 40-year resident of the area. She is concerned that with the “power line going through the middle of our farm and crossing the Rapidan River, all the open spaces and beautiful views would be forever, ever changed for our family and for our future generations.”⁶ Ms. Somerville further stated that she feels the 107-foot poles are not necessary to meet the Company’s needs. Additionally, she is for a compromise where the “breathtaking views” could be maintained. In support of her position, Ms. Somerville submitted pictures of her property.⁷

John Grano of Mitchells, Virginia, spoke as a land owner who is directly affected by the proposed changes. He stated his property currently has three transmission lines and a substation on it. Mr. Grano is concerned the proposed power line will severely devalue his property and damage the viewshed. Mr. Grano supports a compromise that would use a lower and wider option. Mr. Grano mentioned the [Hollymead] line that holds a 230 kV line on 80-foot poles. He does not believe 80-foot poles are the best option since that would still be above the tree line; however, he stated, “the difference between . . . 80 feet and 107 [feet] is quite dramatic.”⁸ Mr. Grano further stated that “[t]he scenic value of all of our properties along this line is . . . almost unprecedented in the state.”⁹ He closed by asking the Commission to request a lower alternative.¹⁰

³ April 28, 2016, Transcript (“April 28 Tr.”), at 9-12.

⁴ *Id.* at 15, 16.

⁵ *Id.* at 13-16.

⁶ *Id.* at 17.

⁷ *Id.* at 17, 18.

⁸ *Id.* at 20.

⁹ *Id.* at 21.

¹⁰ *Id.* at 18-23.

Philip Strange of Gordonsville, Virginia, spoke on behalf of his wife and himself in favor of denying the Company's Application for higher towers. Mr. Strange stated he and his wife recently moved back to land that was in his family years ago. Mr. Strange continued, "Since we have been here, Dominion [Virginia Power] has done very major construction on our property for the past two years."¹¹ Mr. Strange is concerned the Company now wants to "wreck" the current towers and build larger ones. He believes the towers will be an eyesore to an otherwise beautiful landscape. Mr. Strange stated if the Commission does not deny Dominion Virginia Power's Application, he hopes major consideration will be given to placing these power lines on alternate routes such as along highways or interstates instead of in farmlands.¹²

Tim Burnett, who owns commercial property in Orange, Virginia, spoke on behalf of himself, Jack Rickett of Piedmont Power, and David Rug from Pro Autobody. Mr. Burnett posed four questions regarding the impact of the power lines on their property. The first question was, "during the rebuild process, will the existing distribution lines be shut off and replaced exactly where the current lines are?"¹³ If not, how will the new lines be constructed? Second, "how would this effect the easement and/or existing structures that were constructed after the original line [was] build that are currently in compliance with the easement right-of-ways?"¹⁴ Mr. Burnett's third question was about the impact of the higher voltage electromagnetic field, since there are many metal buildings and pieces of farm machinery on his property close to the line. The final question concerned the impact of the power lines on commercial development in Orange. Mr. Burnett wondered if it would make more sense to place the lines southeast of their current location, thereby reducing the impact on commercial properties and aesthetics.¹⁵

Ellen Pitera of Orange, Virginia, spoke for herself and requested the impact of the power line on the beautiful views be minimized. Currently her land has five poles running through it and when her father purchased the land, he knew that future upgrades would need to be made. Ms. Pitera requested the towers be built low and wide, with rust colored poles, and that the lines be made of a dull material to make them blend in and be less visible.¹⁶

Robert Pitera of Orange, Virginia, spoke on his own behalf and requested that the visual impact of the power lines be minimized. He agreed with Ms. Pitera that the lower rust colored poles would be preferable in scenic areas. Mr. Pitera pointed out when these power lines cross over industrial areas taller poles might be better. He referenced a project in Albemarle County which was built with consideration given to the areas' scenic beauty, and he asked for this [P]roject to be built the same as well. Finally, Mr. Pitera requested "Dominion [Virginia] Power to be completely honest and up front with how the lines will be used in the future and share that information with us."¹⁷

¹¹ *Id.* at 26.

¹² *Id.* at 24-28.

¹³ *Id.* at 29.

¹⁴ *Id.*

¹⁵ *Id.* at 28-31.

¹⁶ *Id.* at 31-33.

¹⁷ *Id.* at 33, 34.

Suzanne Bresee of Orange, Virginia, spoke on her own behalf and stated, “we’d like you to consider if you can’t tear the whole thing down, which we would really like you to do, . . . at least consider what everyone has said.”¹⁸ If the lines are not torn down, Ms. Bresee requested lower lines, such as the 80-foot power lines, in the rural conservation areas and higher lines in the commercial areas. She would like to preserve the area’s beauty.¹⁹

Robert Wilbanks of Orange, Virginia, spoke as a private citizen whose farm would be directly and indirectly impacted by the proposed power lines. Mr. Wilbanks expressed concern regarding the impact the power lines will have on the beautiful view, property values, and multiple historic districts and battlefields. Mr. Wilbanks further stated, “the [P]roject likely has the highest density of scenic and open space conservation easements of any transmission line in Virginia. The Virginia Outdoors Foundation [“VOF”] believes it crosses 26 VOF easements and is in within one and a half miles of 87 more easements.”²⁰ Mr. Wilbanks requested that the immediate necessity of this [P]roject be verified through PJM Interconnection, LLC (“PJM”) considering the move toward renewable energy in the future. In summary, Mr. Wilbanks is against the 107-foot towers and asked the Commission to consider “another way for Dominion [Virginia Power] to accomplish the goal.”²¹

Mary Root of Remington, Virginia, spoke on her own behalf against the proposed power line location because of the historic sites the lines will cross or from which will be visible. Ms. Root also expressed concern about the economic impact of the towers in Remington as it will affect the town’s comprehensive plan for heritage tourism. She recommended an alternative route for the power lines two miles south of Remington. Specifically, Ms. Root stated, “[t]here’s a parallel transmission line easement, and I believe it’s also a pipeline. That looks to me to be the least intrusive way to take the power line from Remington . . . and go south . . . from the power plant and swing around the Warrington Training Center and then crosses the Rappahannock River two miles from Remington.”²² In conclusion, Ms. Root stated her suggested route would not interfere with Remington, Orange or Rapidan.²³

Herbert Cook of Orange/Compton, Virginia, spoke on his own behalf and asked if it is necessary to build the transmission line. He further stated his concerns about the economic impact on home owners, many of whom are retired.²⁴

Florence Fowlkes of Gordonsville, Virginia, spoke on her own behalf against Dominion Virginia Power’s Application to erect 107-foot transmission poles in Orange County. Ms. Fowlkes believes the affected area is both historic and scenic and “should therefore be protected from such unsightly and unnecessary encroachment.”²⁵ She recommended placing these lines along major state routes and/or interstate highways. Ms. Fowlkes believes Dominion Virginia Power is acting

¹⁸ *Id.* at 36.

¹⁹ *Id.* at 35, 36.

²⁰ *Id.* at 40.

²¹ *Id.* at 36-43.

²² *Id.* at 46.

²³ *Id.* at 43-47.

²⁴ *Id.* at 47-49.

²⁵ *Id.* at 50.

irresponsibly. In closing, Ms. Fowlkes requested the Commission's support in stopping [the Company]'s Application or, if not stopping it, making a "fair compromise."²⁶

Vibeke Ober of Orange, Virginia, spoke as one of the property owners whose land is part of the easement. She requested that Dominion Virginia Power "replace the existing poles with the rust colored, low and wide poles. The project that you're completing in Albemarle is just what we would like here. That would be perfect for the historical and beautiful Orange County."²⁷

Bob Currier of Remington, Virginia, spoke as a land owner with almost a mile of riverfront property on the Culpeper side of the Rappahannock. Mr. Currier is in favor of lower and wider lines. Specifically, he supports 53-foot poles instead of the 107-foot poles because they are much less noticeable. He stated that the minimum height requirement for the 230 kV line is 25 feet and the easements are wide enough, so Mr. Currier determined it is doable. Mr. Currier's concerns are based on the higher poles' impact on property values, the many important historic locations in the area, and tourism based on the "magnificent vistas." In closing, Mr. Currier stated, "I think the best interest is a compromise."²⁸

James Stanley of Rapidan, Virginia, spoke as the contract purchaser of 19400 River Road in Rappahannock, Virginia. Mr. Stanley requested the proposed power lines running through this property be modified so the poles are "no higher than 80 feet, and that they are rust colored and non-reflective."²⁹

James Collins of Somerset, Virginia, represented himself and spoke in support of minimizing the impact of the proposed towers by making them "lower and wider." Mr. Collins made this statement about the beauty of the drive between Gordonsville and Remington, "[t]he pleasure, what it does to your soul to see this beauty, it really adds up, you know. It's not insignificant. It's a very practical, concrete benefit that thousands of people [who drive through] experience every single day. And it is a tremendous cost to take that away."³⁰

Caroline Armentrout Marrs, a 25-year resident of Rapidan, Virginia, spoke on behalf of herself and her family in favor of alternatives to the 107-foot towers as proposed by Dominion Virginia Power. Ms. Marrs requested that shorter towers and other options that will minimize the visual impact be approved instead of the 107-foot towers. She stated that "seeing transmission lines at 107 feet would be horrible."³¹

Stephen Reuss of Midland Farm in Orange, Virginia, represented himself and his family and spoke against the 107-foot towers for the Remington-Gordonsville line. Mr. Reuss stated he understood the need for power, but felt the 107-foot towers would negatively impact land values, the beautiful views, and many of the areas' historically significant sites. He requested the towers be no taller than 80 feet, such as the ones currently on his land. Mr. Reuss also requested that the lines

²⁶ *Id.* at 50-52.

²⁷ *Id.* at 52, 53.

²⁸ *Id.* at 53-63.

²⁹ *Id.* at 63, 64.

³⁰ *Id.* at 64, 65.

³¹ *Id.* at 72-75.

be placed on a wider footprint to allow for the lower height. He asked that Virginia Power work with the community to compromise and be good stewards of the land.³²

Pamela Cook Davidson of Mitchells, Virginia, spoke on her own behalf against having 107-foot towers built for the Remington-Gordonsville line. Ms. Davidson stated she was unsure if the lines would be placed on her land. If the line did go across her land, she said, “I definitely wouldn’t want to look out my window and see [a] 107-foot tall tower for anything.”³³

Cynthia DeCanio of Dunlora Farm in Rapidan, Virginia, spoke on her own behalf against the 107-foot towers for the Remington-Gordonsville line. Ms. DeCanio stated, “I’m asking that Dominion [Virginia] Power design the line in a way where it reduces the impact to our scenic and historic resources. That is, using rust colored structures, less visible transmission lines, and the 80-foot double pole 230 kV line that they used in the 2011 Hollymead project in Albemarle County. Or, if lower is possible, that would be even better.”³⁴

Sally Hill Outten, a fifth generation land owner in Orange, Virginia, spoke against using 107-foot poles for the Remington-Gordonsville transmission line. Ms. Outten is concerned about the impact the 107-foot lines would have on the beauty of the area, tourism, and the economy. Ms. Outten stated, “[i]t is one of the most beautiful landscapes in Virginia, and having 107-foot silver pole[s] just scar through Clark Mountain, it would be a travesty for the [S]tate of Virginia.”³⁵

Mollie Visosky, a second generation resident of Locust Dale, Virginia, stated, “I strongly support, as a representative of my family, a mitigation of a shorter line.”³⁶ Ms. Visosky explained that her family’s land is part of the 113 VOF easements in the viewshed or on its line. She continued by stating, to her family the easement represents a partnership between the State of Virginia and the family and the 107-foot towers would undermine this preservation partnership. Ms. Visosky would prefer an 80-foot line because it would be more in line with the average tree line of 70 feet.³⁷

Mary Lou Seilheimer of Orange, Virginia, spoke on her own behalf and joined her friends and neighbors to speak against the proposed 107-foot towers for the Remington-Gordonsville line. In her testimony Ms. Seilheimer said, “[w]hat I am asking is that if this line is in fact necessary, you make the decision that the 80-foot or lower poles be used to try to protect our beautiful views, not only for the property owners but for the thousands of tourists who come here to enjoy them.”³⁸

Mark Smith of Rapidan, Virginia, spoke for himself and stated he is “concerned about the scenic impact of the power line rebuild, potentially raising the height of the poles to 107 feet.”³⁹ Further, Mr. Smith stated if the height of the poles is doubled to 50 feet above the tree line, it will

³² *Id.* at 76-80.

³³ *Id.* at 80-82.

³⁴ *Id.* at 83, 84.

³⁵ *Id.* at 85, 86.

³⁶ *Id.* at 87.

³⁷ *Id.*

³⁸ *Id.* at 88, 89.

³⁹ *Id.* at 90.

“drastically change the landscape.”⁴⁰ In closing, Mr. Smith stated all involved “need to work together to develop a solution that minimizes the visual impact of this power line rebuild.”⁴¹

Patricia Somerville a farm owner in Christiansburg, Virginia, stated her concerns about the rebuild’s effect on the environment and the economy of the area. Ms. Somerville also questioned the necessity of the rebuild based on recent data from www.treehugger.com indicating Americans are using less energy rather than more. She believes the proposed monopoles will forever destroy the view of the Blue Ridge Mountains and limit opportunities, such as agri-tourism, for future economic growth. Finally, Ms. Somerville stated, “[i]f this rebuild is approved, the State Corporation Commission must require changes be made to the proposal in order to be sensitive to the interests of our community and to minimize the impact to agriculture, agri-tourism, and the aesthetics of the area.”⁴²

Hilary W. Holladay a long-time resident of Rapidan, Virginia, spoke on her own behalf against the rebuild based on its aesthetic and environmental impact. Ms. Holliday stated, “I urge the [Commission] to permit the construction of the proposed electric towers only if they are no higher than 80 feet . . . if the alternative is a staggering 107 feet, then 80 feet is clearly preferable.”⁴³

Nancy Frost, an environmentalist from Rapidan, Virginia, spoke on her own behalf against using 107-foot poles for the rebuild Project because of the visual impact on the area. If the towers are built, Ms. Frost requests that shorter rust color poles be used even if that requires a wider underfoot.⁴⁴

Public Hearing, Richmond – June 28, 2016

No public witnesses appeared to offer testimony at the June 28, 2016, hearing.

Public Hearing, Richmond – July 28, 2016

John Grano of Mitchells, Virginia, although chairman of the OMC Alliance, spoke on his own behalf as a private citizen. Mr. Grano stated he, and many other citizens in the area, placed land in a VOF easement to protect it. Through this Mr. Grano said, he “has transferred, literally deeded my rights over with respect to my values, my scenic historic values, over to the State of Virginia for protection.”⁴⁵ Mr. Grano posed the question, “where is the State of Virginia in this case?”⁴⁶ Mr. Grano contends that his land, and the land others have placed in easements, is now the State of Virginia’s resource and that the State of Virginia should be protecting it. He said, “we don’t have the ability to do what we need to do to protect our rights, so we gave them to the state.”⁴⁷ Mr. Grano further stated the State of Virginia is working to determine what criteria triggers the

⁴⁰ *Id.*

⁴¹ *Id.* at 89-92.

⁴² *Id.* at 92-97.

⁴³ *Id.* at 97-99.

⁴⁴ *Id.* at 99-102.

⁴⁵ July 28, 2016, Transcript (“July 28 Tr.”), at 11.

⁴⁶ *Id.*

⁴⁷ *Id.* at 16.

conversion diversion policy. He requested the case be delayed so that the State of Virginia could appear in the matter to defend its conservation easements.⁴⁸

Dominion Virginia Power's Direct Testimony

The Company presented the testimony of five witnesses in support of the Application: David C. Witt, Engineer III in the Electric Transmission Planning Department of Dominion Virginia Power; Robert J. Shevenock II, a Consulting Engineer in the Electric Transmission Line Engineering Department of the Company; William Chase Bland, a Conceptual Engineer in the Substation Engineering section of the Electric Transmission Group of the Company; Greg Baka, Supervisor – Siting & Permitting for the Company; and Jon M. Berkin, Partner at Environmental Resource Management (“ERM”).⁴⁹

Mr. Witt offered testimony that Dominion Virginia Power proposes to (a) install, entirely along and primarily within existing right-of-way, approximately 38.2 miles of 230 kV Remington-Gordonsville Line #2153 in Fauquier, Culpeper, Orange, and Albemarle Counties between its existing Remington Substation in Fauquier County and existing Gordonsville Substation in Albemarle County; and (b) construct and install associated 230 kV facilities at the Company's Gordonsville and Remington Substations. His direct testimony discussed the need for and benefits of the Project from a transmission planning perspective.⁵⁰ He testified that the Project is necessary in order to maintain the structural integrity and reliability of the Company's transmission system and to comply with mandatory North American Electric Reliability Corporation (“NERC”) Reliability Standards by relieving excessive demand on the existing Gordonsville Substation and to address projected network violations.⁵¹

Mr. Witt stated that construction of the 230 kV line between the Remington and Gordonsville Substations will provide increased reliability and accommodate potential long-term growth while providing for the orderly development of a robust area transmission network.⁵²

He stated that, in coordination with the Project, the Company also plans to uprate sections of its 115 kV Lines #2, #70, and #11 on the same structures as proposed for the Project; and reconductor the 230 kV Gordonsville-Louisa Line #2088 in Albemarle and Louisa Counties.⁵³

According to Mr. Witt, the reconductoring of Line #2088 is estimated to cost \$580,200 and is included in the transmission line cost for the Project. It is needed to address multiple contingencies (N-1-1) on the 500 kV network in and around the North Anna Power Station.⁵⁴ That work is necessary to assure that the Company can continue to provide reliable electric service to the customers served from the Gordonsville Substation consistent with the mandatory NERC Reliability Standards for transmission line facilities.⁵⁵

⁴⁸ *Id.* at 9-17.

⁴⁹ Natural Resource Group, LLC was acquired by ERM.

⁵⁰ Exhibit 3, at 2.

⁵¹ *Id.*

⁵² *Id.* at 8.

⁵³ *Id.* at 2.

⁵⁴ *Id.* at 7.

⁵⁵ *Id.* at 7, 8.

Mr. Witt provided an overview of the Company's transmission system,⁵⁶ PJM's Regional Transmission Expansion Plan ("RTEP") process,⁵⁷ and the transmission facilities required to relieve excessive demand on the existing Gordonsville Substation.⁵⁸ He described the projected network violations on the Company's line in Fauquier, Culpeper, Orange, and Albemarle Counties. He stated the Company is part of the PJM regional transmission organization providing service to a large portion of the eastern United States.⁵⁹ He testified that the Dominion Virginia Power load zone is the third largest area in PJM, and is expected to be one of the fastest growing zones in PJM with an average of 1.7% growth over the next 10 years as compared to the PJM average of approximately 1% over the same period.⁶⁰ He stated that in January 2015 PJM issued its annual load forecast with revised projected loading, and the analysis in the updated load forecast confirmed the Project was needed for 2019.⁶¹

Mr. Witt also testified that the Project will support continued economic development in Virginia by reinforcing the transmission system in order to maintain and improve reliability in the Company's territory.⁶²

Mr. Shevenock II provided an overview of the design characteristics of the transmission line components of the proposed electric transmission facilities from a transmission line engineering perspective.

According to Mr. Shevenock, from the Remington Substation to the Remington Junction, a distance of .6 mile, the Company proposed to utilize the vacant 230 kV lower level of the existing 500/230 kV structures supporting its 500 kV Meadow Brook-Loudoun Line #535.⁶³ From the Remington Junction the Company, in the Application, proposed to rebuild sections of existing Dominion Virginia Power Lines #70, #2, and #11 with the new 230 kV line along the existing 37.6 mile section of the 115 kV right-of-way, between the Remington Junction and Gordonsville Substation, on 230 kV double circuit steel poles.

Mr. Shevenock testified that the Company proposed double circuit single-shaft steel pole structures with an average height of 103-107 feet to allow the installation of a second circuit along the existing right-of-way between Remington Junction and the Gordonsville Substation.⁶⁴ He stated that the proposed structure was selected to minimize the footprint of the structure and allow the use of the existing transmission line corridor.⁶⁵

Twin-bundled 636 Aluminum-conductor Steel-reinforced ("ACSR") conductors would be installed for both the new 230 kV line and the rebuilt sections of the 115 kV line. The summer

⁵⁶ *Id.* at 3.

⁵⁷ *Id.* at 4, 5.

⁵⁸ *Id.* at 2.

⁵⁹ *Id.* at 3.

⁶⁰ *Id.* at 3, 4.

⁶¹ *Id.* at 8.

⁶² *Id.* at 8, 9.

⁶³ Exhibit 6, at 3.

⁶⁴ *Id.*; Exhibit 2, Appendix, at 73-82.

⁶⁵ Exhibit 6, at 4.

rating of the new 230 kV line will be 1047 Mega-volt Ampere (“MVA”) and the rebuilt 115 kV sections of Lines #70, #2, and #11 will have a summer rating of 523 MVA. Line #2088 will be reconducted with twin-bundled 571.7 aluminum conductors and will have a summer rating of 1140 MVA.⁶⁶

According to Mr. Shevenock, the estimated cost of the Project is \$106.2 million, with \$88.7 million of that amount for transmission line work including the reconductor of Line #2088.⁶⁷ The estimated cost associated with the station work is \$17.5 million.⁶⁸ The estimated construction time for the Project is 14 to 18 months.⁶⁹

Mr. Shevenock also provided the electric and magnetic field data for the proposed facilities.⁷⁰

Mr. Bland provided a description of the work required at the Remington and Gordonsville Substations associated with the Project.⁷¹ The Company proposes to install a 230 kV four-breaker ring bus arranged in a breaker-and-a-half configuration and high side breaker for the existing 230/115 kV transformer at the Remington Substation. Similarly, the Company also proposes to rebuild the 230 kV station bus at the Gordonsville Substation and install five circuit breakers to create an overall six-breaker ring bus in a breaker-and-a-half arrangement/structure. A seventh circuit breaker will be installed in the ring bus to address possible breaker failure within the ring, which would take two 230/115 kV transformers offline due to the back-to-back configuration within the ring bus. A third 230/115 kV transformer will be installed at the Gordonsville Substation.⁷² Mr. Bland testified that the estimated cost of the station work at the Remington Substation is approximately \$5.3 million, and the estimated cost of the work at the Gordonsville Substation is approximately \$12.2 million.⁷³

In his direct testimony, **Mr. Baka** discussed the route for the Project and the alternatives identified in Appendix Attachment II.A.2.

He testified that the Company holds easements for the existing right-of-way for the entire 38.2 mile transmission corridor between the Remington and Gordonsville Substations, which vary between 70 and 100 feet in width. A total of 22.2 miles is 100 feet in width, and the remaining 16.0 miles is 70 feet in width.⁷⁴ The corridor currently contains existing 500 kV Line #535 and 115 kV Lines #2, #70, and #11.⁷⁵ He testified that the easements were acquired starting in 1928 and have been in continual use since the 1930s.⁷⁶ According to Mr. Baka, the Company intends to pursue new or expanded easements to widen the right-of-way to 100 feet for the length of the

⁶⁶ *Id.*

⁶⁷ *Id.*; July 28 Tr., at 58.

⁶⁸ Exhibit 6, at 4; July 28 Tr., at 58.

⁶⁹ Exhibit 6, at 4.

⁷⁰ *Id.* at 5.

⁷¹ Exhibit 4, at 2.

⁷² *Id.* at 3.

⁷³ *Id.* at 4; July 28 Tr., at 35.

⁷⁴ Exhibit 5, at 3.

⁷⁵ *Id.*

⁷⁶ *Id.*

Project where practicable.⁷⁷ The Company however is not confident of its ability to acquire a consistent 100-foot right-of-way as it is aware of certain locations along the existing corridor where routing constraints, such as dwellings and or other easements abutting the right-of-way, may prohibit the widening of the existing corridor. He observed that the Company, however, is also aware of unauthorized encroachments on the existing right-of-way such as sheds and outbuildings that will need to be addressed.⁷⁸

Mr. Baka testified that the proposed route will cross approximately 2.2 miles of wetland habitat and will affect 26.6 acres of wetland area, of which only approximately 1.9 acres would involve new wetland clearing or disturbance, including 0.8 acres of a freshwater pond.⁷⁹ He stated that there are 191 homes located within 500 feet of the centerline of the Project and 30 homes located within 100 feet of the centerline of the Project.⁸⁰

He confirmed that the Company will perform the necessary surveys and submit applications to the U.S. Army Corps of Engineers, Virginia Marine Resources Commission, Department of Environmental Quality (“DEQ”), and the Virginia Department of Transportation.⁸¹ He provided a description of the required permitting, and the Company’s public outreach activities for the Project.⁸² Mr. Baka testified that the proposed route uses the least amount of new right-of-way; crosses fewer newly affected parcels; affects the least amount of wetlands and forested wetlands; makes no new crossings of Agricultural and Forest Districts, Virginia byways or roads; and maximized co-location opportunities. He advised that 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.⁸³

Mr. Berkin sponsored the Environmental Routing Study. He testified that ERM was engaged by the Company to assist it in the identification and evaluation of route alternatives to resolve the identified electrical need and meet the applicable criteria of Virginia law and the Company’s operating needs.⁸⁴

Staff’s Testimony

Staff presented the testimony of **David Essah, PhD.**, Senior Utilities Engineer in the Division of Public Utility Regulation. His Staff Report presented his review of the Company’s Application. Independent load flow analyses confirmed that certain violations of transmission facility reliability criteria, projected to occur in the absence of the Project, were valid. Dr. Essah also found that the route proposed for the transmission line is in existing right-of-way, which minimizes the impact on existing residences, scenic assets, historic districts, and the environment. However, he also concluded that the Project could potentially be constructed using shorter structures than currently proposed. He offered testimony that such an option could reduce visual

⁷⁷ *Id.*

⁷⁸ *Id.* at 4.

⁷⁹ *Id.* at 9.

⁸⁰ *Id.* at 10, 11.

⁸¹ *Id.* at 12.

⁸² *Id.* at 5.

⁸³ *Id.* at 5, 11.

⁸⁴ Exhibit 7.

impacts, and is supported by numerous interested parties in this case, but could also require a wider right-of-way, add more structures than currently proposed in the Application, and increase the cost of the Project.⁸⁵ Dr. Essah presented the following comparisons of the types and heights of the existing structures and the proposed new structures.⁸⁶

EXISTING

Line Section	Structure Type	Average Height (ft)	Line Length (mi)
Gordonsville – Somerset	Steel H-Frame	69	2.11
Somerset – Oak Green Junction	Wood H-Frame	52	19.06
Oak Green Junction – Mountain Run Junction	Wood H-Frame	50	6.89
Mountain Run Junction – Remington Junction	Steel H-Frame	55	9.47
Remington Junction – Remington Substation	Weathering Steel, Galvanized Steel	70, 138	.62

PROPOSED

Line Section	Structure Type	Average Height (ft)	Line Length (mi)
Gordonsville - Somerset	Steel Pole	103	2.13
Somerset – Oak Green Junction	Steel Pole	107	19.06
Oak Green Junction – Mountain Run Junction	Steel Pole	106	6.89
Mountain Run Junction – Remington Junction	Steel Pole	104	9.47
Remington Junction – Remington Substation	Weathering Steel, Galvanized Steel	70, 138	.62

Dr. Essah observed, despite the taller structures proposed for the Project, the total structure count would remain relatively unchanged.⁸⁷ He also noted that the Company proposed to construct the new structures as weathering steel monopoles based on Project cost savings compared to

⁸⁵ Exhibit 8, Staff Report, at 22-23.

⁸⁶ *Id.* at 10.

⁸⁷ *Id.* at 11.

galvanized steel, public feedback, a closer match with the wooden poles being replaced, and a closer match with newer construction along the corridor that also used weathering steel.⁸⁸

Dr. Essah reviewed the estimated Project costs.⁸⁹ He observed that the allocated costs of the Project would be recovered from Virginia jurisdictional customers through Rider T1.⁹⁰

According to Dr. Essah, the primary benefit of the Project is increased reliability of the electrical network in the Project area since it addresses issues that could lead to violations of NERC Reliability Standards.⁹¹ The Project would also prevent potential service interruptions or damage to Company facilities and would provide increased capacity to support future load growth in the area.⁹² He noted that the Company also observed that several of the wooden H-frame structures on the aging 115 kV lines have degraded and need to be replaced, and others will need replacement over time. He agreed that the Project eliminates that future need and the cost to replace at least 12.2 miles of the 115 kV line is estimated at \$18.3 million.⁹³

Staff retained GDS Associates, Inc. (“GDS”) to provide an independent analysis of the Company’s load flow modeling and contingency analyses to evaluate the need for the Project.⁹⁴ GDS successfully reviewed, verified, and agreed with the results of the power flow analysis performed by the Company. GDS found that:

1. The power flow models used in the assessment of the Project for 2019 and 2023 were reviewed and verified and no issues were identified.
2. The input models used in the assessment of the Project for 2019 and 2023 were reviewed and verified and no issues were identified.
3. The Base Case Results for the 2019 and 2023 evaluation were reviewed and verified and no issues were identified.
4. The multiple contingency (N-1-1) results supplied by the Company for 2019 and 2023 evaluation were reviewed and verified and no issues were identified.
5. The multiple contingency (N-1-1) results supplied by the Company for the 2014 Stress Test Case were reviewed and verified and no issues were identified.

Staff concluded that the Company has reasonably demonstrated the need for the Project and the proposed Project addresses the electrical violations identified by PJM.⁹⁵

Dr. Essah testified at the hearing that Staff considered the additional Project costs associated with using shorter structures, estimated by Company witness Shevenock to be \$7.5 million excluding forestry and real estate costs,⁹⁶ to be a reasonable way to reduce visual impacts to scenic,

⁸⁸ *Id.*

⁸⁹ *Id.* at 12.

⁹⁰ *Id.*

⁹¹ *Id.* at 12, 13.

⁹² *Id.* at 13.

⁹³ *Id.*

⁹⁴ *Id.* at 14-16; *Id.* at Appendix C.

⁹⁵ *Id.* at 23.

⁹⁶ Exhibit 13, at 6.

cultural, and historical resources in the region.⁹⁷ Staff, however, did not consider acquisition of the additional 40 feet of right-of-way without compensation to the land owners to be reasonable, and recommended that the Company acquire the additional 40 feet in the same way that it typically acquires land for other projects.⁹⁸ Staff estimates a total Project cost of approximately \$114.4 million broken down as follows: \$106.2 million as proposed in the Application, and \$8.2 million for the Shorter Structure Option, including forestry costs, but excluding real estate costs.⁹⁹

Staff also continued to recommend the use of non-reflecting conductors based on the VOF request and public comments.¹⁰⁰ Staff estimates that the cost increase to the Project would only be about 0.06 percent of the total Project cost and would go a long way to ease the viewshed impact of introducing new, otherwise reflective conductors.¹⁰¹ Staff investigated how long it would take for a new aluminum conductor without being de-glared to attain the same level of dullness as a conductor that was already predulled at the time of installation. Staff determined it would take from 8 to 24 months depending on atmospheric conditions to fully attain the same look as the non-reflective conductor.¹⁰² Staff agreed with Company witness Shevenock that the dulling rate is dependent on weather; however, Staff determined that quicker dulling rates occur in coastal areas or in regions that have heavy industrial foliage, which Staff found was not the case with the Project area.¹⁰³

Dr. Essah recognized that the Company's Hollymead project¹⁰⁴ in Albemarle County, did not utilize de-glared conductors, but noted that that line was only 8.4 miles long compared to this Project's length of 38.2 miles. Further, the Hollymead structures were on average about five feet shorter than even the Shorter Structure Option discussed by the Company in its rebuttal for this Project.¹⁰⁵

DEQ

In response to Staff's request, the DEQ Office of Wetlands and Stream Protection conducted a wetland impact consultation ("WIC") as required by Code § 62.1-44.15:20. The WIC offered a number of general recommendations and potential permits that might be required.¹⁰⁶

Additionally, based on the information and analysis submitted by reviewing agencies, DEQ had several other recommendations for the Commission's consideration in addition to requirements of federal, state or local laws or regulations. A summary of DEQ's recommendations ("DEQ Summary") is as follows:

⁹⁷ July 28 Tr., at 68.

⁹⁸ *Id.* at 68, 69.

⁹⁹ *Id.* at 70.

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 71.

¹⁰² *Id.* at 72.

¹⁰³ *Id.*

¹⁰⁴ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power, For approval and certification of electric facilities: Hollymead 230 kV double circuit transmission line project, Case No. PUE-2011-00015, 2011 S.C.C. Ann. Rep. 438.*

¹⁰⁵ July 28 Tr., at 73.

¹⁰⁶ Exhibit 9, at 8-10.

- Conduct an on-site delineation of all wetlands and stream crossings within the Project area with verification by the U.S. Army Corps of Engineers, using accepted methods and procedures, and follow DEQ's recommendation to avoid and minimize impacts to wetlands and streams (Item 1(c), pages 9-10).
- Follow DEQ's recommendations regarding air quality protection, as applicable (Item 4(d), page 14).
- Reduce solid waste at the source, reuse it and recycle it to the maximum extent practicable, as applicable (Item 5(c), page 15).
- Coordinate with the Department of Conservation and Recreation's Division of Natural Heritage regarding its recommendations to protect natural heritage resources, including its recommendation to conduct plant surveys and a mussel inventory for certain species in the Project area, as well as for updates to the Biotics Data System database if six months have passed before the Project is implemented (Item 6(d), pages 19-21).
- Coordinate with the Department of Game and Inland Fisheries as necessary regarding protected species (Item 7(c), page 21).
- Coordinate with the Virginia Department of Historic Resources ("VDHR") regarding its recommendations to protect historic and archaeological resources (Item 9(d), page 24).
- Coordinate with VDH Office of Drinking Water regarding its recommendations to protect public drinking water sources (Item 11(c), page 27).
- Coordinate with VOF regarding the submittal of a utility easement application (Item 12(c), page 29).
- Follow the principles and practices of pollution prevention to the maximum extent practicable (Item 14, page 29-30).
- Limit the use of pesticides and herbicides to the extent practicable (Item 15, page 30).
- Coordinate with Orange County regarding its recommendation to mitigate the visual impacts to Route 615, a Virginia Byway (Item 16(d), page 31).
- Coordinate with Madison County regarding its concerns related to applicable local requirements if either Alternative Routes B-1 or B-4 is chosen (Item 16(e), page 31).¹⁰⁷

Dominion Virginia Power's Rebuttal Testimony

In rebuttal, the Company presented the testimony of David C. Witt, Greg Baka, Robert J. Shevenock II, and Jon M. Berkin.

Mr. Witt responded to the Staff Report, specifically to aspects of the Load Flow Verification Report conducted by GDS.¹⁰⁸ The Company concurred with GDS' review and verification of the Company's power flow analysis.¹⁰⁹ He explained that multiple studies were conducted over time by the Company and PJM. Mr. Witt testified that at the request of Staff and GDS, the Company ran transmission planning studies for the 2019 topology and the 2018 system stress case based on PJM's 2014 load forecast with the proposed Remington-Gordonsville Project and applied and provided the underlying data and outputs to Staff through informal discovery.¹¹⁰

¹⁰⁷ *Id.* at 6, 7.

¹⁰⁸ Exhibit 10, at 1.

¹⁰⁹ *Id.* at 2.

¹¹⁰ *Id.* at 3, 4.

Mr. Witt also clarified that Appendix B to the Staff Report summarized the NERC Reliability Standards which the Company follows as a member of PJM. The information contained therein appeared to be taken largely from the Company's Transmission Appendix in this proceeding, but should not be confused with the Company's own Transmission Planning Criteria upon which the need for the Project was based.¹¹¹ He also clarified that the Project provides network-wide benefits that are not limited to the Project area. He stated that the Project will accommodate future load growth to the region while enabling long-term reliability of the regional transmission system, and was recommended for PJM Board approval and inclusion in the RTEP in 2015.¹¹²

Mr. Baka addressed DEQ's coordinated review of the Project, and responded to the potential use of shorter structures than proposed in the Application.

He noted that because the two Remington-Pratts alternatives presented in the Application had been eliminated from further consideration by Hearing Examiner Ruling dated April 12, 2016, the coordination with the County of Madison recommended by DEQ was no longer applicable.¹¹³ Other than that observation, the Company generally agreed with the recommendations included in the Summary of Findings and Recommendations in the DEQ Report. He advised that the Company had no issues or objections to the permit requirements described in the DEQ Report and fully intended to comply with all applicable federal, state, and local laws.¹¹⁴

In addition, although not included in the DEQ Summary of Findings, Mr. Baka recognized that VOF, a state agency established to promote the preservation of open space and recreational lands in Virginia, submitted comments recommending the use of non-reflecting or de-glared conductors, and that Staff also recommended such use. He, however, contended that the Company did not believe that such use was necessary as further addressed by Company witness Shevenock.¹¹⁵

Mr. Baka reiterated that the existing right-of-way along the Project route ranges in width between 70 and 100 feet. Under the Company's proposal, the Company would attempt to acquire an additional 30 feet of right-of-way for the entire length of the Project where practical along parcels that currently have only a 70-foot right-of-way. He noted that in situations where the expansion of the right-of-way would necessitate the demolition of a primary structure, such as an existing home or business, or would be subject to other constraints, expansion would not be practically feasible, and the right-of-way would remain at 70 feet.¹¹⁶

Mr. Baka testified that in response to Staff witness Essah's and public witnesses' testimony, the Company evaluated the potential use of the Shorter Structure Option where feasible along portions of the route that would require expansion of the right-of-way to 140 feet to accommodate shorter structures.¹¹⁷ Mr. Baka testified that it is technically feasible and may be reasonable to

¹¹¹ *Id.* at 4.

¹¹² *Id.* at 5.

¹¹³ Exhibit 11, at 2.

¹¹⁴ *Id.* at 3.

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 4, 5.

¹¹⁷ *Id.* at 6.

install the Shorter Structure Option for portions of the right-of-way where there are not constraints provided there is (1) consent by all affected property owners; (2) agency consent where applicable; (3) a grant of easements for the 40 feet beyond the 100 feet needed for the Project without additional compensation from the Company; and (4) an uninterrupted line distance of approximately three miles.¹¹⁸ The Company did not believe that expansion of the existing right-of-way was possible or necessarily appropriate over the entire length of the Project, and requested that the Commission allow it the flexibility to install the Shorter Structure Option where the four identified conditions could be met.¹¹⁹

Mr. Baka stated that subject to Commission direction, the Company would mail a postcard to all affected property owners (those along the portions of the route where the Shorter Structure Option is feasible) to alert them to the proposed use of the Shorter Structure Option, establish a deadline for determining eligibility, and provide instructions for access to necessary forms.¹²⁰ To document eligibility, the Company would require written consent from affected property owners and agencies for the continuous portions of the route identified by Company witness Berkin.¹²¹ Mr. Baka stated that the Company also planned to meet with VOF and VDHR to discuss the potential Shorter Structure Option and expansion of the existing right-of-way through easements held by those agencies.¹²² On cross examination, Mr. Baka advised that the Company would comply with any Commission directed alternative manner of communicating with land owners by certified mail or personal contact.¹²³

At the hearing, Mr. Baka provided supplemental testimony that updated the Commission on the Company's conversations with the agencies holding easements on affected land, and introduced a variation on the Company's condition that the additional 40 feet be provided to the Company with no additional compensation to accommodate the Shorter Structure Option.¹²⁴

Mr. Baka testified that the Company followed up with VOF and VDHR, both of which hold easements along the existing right-of-way. He explained that both agencies are governed by a board of directors that must evaluate and render decisions upon any request by a property owner that would alter the existing easements.¹²⁵ He reported that both agencies' staffs were supportive of the Shorter Structure Option; however, they raised questions regarding the Company's condition that it not offer additional compensation for the incremental 40 feet of right-of-way. The Company would not seek to acquire the additional 40 feet if the landowner did not want to participate because the Company contends that right-of-way in excess of 100 feet is not necessary to build the Project.¹²⁶

The Company also offered a letter from VOF dated July 21, 2016, acknowledging a meeting between VOF staff and the Company noting that VOF had previously expressed concerns regarding

¹¹⁸ *Id.* at 2.

¹¹⁹ *Id.* at 4.

¹²⁰ Exhibit 11, at 8.

¹²¹ *Id.*

¹²² *Id.* at 9.

¹²³ July 28 Tr., at 93, 94.

¹²⁴ *Id.* at 38.

¹²⁵ *Id.* at 42.

¹²⁶ *Id.*

the potential impacts to VOF open space lands and their viewsheds. VOF staff reiterated that they had asked the Company to consider modifications to siting, location, materials and height in the design of the transmission line to minimize impacts to the public values protected by open space properties. VOF staff expressed their willingness to consider requests from landowners for additional right-of-way and encroachment into the VOF easement for the shorter towers, if VOF determines that the conservation values of the properties will not be adversely impacted. In the letter, VOF staff also advised that there is precedent for such action. They stated that they would similarly evaluate the requests from landowners related to this Project.¹²⁷

In surrebuttal offered at the hearing, Mr. Baka emphasized that the Company has limited legal rights and cannot use the condemnation process on VOF and VDHR easements.¹²⁸ Those easements are marked in beige and purple on the route map sponsored by Company witness Berkin, and attached to this Report.¹²⁹ Mr. Baka also contended that the Code dictates that no more private property may be taken than is necessary to achieve the stated public use. He asserted that the Company could not use the condemnation process to acquire the additional 40 feet necessary for the Short Structure Option.¹³⁰

Mr. Baka reiterated that the Company was offering the Shorter Structure Option with conditions intended to balance potential benefits with the incremental costs to customers and to promote budget certainty.¹³¹ He advised that due to stakeholder input, the Company was not advocating, but was offering, for Commission consideration a variation on the condition for the extra 40 feet of right-of-way to be granted with no incremental compensation to the land owners. Mr. Baka suggested that the Company could establish a cap of \$2.5 million, which is an amount based on the current assessed land values of the affected properties, to pay for real estate costs associated with acquisition of the additional 40 feet of right-of-way to produce a 140-foot right-of-way that otherwise met the three remaining conditions.¹³² He testified that the cap would provide some assurance that costs would remain reasonably minimized and was based on a basic formula that examined current assessed land values of properties crossed by the right-of-way, and values the portion of that property on a per acre basis.¹³³

Mr. Shevenock addressed the finish of the structures and conductors, and the estimated incremental costs associated with the Shorter Structure Option.¹³⁴

He explained that weathering steel was selected due to cost considerations and public feedback received by the Company. In addition, the weathering steel finish would be a closer match to the wooden poles being replaced and the already existing newer weathering steel construction along this corridor. Staff supported that decision.

¹²⁷ Exhibit 12, at 1, 2.

¹²⁸ July 28 Tr., at 85.

¹²⁹ See also Exhibit 14, Schedule 1.

¹³⁰ July 28 Tr., at 86.

¹³¹ *Id.* at 43.

¹³² *Id.* at 44, 45.

¹³³ *Id.*

¹³⁴ Exhibit 13, at 1.

Mr. Shevenock disagreed with Staff's recommendation to use non-reflecting or de-glared conductors. The Company proposed to install ACSR conductors that will dull naturally over time and are less expensive than non-reflective conductors. He testified that the manufacturer advised that it typically takes approximately six to nine months to dull, depending on weather.¹³⁵ The Company did not believe it was appropriate to add incremental costs to the Project in order to accelerate the natural aging process by less than a year.¹³⁶ The incremental cost for installing non-reflective conductors, however, was approximately \$60,000.¹³⁷

Mr. Shevenock testified that the double circuit single-shaft steel pole structure proposed by the Company would allow the installation of a second circuit along the existing right-of-way between Remington Junction and the Gordonsville Substation. In response to Staff and the public's concerns, the Company studied whether the Project could be constructed using shorter structures than currently proposed by the Company. Mr. Shevenock testified that there are portions of the route where it is technically feasible to use the Shorter Structure Option if the right-of-way can be expanded to 140 feet. He stated that approximately 24.1 miles of the length of the proposed Project can potentially be expanded to 140-foot right-of-way.¹³⁸ The portions are identified in Figure 1 of Berkin's rebuttal,¹³⁹ which is attached to this Report.

Mr. Shevenock explained that the additional right-of-way is necessary to account for blowout. He explained that in planning the configuration of a transmission line, the Company must take into account all weather events that can occur during the life of a line including displacement of the conductors by wind. He testified that under National Electric and Safety Code requirements, the Company is required to maintain a clearance from the line to any buildings assuming wind speeds of approximately 49 miles an hour. He stated that when winds of that strength occur, the conductor will swing out away from its at-rest position and the Company must assure that there is clearance to any building that could potentially be at the edge of the right-of-way. He also observed that there are fewer blowouts the closer structures are together.¹⁴⁰

The Shorter Structure Option includes an alternative double circuit 230 kV H-frame structure that could support the existing 115 kV line segments and the proposed 230 kV line using the Company's standard design. The distance from the lowest conductor attachment to the top of the double circuit H-frame structures would be 38.4 feet, which is 22.23 feet shorter than the proposed double circuit steel pole under the Company's proposal.¹⁴¹ The approximate average height would be 85 feet.¹⁴² Mr. Shevenock's Rebuttal Schedule 1 depicts a typical double circuit H-frame structure, also attached hereto, and stands in sharp contrast to the double circuit single-shaft steel poles proposed by the Company. Unlike the H-frame structures, the Company's proposed structures would tower over the tree line.

Mr. Shevenock testified that the use of the Shorter Structure Option for the identified

¹³⁵ *Id.* at 2, 3.

¹³⁶ *Id.* at 2.

¹³⁷ *Id.* at 3.

¹³⁸ *Id.* at 4, 5.

¹³⁹ Exhibit 14, Figure 1.

¹⁴⁰ July 28 Tr., 59, 60.

¹⁴¹ Exhibit 13, at 5.

¹⁴² *Id.* at Schedule 1.

portions of the route would cost approximately \$313,000 more per mile than the Company's proposal, excluding forestry and real estate costs.¹⁴³ Therefore, if the Shorter Structure Option was installed for all 24.1 miles, the additional cost would be approximately \$7.5 million.¹⁴⁴ There would be additional costs associated with clearing wooded areas along the route. The Company estimates that its forestry costs, including clearing and rehabilitation, would be approximately \$18,281 per acre. Use of the Shorter Structure Option for the maximum 24.1 miles would require clearing 37.9 additional acres of forested land.¹⁴⁵

The Company would still propose use of double circuit single-shaft steel poles, as described in the Application and direct testimony, for those sections of the route that cannot accommodate the Shorter Structure Option.¹⁴⁶

The Company continues to recommend approval of the Company's proposal with the tall double circuit single-shaft poles providing approximately structure for structure replacement of facilities within the existing right-of-way. However, the Company identified those portions of the Project route where it appears to be feasible to utilize the Shorter Structure Option and requested the Commission permit the Company the flexibility to install the Shorter Structure Option when certain conditions can be met. The Company also recognized that the use of the Shorter Structure Option may be appropriate to reasonably minimizing adverse impacts of the Project, but observed that such option would result in increased Project costs.¹⁴⁷

In his rebuttal, **Mr. Berkin** discussed areas where the right-of-way could be expanded to accommodate the Shorter Structure Option and the related incremental environmental and land use impacts compared to the Project as proposed in the Application.¹⁴⁸

He testified that the Environmental Routing Study calculated the potential impacts of the proposed Project using a 100-foot right-of-way for the entire route as proposed in the Application. The Project would be located entirely along the existing approximately 38.2 mile-long right-of-way, with 21.6 miles of the corridor already at 100 feet in width, and the remaining 16.6 miles of the corridor at 70 feet in width.¹⁴⁹

Mr. Berkin identified the locations along the route where it does not appear possible for the Company to expand the existing 70 feet right-of-way to 100 feet without relocating or demolishing the primary structures. Further, the Company's ability to expand the existing 70 feet of right-of-way within existing easements held by VOF or VDHR is uncertain without the respective agencies' consents.¹⁵⁰

¹⁴³ *Id.* at 5.

¹⁴⁴ *Id.* at 6.

¹⁴⁵ *Id.*

¹⁴⁶ *Id.* at 7.

¹⁴⁷ *Id.* at 9.

¹⁴⁸ Exhibit 14, at 1, 2.

¹⁴⁹ The right-of-way width for the 0.6 mile section between Remington Substation and Remington Junction is 200 feet wide. For that section, the new 230 kV line would be installed on existing structures that presently support an existing 500 kV line, and therefore is not relevant to the potential use of the Shorter Structure Option. *Id.* at 2, n. 3.

¹⁵⁰ *Id.* at 2.

According to Mr. Berkin, use of the Shorter Structure Option would require an expanded right-of-way, and, therefore, would result in additional land use and environmental impacts.¹⁵¹ The Company conducted an analysis of right-of-way width alternatives along the existing corridor and identified those areas where there are impediments to expanding the right-of-way. That analysis also considered the Company's goal to minimize the visual impacts of switching between different structures by identifying route segments of no less than three miles where the right-of-way could potentially be expanded to 140 feet.¹⁵² He identified three sections on the Project route of at least three miles in length where it may be possible for the Company to expand the right-of-way to accommodate the Shorter Structure Option without requiring demolition of primary buildings.¹⁵³

He also explained that there are constraints within the Town of Orange along Route 15 where the right-of-way cannot be expanded beyond the existing 70 feet, as well as several other locations along the route where the right-of-way could not be expanded without the removal of residential and commercial buildings. Specifically, he testified that a portion of the route crosses a heavily developed area within the Town of Orange along US Route 15, which contains a number of residential and commercial developments. He stated that much of the current right-of-way across that section measures only 70 feet wide. He testified that there are thirteen buildings that abut the current right-of-way within the Town of Orange, including three residences, one agricultural building, and nine commercial buildings.¹⁵⁴

Mr. Berkin also identified several other locations along the route where the right-of-way cannot be expanded without the removal of residential and commercial buildings. Specifically, he advised that the route crosses two residential developments in Fauquier County between MP 0.9 and MP 1.3, the Meadows and Riverton Subdivisions. In addition the route would encroach on an additional building if it was expanded to 100 feet, and eighteen buildings at 140 feet, including twelve residences, two agricultural buildings and four commercial buildings.¹⁵⁵

Mr. Berkin discussed the land use constraints and environmental impacts, including those on wetlands and buildings, and the additional acres of easement land required to expand to a 140-foot right-of-way along the three identified sections. He stated that expansion to 140 feet would require approximately 116.7 additional acres of new right-of-way and three new parcels would be crossed;¹⁵⁶ including an additional 3.9 acres of wetlands and 37.9 acres of forested land. No new VOF easements would be crossed by the expanded right-of-way, but an additional 32.5 acres of VOF easements would be affected. Similarly, no new VDHR easements would be crossed, but an additional 2.1 acres of VDHR easements would be affected.¹⁵⁷

He also supported the sections he identified as appropriate for the Shorter Structure Option by advising that he surveyed the route to identify breaks in which the wider right-of-way would

¹⁵¹ *Id.* at 3.

¹⁵² *Id.*

¹⁵³ *Id.* at 4.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* at 5.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.* at 6.

create an encroachment, meaning on a residence or a commercial building or structure of significance.¹⁵⁸

DISCUSSION

Code of Virginia

Pursuant to the Utility Facilities Act, Chapter 10.1 of Title 56, § 56-265.1 *et seq.* of the Code, it is unlawful for any public utility to construct facilities without first obtaining a certificate of public convenience and necessity from the Commission.¹⁵⁹ For overhead transmission lines of 138 kV or more, § 56-265.2 A also requires compliance with the provisions of Code § 56-46.1.

Section 56-46.1 directs the Commission to consider several factors with regard to the proposed new facilities. For example, § 56-46.1 directs the Commission to consider the effect of the facility on the environment and establish “such conditions as may be desirable or necessary to minimize adverse environmental impact.” Section 56-46.1 also directs the Commission to consider all reports that relate to the proposed facility by state agencies concerned with environmental protection and, if requested, to local comprehensive plans. In addition, § 56-46.1 states that “the Commission (a) shall consider the effect of the proposed facility on economic development within the Commonwealth . . . and (b) shall consider any improvements in service reliability that may result from the construction of such facility.”

Section 56-46.1 B states as follows:

As a condition to approval the Commission shall determine that the line is needed and that the corridor or route the line is to follow will reasonably minimize adverse impact on the scenic assets, historic districts and environment of the area concerned. To assist the Commission in this determination, as part of the application for Commission approval of the line, the applicant shall summarize its efforts to reasonably minimize adverse impact on the scenic assets, historic districts, and environment of the area concerned. In making the determinations about need, corridor or route, and method of installation, the Commission shall verify the applicant’s load flow modeling, contingency analyses, and reliability needs presented to justify the new line and its proposed method of installation. . . . Additionally, the Commission shall consider, upon the request of the governing body of any county or municipality in which the line is proposed to be constructed, (a) the costs and economic benefits likely to result from requiring the underground placement of the line and (b) any potential impediments to timely construction of the line.

Section 56-46.1 provides for hearings and includes a requirement that “[i]n any hearing the public service company shall provide adequate evidence that existing rights-of-way cannot adequately serve the needs of the company.” This requirement is further supported by Code § 56-259 C which states that “[p]rior to acquiring any easement of right-of-way, public service corporations will consider the feasibility of locating such facilities on, over, or under existing easements of right-of-way.”

¹⁵⁸ July 28 Tr., at 111.

¹⁵⁹ Code § 56-265.2 A.

Section 56-46.1 D provides that “‘environment’ or ‘environmental’ shall be deemed to include in meaning ‘historic,’ as well as a consideration of the probable effects of the line on the health and safety of the persons in the area concerned.”

In reviewing the Commission’s application of the above statutes, the Virginia Supreme Court stated that the “Commission, pursuant to Code § 56-46.1 (B), determines whether a need for the proposed infrastructure exists.”¹⁶⁰ The Court provided that in determining need, “the Commission must assess the magnitude and timing of any such need.”¹⁶¹ The Court also noted the statutory requirement to “[v]erify the applicant’s load flow modeling, contingency analyses, and reliability needs presented to justify the new line and its proposed methods of installation;” and acknowledged consideration of additional factors, along with minimizing adverse impacts, such as cost of construction, economic and environmental factors, reliability of electric service and engineering feasibility.

The Court also addressed the Commission’s consideration of the adverse impacts of a project, which “are not to be considered in a vacuum.”¹⁶² The Court found that “the Commission must ‘balance’ adverse impacts along with other ‘factors’ and ‘traditional considerations.’”¹⁶³ The Court concluded “that the use of the word ‘reasonably’ demonstrates the General Assembly’s recognition of the multifactorial balancing that goes into such an investigation”¹⁶⁴

Code § 56-259 C is particularly relevant to this Application. This Code section requires that “[p]rior to acquiring any easement of right-of-way, public service corporations will consider the feasibility of locating such facilities on, over, or under existing easements of rights-of-way.”

Need

According to the Company, the Project is needed to resolve a number of network reliability violations projected by PJM to occur in 2019. The Project was submitted to PJM in response to a 2014 solicitation for proposals to resolve identified NERC violations, and the Project was approved by the PJM Board of Managers.¹⁶⁵ The proposed facilities must be in service by the summer of 2019 to assure that the Company can continue to provide reliable electric service to the customers served from the Company’s existing Gordonsville Substation, and to address the projected NERC Reliability Standards violations that could lead to service interruptions or potential damage to electrical facilities in the area.¹⁶⁶

Specifically, a 2014 PJM network analysis and an updated load flow run in 2015 identified multiple N-1-1 contingencies that produced thermal overloading and low voltage violations on the Company’s electrical network. Dr. Essah explained that “[a]n N-1-1 contingency is a sequence of events consisting of the initial loss of a single generator or transmission component (Primary

¹⁶⁰ *BASF Corp. v. State Corp. Comm’n*, 289 Va. 375, 394 (2015).

¹⁶¹ *Id.*

¹⁶² *Id.*

¹⁶³ *Id.* at 395.

¹⁶⁴ *Id.*

¹⁶⁵ Exhibit 2, Appendix, at 3, 4.

¹⁶⁶ *Id.* at 4.

Contingency), followed by system adjustments, and then followed by another loss of a single generator or transmission component (Second Contingency).”¹⁶⁷

In January 2015, PJM issued its annual Load Forecast with revised loading for the utility zones within its territory, and a new N-1-1 contingency analysis was performed that found the same thermal and voltage violations but the stress case violation was not projected to occur until 2019.¹⁶⁸

In closing, counsel for the Company emphasized that the Project was selected through the PJM RTEP as a preferred option, and it meets the guidelines to address projected future violations. He observed that there are short and long term benefits, including maintenance of reliable service.¹⁶⁹

On behalf of Staff, GDS conducted an independent analysis of the Company’s load flow modeling and contingency analyses for the Project to evaluate its need.¹⁷⁰ GDS reviewed and verified the Company’s analyses, and agreed with the results of the power flow analysis performed by the Company.¹⁷¹

In accordance with Code § 56-46.1 B, Staff thus verified the Company’s “load flow modeling, contingency analyses, and reliability needs presented to justify the new line.” Staff concluded that the Company has reasonably demonstrated the need for the Project and the proposed Project addresses the electrical violations identified by PJM.¹⁷²

I find that the Project is necessary to comply with mandatory NERC Reliability Standards, and the Project will permit the Company to maintain reliable electric service to its customers and protect its facilities.

Routing

At the conclusion of the hearings, although the Company offered alternatives, only one route remained under consideration for meeting the transmission needs identified by the Company. The route, entirely along and primarily within existing right-of-way, is approximately 38.2 miles long traversing Fauquier, Culpeper, Orange, and Albemarle Counties between the existing Remington Substation in Fauquier County and existing Gordonsville Substation in Albemarle County.¹⁷³ The Company holds easements for the existing right-of-way for the entire transmission corridor between the Remington and Gordonsville Substations, which vary between 70 and 100 feet in width. A total of 21.6 miles of existing corridor is 100 feet in width, and the remaining approximately 16.0 miles is 70 feet in width.¹⁷⁴ The Company noted, however, that “[t]he right-of-way width for the segment

¹⁶⁷ Exhibit 8, at 4, n.6.

¹⁶⁸ Exhibit 2, Staff Report, Appendix, at 4; Exhibit 8, at 6.

¹⁶⁹ July 28 Tr., at 121.

¹⁷⁰ Exhibit 8, Appendix C, at 1.

¹⁷¹ *Id.* at 13.

¹⁷² Exhibit 8, Staff Report, at 23.

¹⁷³ Exhibit 11, at 4.

¹⁷⁴ *Id.* at 4, 5.

of the Project between [the] Remington Substation and Remington Junction, approximately 0.6 miles in length, is 200 feet wide.”¹⁷⁵ The right-of-way has been in continual use since 1930.¹⁷⁶

The majority of the Project will involve removing existing wooden and steel structures supporting Lines #2, #70 and #11, and replacing them with new structures that will support both the existing 115 kV circuits and the proposed 230 kV Remington-Gordonsville Line #2153. The existing 115 kV structures between the Remington Substation and Remington Junction would remain in place and the proposed 230 kV line would be located on the existing towers supporting 500 kV Line #535.¹⁷⁷

The route recommended by the Company complies with Code § 56-259 C as it is entirely along existing right-of-way, although both the Company’s original proposal and the Shorter Structure Option would require expansion of the right-of-way where feasible.

Environmental Impact

The Company initially proposed to install weathered steel monopole structures to replace the existing wooden and steel structures supporting Lines #2, #70, #11, and #2153. Those structures would average 103-107 feet in height compared to the average height of the existing structures of 53 feet. The estimated cost of the initial proposal is \$106.2 million, with \$88.7 million of that amount for transmission line work including the reconductoring of Line #2088.¹⁷⁸ The estimated cost associated with the work at the substations is \$17.5 million.¹⁷⁹

Public testimony generally recognized the need for the Project but urged the Commission to consider shorter structures. A number of the public witnesses were concerned about the viewshed impact of the Project, as proposed in the Application, on the conservation easements and the historic and scenic resources found along the proposed route. Numerous public witnesses requested that the structure heights be limited to a maximum of 80 feet to minimize visibility over tree lines, and that the Company be required to use dulled steel towers with a rust colored appearance to blend better with the landscape.

VOF, through the DEQ Report, also raised concerns with the height. Staff testified that use of shorter structures should be considered.

The Company listened to the public and VOF concerns and Staff’s recommendation, and identified the Shorter Structure Option as a feasible alternative along some, but not all, of the route. That option would require additional right-of-way, impose additional land impacts, and raise the cost of the Project.

Company witnesses Baka and Berkin elaborated. Mr. Baka testified that the Company is asking the Commission to approve an expansion of the right-of-way to 100 feet in all situations

¹⁷⁵ *Id.* at 5, n. 1.

¹⁷⁶ *Id.* at 5.

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*; July 28 Tr., at 58.

¹⁷⁹ Exhibit 6, at 4; July 28 Tr., at 58.

where there are not constraints with just compensation provided for all land acquisition to expand the right-of-way; and to grant it flexibility to use the Shorter Structure Option along the portions of the route where the right-of-way can be expanded to 140 feet subject to four conditions.¹⁸⁰ The four conditions are:

- consent by all affected property owners;
- agency consent where applicable;
- a grant of easements for the 40 feet beyond the 100 feet needed for the Project without additional compensation from the Company, or in the alternative, compensation with a \$2.5 million cap for land acquisition costs, based on a formula that examined current assessed land values of properties crossed by the right-of-way, and values that portion of the property on a per acre basis; and
- an uninterrupted line distance of approximately three miles.

According to Mr. Berkin, since use of the Shorter Structure Option would require an expanded right-of-way, that option would result in additional land use and environmental impacts.¹⁸¹ The Company conducted an analysis of right-of-way width alternatives along the existing corridor and identified those areas where there are impediments to expanding the right-of-way. That analysis also considered the Company's goal to minimize the visual impacts of switching between different structures by identifying route segments of no less than three miles where the right-of-way could potentially be expanded to 140 feet.¹⁸² He identified three sections on the Project route of at least three miles in length where it may be possible for the Company to expand the right-of-way to accommodate the Shorter Structure Option without requiring demolition of primary buildings.¹⁸³

The first section extends 8.4 miles, from mile post ("MP") 3.0 to 11.4; the second section extends 11.6 miles, from MP 14.5 to 26.0; and the third section extends 4.1 miles, from MP 34.0 to 38.1.¹⁸⁴ According to Mr. Berkin, a 140-foot right-of-way can potentially be established for a total of 24.1 miles, or approximately 65% of the length of the Project proposed to be installed on double circuit H-frame structures.¹⁸⁵ The sections of the route on which the Shorter Structure Option is feasible are identified on Mr. Berkin's Rebuttal Schedule 1, which is attached to this Report.¹⁸⁶

The Company contracted with ERM to conduct an environmental, scenic, and historical impact assessment of the Project area. The company did not expect any dwellings or businesses to be demolished or relocated for the Project since the rebuild can occur within a 70-foot right-of-way where it is not practically feasible to expand the right-of-way. However, there is a land impact resulting from expanding the right-of-way to 100 feet and an additional impact from expanding the

¹⁸⁰ July 28 Tr., at 45.

¹⁸¹ Exhibit 14, at 3.

¹⁸² *Id.*

¹⁸³ *Id.* at 4.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.* at Schedule 1.

right-of-way to 140 feet. That impact is summarized by Mr. Berkin:¹⁸⁷

Remington-Gordonsville 230 kV Transmission Line Route Right-of-Way (ROW) Width Alternatives Environmental Features Comparison Table			
Environmental Features	Unit	Proposed Route (Option A)	Additions due to 140-foot ROW
Land Use Features/Constraints			
New Permanent ROW	Acres	59.8	116.7
Private Parcels Crossed	Number	262	3
Total Buildings Within ROW	Number	52	2
Houses Within ROW	Number	4	0
Outbuildings Within ROW	Number	36	2
Commercial Buildings Within ROW	Number	6	0
Agricultural Buildings Within ROW	Number	6	0
Environmental Constraints			
Wetlands Crossed by Centerline and in ROW (total)	Acres	26.6	3.9
Forested Land Crossed (total)	Acres	8.2	37.9
Conservation Easements Crossed			
Virginia Outdoors Foundation	Number	26	0
	Acres	113.5	32.5
Cultural Resources Constraints			
Easements (VDHR) Within ROW	Number	4	0
	Acres	14.7	2.1

Staff supported the Shorter Structure Option as a desirable improvement at a relatively minimal incremental cost, and recommended the Commission direct the Company to implement that option where it can acquire the necessary additional right-of-way.¹⁸⁸ Similarly, PEC supported the Shorter Structure Option.

Although there is some additional land impact resulting from use of the Shorter Structure Option, that option was overwhelmingly supported by the public, PEC, Staff and VOF. Where feasible, the incremental impact of expanding the right-of-way an additional 20 feet on each side of a 100-foot right-of-way to support the Shorter Structure Option is minimal. I find that the environmental impact is best mitigated along 24.1 miles of the 38.2 miles by use of shorter structures. The Shorter Structure Option thus minimizes the environmental impact of the Project as required by Code § 56-46.1. The Company's original proposal may be on existing right-of-way, but would replace 53-foot structures, largely buffered by tree lines, with an average of 103-107-foot structures towering well above tree lines for almost 40 miles along some of Virginia's most beautiful country side. I recommend that the Commission provide the Company the flexibility to utilize the Shorter Structure Option where feasible.

¹⁸⁷ *Id.*

¹⁸⁸ July 28 Tr., at 118.

Shorter Structure Option Conditions

The first condition suggested by the Company is that it request and acquire the voluntary consent of affected property owners to widen the right-of-way the additional 40 feet. The Company contends that it cannot use the condemnation process to acquire the additional 40 feet of right-of-way because the Project can be built on a 100-foot right-of-way. I disagree. If the Commission finds that use of the Shorter Structure Option is a condition necessary to minimize any adverse environmental impact of the Project in accordance with Code § 56-46.1, condemnation would be appropriate. However, voluntary consent would be necessary from those property owners who have VOF or VDHR easements on their property, and who would need to voluntarily seek modification of those easements from the affected agency. Therefore, I believe this condition to be reasonable.

I also find that the Company's suggestion that it initially contact the affected property owners by postcards is reasonable. However, I would recommend personal contact with any property owners who do not respond to the postcard instructions to assure that all property owners are reached.

The second condition, agency consent where applicable, is necessary and appropriate. Mr. Baka explained at length that both VOF and VDHR have conservation and historic easements along and through the right-of-way. The condemnation process is not available to the Company to acquire additional right-of-way through those easements. Rather, the affected landowners must request those agencies modify their easements, and those agencies must voluntarily agree. Counsel for the Company explained that the agencies holding easements require the landowner to ask for additional encroachment on the easements.¹⁸⁹

The third condition deals with compensation for the additional 40 feet of right-of-way. The Company first suggested that the grant of easements for the 40 feet beyond the 100 feet needed for the Project be without additional compensation from the Company. Staff, PEC, and VOF opposed that suggestion.

The Company offered, but did not advocate for, an alternative, compensation with a \$2.5 million cap for land acquisition costs of the additional 40 feet of right-of-way, based on a formula that examined current assessed land values of properties crossed by the right-of-way, and valued that portion of the property on a per acre basis.

In closing, Staff counsel clarified that when Dr. Essah suggested the Company should seek to acquire the additional 40 feet of right-of-way in the same manner that it would seek the additional 30 feet, as in its original proposal, he was responding to the suggestion that the Shorter Structure Option should be conditioned on the landowners granting the additional 40 feet without compensation.¹⁹⁰ Staff did not take a position on Mr. Baka's alternative compensation cap. According to Staff counsel "[it] may be a good idea; we hadn't had a chance to think it through."¹⁹¹ He added that Staff had no opposition to it.

¹⁸⁹ *Id.* at 123.

¹⁹⁰ *Id.* at 119.

¹⁹¹ *Id.* at 120.

In closing, PEC also supported the Shorter Structure Option, but asserted that the individual landowners or agencies should not be required to subsidize the cost of acquiring the additional 40 feet of right-of-way. PEC contends that the Company should pursue the additional 40 feet in the ordinary course of business.¹⁹²

I also agree that the property owners should be compensated for the additional 40 feet of right-of-way, and find that a pool of dollars, determined based on the assessed value of the properties crossed, to be a fair and reasonable approach to uniformly compensating the affected property owners while also assuring that the additional cost of the Shorter Structure Option is reasonably known.

I find the fourth condition, an uninterrupted line distance of approximately three miles, to be reasonable. Company witness Berkin stated that the three miles condition was developed in an effort to minimize the visual impacts of switching between different structures.¹⁹³ PEC supported flexibility on the distances required for the Shorter Structure Option with three miles being the starting point in recognition that there are circumstances where shorter distances might be appropriate.¹⁹⁴ This condition notes “approximately” three miles, which reflects the Company’s willingness to be flexible on the distance.

Finally, Company’s counsel stated that the Company was willing to provide Staff confidential reports on the negotiations and acquisition progress for the additional right-of-way.¹⁹⁵ I find such reports to be appropriate, and will allow Staff to monitor the Company’s progress.

Finish on the Conductors

The Company proposes to use its standard aluminum conductors for the Project which consist of aluminum stranded wires that are silver in color until the wire fades and dulls to a muted gray. The Company estimated the incremental cost of using non-reflecting or de-glared conductors to reduce visual impact, as proposed by Staff, PEC and VOF, to be approximately \$60,000.

Staff considered that incremental cost to be minimal (less than 0.06% of the total Project cost), and, therefore, recommended use of those conductors as an additional visual impact reduction strategy.¹⁹⁶ At the hearing, Dr. Essah continued to recommend the use of non-reflecting conductors based on VOF and public comments.¹⁹⁷ Staff testified that it would take up to 24 months, depending on atmospheric conditions, to fully attain the same look as the non-reflective conductor.¹⁹⁸ On cross examination, Dr. Essah recognized that the Company’s Hollymead line did not utilize de-glared conductors, but noted that the Hollymead line was only 8.4 miles compared to this Project’s length of 38.2 miles. Additionally, the Hollymead structures were on average about

¹⁹² *Id.* at 115, 116.

¹⁹³ Exhibit 14, at 3.

¹⁹⁴ July 28 Tr., at 115, 116.

¹⁹⁵ *Id.* at 125.

¹⁹⁶ Exhibit 8, Staff Report, at 21.

¹⁹⁷ July 28 Tr., at 32.

¹⁹⁸ *Id.* at 72.

five feet shorter than the Shorter Structure Option discussed by the Company in its rebuttal for this Project.¹⁹⁹

The cost to use de-glared conductors is negligible and it further minimizes the environmental impact of the Project. Therefore, I also recommend the Company use de-glared conductors.

Cost

Company witness Shevenock estimated the cost of the initially proposed Project to be \$106.2 million, with \$88.7 million of that amount for transmission line work including the reconductor of Line #2088,²⁰⁰ and the estimated cost associated with the station work to be \$17.5 million.²⁰¹ The additional cost to use the Shorter Structure Option where feasible would be approximately \$10.7 million.²⁰² That would bring the total approximate cost of the Project to \$116.96 million.²⁰³ In Staff's opinion, which I share, that incremental cost is warranted to minimize the environmental impact of a 38.2 mile line through pristine, scenic, and historically significant country.

DEQ

DEQ also offered a number of suggested conditions to minimize the environmental impact, and with which the Company agreed to comply:

- Conduct an on-site delineation of all wetlands and stream crossings within the Project area with verification by the U.S. Army Corps of Engineers, using accepted methods and procedures, and follow DEQ's recommendation to avoid and minimize impacts to wetlands and streams (Item 1(c), pages 9-10).
- Follow DEQ's recommendations regarding air quality protection, as applicable (Item 4(d), page 14).
- Reduce solid waste at the source, reuse it and recycle it to the maximum extent practicable, as applicable (Item 5(c), page 15).
- Coordinate with the Department of Conservation and Recreation's Division of Natural Heritage regarding its recommendations to protect natural heritage resources, including its recommendation to conduct plant surveys and a mussel inventory for certain species in the Project area, as well as for updates to the Biotics Data System database if six months have passed before the Project is implemented (Item 6(d), pages 19-21).
- Coordinate with the Department of Game and Inland Fisheries as necessary regarding protected species (Item 7(c), page 21).

¹⁹⁹ *Id.* at 73.

²⁰⁰ Exhibit 6, at 4; July 28 Tr., at 58.

²⁰¹ *Id.*; *Id.*

²⁰² \$7.5 million for the transmission facilities (Exhibit 13, at 6), \$692,850 for forestry costs (Exhibit 13, at 6; July 28 Tr., at 70, 74, 75), and the \$2.5 million cap in real estate costs to acquire the additional 40 feet of right-of-way (July 28 Tr., at 44, 45).

²⁰³ The Company's estimated cost for the construction of the Project as proposed in the Application was \$106.2 million, plus the additional cost of the Shorter Structure Option, approximately \$10.7 million, plus the additional \$60,000 for de-glared conductors for a total cost of \$116.96 million.

- Coordinate with VDHR regarding its recommendations to protect historic and archaeological resources (Item 9(d), page 24).
- Coordinate with the VDH Office of Drinking Water regarding its recommendations to protect public drinking water sources (Item 11(c), page 27).
- Coordinate with VOF regarding the submittal of a utility easement application (Item 12(c), page 29).
- Follow the principles and practices of pollution prevention to the maximum extent practicable (Item 14, page 29-30).
- Limit the use of pesticides and herbicides to the extent practicable (Item 15, page 30).
- Coordinate with Orange County regarding its recommendation to mitigate the visual impacts to Route 615, a Virginia Byway (Item 16(d), page 31).
- Coordinate with Madison County regarding its concerns related to applicable local requirements if either Alternative Routes B-1 or B-4 is chosen (Item 16(e), page 31).²⁰⁴

With the exception of the recommendation that the Commission require coordination with Madison County, which is not applicable to the recommended route, I find those additional environmental conditions to be reasonable and appropriate.

Economic Development

The Company contended that the Project would provide for continued reliable electric service and enable it to maintain the overall long term reliability of the transmission system. The Company asserted that the Project would, therefore, support continued economic development in Virginia.²⁰⁵ Staff agreed with that assessment.²⁰⁶ In accordance with Code § 56-46.1, the effect of the proposed facilities on economic development has been considered.

FINDINGS AND RECOMMENDATIONS

Based upon the evidence received in this case and the applicable law, I find that:

1. The Project is needed so Dominion Virginia Power can continue to provide reasonably adequate service to its customers at reasonable and just rates.
2. The Project will improve the Company's system reliability in the area.
3. The Project utilizes existing right-of-way.
4. The proposed route, use of the Shorter Structure Option where feasible, and use of non-glare conductors reasonably minimize the Project's impact on the environment, scenic assets, and historic resources.
5. The Company should be granted the flexibility to pursue the Shorter Structure Option where feasible and subject to the conditions discussed above with compensation to the land owner for additional right-of-way.
6. Approval of the Application should be conditioned on the Company's compliance with the Summary of General Recommendations contained in the DEQ Report.

²⁰⁴ Exhibit 9, at 6, 7.

²⁰⁵ Exhibit 3, at 8, 9.

²⁰⁶ Exhibit 8, Staff Report, at 18.

7. A certificate of public convenience and necessity should be issued for the Company to construct and operate the Project.
8. The Company should be directed to provide Staff confidential monthly reports on its progress in negotiations and acquisition of additional right-of-way.

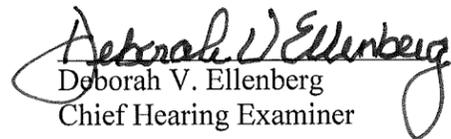
Accordingly, I **RECOMMEND** the Commission enter an Order:

1. **ADOPTING** the findings of this Report.
2. **GRANTING** the Company's Application subject to the modifications addressed in the findings.
3. **AMENDING** the Company's current certificates of public convenience and necessity to authorize construction of the Project.
4. **PASSING** the paper herein to the file for ended causes.

COMMENTS

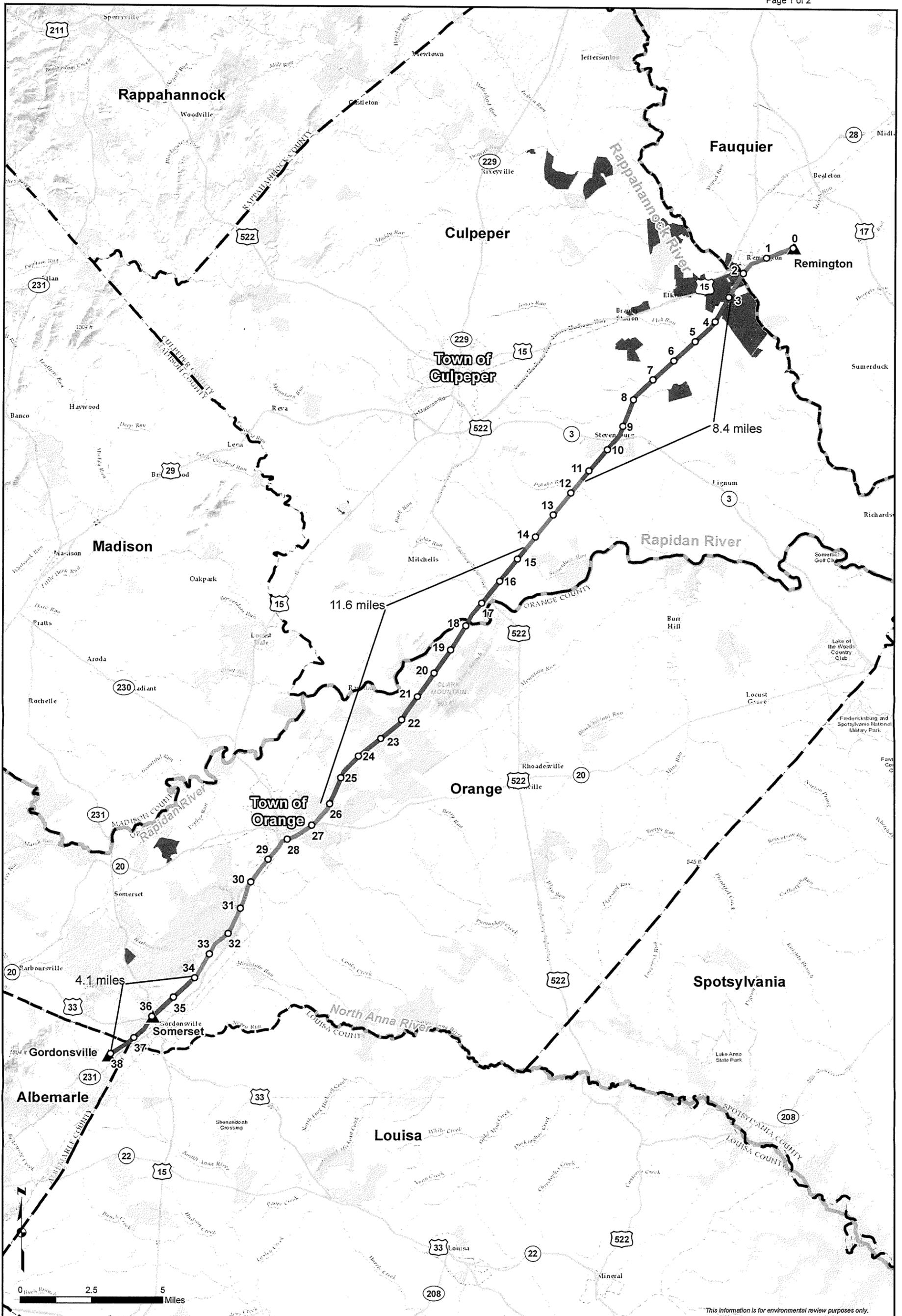
The parties are advised that any comments (Section 12.1-31 of the Code of Virginia and Commission Rule 5 VAC 5-20-120 C) to this Report must be filed with the Clerk of the Commission in writing, in an original and fifteen (15) copies, within twenty one (21) days from the date hereof. The mailing address to which any such filing must be sent is Document Control Center, P.O. Box 2118, Richmond, VA 23218. Any party filing such comments shall attach a certificate to the foot of such document certifying that copies have been mailed or delivered to all counsel of record and any such party not represented by counsel.

Respectfully submitted,


Deborah V. Ellenberg
Chief Hearing Examiner

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

ATTACHMENT 1



This information is for environmental review purposes only.

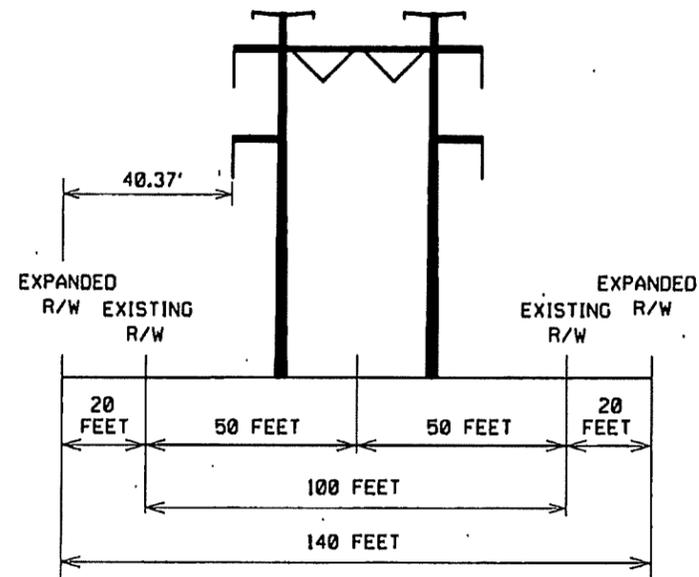
	<ul style="list-style-type: none"> ○ Milepost ▲ Existing Substations — Existing ROW (14.0 miles) — 140' ROW (24.1 miles) — Major River — County Boundary ■ VDHR Easement ■ VOF Easement 	<p style="text-align: center;">Figure 1 Remington Gordonsville 230 kV Transmission Line Project Overview of Right-of-Way Width Options</p>  <p style="text-align: right; font-size: small;">an ERM Group company</p>
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ATTACHMENT 2

15075055

TYPICAL DOUBLE CIRCUIT H-FRAME

PROPOSED 230KV CIRCUIT EXISTING 115KV CIRCUIT



TYPE OF STRUCTURE:	STEEL H-FRAME
FOUNDATION :	CONCRETE
APPROXIMATE AVERAGE HEIGHT:	85 FEET
WIDTH AT CROSSARM:	59 FEET
WIDTH AT BASE:	39 FEET
RIGHT OF WAY WIDTH:	140 FEET