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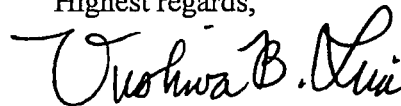
*Application of Virginia Electric and Power Company
For approval and certification of electric transmission facilities:
Haymarket 230 kV Double Circuit Transmission Line and 230-34.5 kV Haymarket Substation
Case No. PUE-2015-00107*

Dear Mr. Peck:

Enclosed for electronic filing in the above-captioned proceeding, please find the *Post-Hearing Brief of Virginia Electric and Power Company*.

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

Highest regards,



Vishwa B. Link

Enc.

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160810192

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

For approval and certification of
electric transmission facilities for
Haymarket 230 kV Double Circuit Transmission Line
and 230-34.5 kV Haymarket Substation

Case No. PUE-2015-00107

POST-HEARING BRIEF
OF
VIRGINIA ELECTRIC AND POWER COMPANY

August 5, 2016

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COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

APPLICATION OF)	
)	
VIRGINIA ELECTRIC AND POWER COMPANY)	Case No. PUE-2015-00107
)	
For approval and certification of)	
electric transmission facilities for Haymarket 230 kV)	
Double Circuit Transmission Line and)	
230-34.5 kV Haymarket Substation)	

POST-HEARING BRIEF OF VIRGINIA ELECTRIC AND POWER COMPANY

Pursuant to the Hearing Examiner's Ruling entered on June 22, 2016 in the above-captioned proceeding¹ and Rule 200 of the Rules of Practice and Procedure² of the State Corporation Commission ("Commission"), 5 VAC 5-20-200, Virginia Electric and Power Company ("Dominion Virginia Power" or the "Company"), by counsel, hereby submits its Post-Hearing Brief.

I. EXECUTIVE SUMMARY

Dominion Virginia Power seeks approval under §§ 56-46.1 and 56-265.2 of the Code of Virginia ("Va. Code" or "Code") and a certificate of public convenience and necessity ("CPCN") under the Utility Facilities Act for the following: (i) to convert its existing 115 kV Gainesville-Loudoun Line #124 to 230 kV operation; (ii) to construct a new 230 kV double-circuit transmission line to run approximately 5.1 miles from a tap point approximately 0.5 mile north of the existing Gainesville Substation to a new 230-34.5 kV Haymarket Substation; and (iii) to construct a 230-34.5 kV Haymarket Substation (collectively, the "Project").

¹ Transcript ("Tr.") at 641:10-13. Exhibits in the record are referred to herein as "Ex. ____".

² 5 VAC 5-20-10 *et seq.*

The Project is necessary so that Dominion Virginia Power can provide service requested by an existing retail electric service customer ("Customer") for a new data center campus in Prince William County adjacent to the Customer's existing data center, maintain reliable electric service to its customers in the area, and to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards ("Reliability Standards") for transmission facilities and the Company's transmission planning criteria. As part of its Final Order granting the CPCN for the Project, the Company respectfully requests the Commission to find, based on the facts and circumstances of this case, that the need for the Project has been shown and the Company's Proposed I-66 Overhead Route is the route that reasonably minimizes adverse impact on the scenic assets, historic districts and the environment of the area concerned. In addition, the Proposed I-66 Overhead Route is more reliable than the underground option, is at a significantly reduced cost, has reduced construction impacts and can be built in time to serve the identified need.

As a regulated public utility, Dominion Virginia Power is charged with the responsibility of delivering adequate electric service and facilities at just and reasonable rates established by the Commission for its retail customers in its service territory. The Customer has requested retail electric service to enable the expansion of its data center campus in Haymarket, and the Company is obligated to serve that request and has made every effort to meet that request in the timeframes requested by the Customer.

The record amply demonstrates, and the Commission Staff's ("Staff") own analysis confirms, that a transmission solution must be built in order to serve this identified need. Due to the amount of load identified by the Customer and the line mileage from the Company's existing Gainesville Substation, the "only game in town" from a substation point of view, compliance

with NERC Standards and the Company's transmission planning criteria require a transmission solution to serve the identified load growth and subsequent reliability concerns for the "Haymarket Load Area."

The Company has also demonstrated that all customers in the Haymarket Load Area will benefit from increased reliability once the Project is in service. While the catalyst for this case is a large block load being added to the system as a result of an expansion of an existing Customer's data center campus, the Company's proposed transmission Project provides capacity and reliability to a load area that has grown significantly in the last decade and is poised for sizeable future development. It is not a question of *if* a new transmission line is needed in the Haymarket Load Area, but rather *when* will a new line be needed. The record shows, and the Staff's own analysis confirms that the time is now. The record also shows that there are approximately five million square feet of non-residential development slated to be added in the Company's service territory within the Haymarket Load Area, and another 3.6 million square feet of non-residential development to be added in Northern Virginia Electric Cooperative's ("NOVEC") service territory.

The Company has shown that as soon as the new Haymarket Substation is energized, nearly 500 existing non-data center customers will also be served off that station, including a local hospital and retail center, and another 2,800 customers will benefit from reduced outage times by having the Haymarket Substation as their backup electrical source. With the addition of the Haymarket Substation, two automated restoration schemes will restore those 2,800 commercial and residential customers in under two minutes during certain outage scenarios. These reliability benefits will inure to existing non-data center customers as soon as the Project is energized, and these benefits are uncontested by any party or Staff. The record also shows that

NOVEC, the cooperative whose service territory surrounds the Haymarket Load Area, has expressed interest in locating a delivery point in the vicinity of the Haymarket Substation to help accommodate its own load growth. In addition, there is room to add a third transformer at the Haymarket Substation to allow for an additional approximately 80 MVA of growth. Therefore, although the Customer's block load was the initial driver for this facility, the facility will benefit the local area and the transmission system immediately and, as an integrated network transmission asset, will be beneficial and supportive of Prince William County growth in general in the future.

The Company analyzed five fully developed routes for the Project, and the record shows that the Company's Proposed I-66 Overhead Route meets the standard of Va. Code § 56-46.1 B to reasonably minimize adverse impact to scenic assets, historic districts, and the environment of the area concerned. In addition to these factors, the Proposed I-66 Overhead Route is the most effective alternative in addressing reliability concerns, and minimizing risks and impacts as to cost, construction impediments, and timing – all of which are considerations taken into account by the Commission in prior electric transmission proceedings. Commission precedent shows that no one criterion is more important than the others, and the Commission's role is to balance the public policy and interest with private concerns.

The factors of (1) environmental impact, (2) scenic assets, (3) historic resources, (4) cost, (5) construction and other temporary impacts, (6) reliability, and (7) the in-service date demonstrate that the Proposed I-66 Overhead Route should be selected as the appropriate route for the Project. The evidence and testimony introduced at the evidentiary hearing shows that the Proposed I-66 Overhead Route best meets the statutory requirement to reasonably minimize adverse impacts. It also is the shortest, least costly, can be built in time, has fewer impacts

during construction, has a high percentage of collocation with an existing transportation corridor, does not eliminate developable property and, as presented by the rebuttal testimony of Company Witness Jon Berkin, has the same amount of wetlands impact as the I-66 Hybrid Alternative Route. No other viable alternative comes close to the Proposed I-66 Overhead Route in terms of impacts, reliability, cost, and ability to be constructed in time to meet the Customer's load ramp schedule.

While the Company initially pursued and likely would have proposed another alternative for the Project (the Railroad Alternative Route), that route crosses property that is subject to an open space easement that was gifted at \$0 to Prince William County in early 2015. Upon the Company's request, Prince William County has communicated that it will not consent to the construction of an overhead transmission line within the open space easement, and therefore the Company does not believe the Railroad Alternative Route is a viable route for further Commission consideration.

Staff Witness Wayne McCoy recommends the I-66 Hybrid Alternative Route as the least impacting route; however, he admits that the scope of his analysis does not cover cost, reliability, the ability to meet the need, or the need date. The evidence also shows that he has also made his recommendation based to some extent on a novel and impermissible cost allocation methodology, and presumably upon visual impacts, although the statute does not single out one criterion as more important than another.

The evidence shows that the environmental impacts of the I-66 Hybrid Alternative Route are actually greater than the Proposed I-66 Overhead Route. The I-66 Hybrid Alternative Route will have greater impacts during construction to the residents and properties in close proximity. While the I-66 Overhead Route does have the greatest number of residences in close proximity,

that number is similar to the I-66 Hybrid Alternative Route, and those residences are already impacted by proximity to a major highway corridor. In other words, this major highway corridor (I-66) is already significantly visually impacted and a new overhead transmission line would not be visually inconsistent with that area. In addition, the testimony of Company Witness Donald Koonce makes clear that the I-66 Hybrid Alternative Route is a less reliable and significantly more expensive alternative – at least three times more expensive – than the Company's Proposed I-66 Overhead Route, cannot be built in time to meet the identified need date, and is more subject to delays and cost uncertainty than Proposed I-66 Overhead Route. The record also indicates that the I-66 Hybrid Alternative Route would potentially have a detrimental economic impact on several planned economic development projects in the area.

Staff Witness Neil Joshipura raised the issue of cost recovery and the potential that "the Customer" *could* be required to pay the incremental cost of the underground construction of the I-66 Hybrid Alternative Route, which, in his opinion, would be approximately \$115 million. Staff contends that the Project may be viewed as a line extension for electrical service to a new customer and therefore may be subject to cost allocation pursuant to the Company's Retail Tariff, Section XXII. Staff, however, does not explain its basis for such an interpretation, does not advocate for such an interpretation and makes no recommendation, ultimately leaving it to the Commission to determine if Section XXII applies.

The Company respectfully submits that Section XXII does not apply to cost recovery for the Project. First the Company is a fully integrated member of PJM Interconnection L.L.C. ("PJM"), a Federal Energy Regulatory Commission ("FERC")-regulated Regional Transmission Organization ("RTO"). As a result of PJM integration, PJM began providing FERC-regulated transmission Network Integration Transmission Service ("NITS") under the PJM Open Access

Transmission Tariff ("OATT") to Dominion Virginia Power as a transmission-owning load serving entity ("LSE"), thereby replacing services that Dominion Virginia Power previously provided for itself pursuant to its own OATT before integration. The proposed Haymarket Transmission Facilities, which are the subject of this proceeding, will be utilized by PJM to provide FERC-regulated transmission service to Dominion Virginia Power as the LSE.

Dominion Virginia Power's costs for constructing and operating its transmission facilities used by PJM to provide NITS are recovered by Dominion Virginia Power under its formula rate approved by FERC for inclusion in PJM's charges for NITS service. Requiring a retail ratepayer to provide a contribution in aid of construction ("CIAC") for integrated transmission lines like the Haymarket Transmission Facilities pursuant to a state tariff is preempted because FERC has exclusive jurisdiction to set wholesale customer rates for such service, including the allocation of costs. Second, the Company made clear in two separate proceedings before the Commission that revisions to Section XXII of the Retail Tariff that promote the installation of underground lines do *not* apply to underground transmission lines. Third, by its terms, Section XXII D of the Retail Tariff would not apply to the Haymarket Transmission Facilities.

Thus, Section XXII does not apply to the cost recovery for the Project, and therefore Staff's suggestion that the Customer may be required to pay for the incremental cost difference between underground and overhead construction of integrated network transmission assets should not be adopted.

In addition, a decision that would require this Customer, or any other large block load customer, to pay for the incremental cost difference between underground and overhead construction of integrated network transmission assets would have a chilling effect on future development of data centers and other large commercial and industrial businesses in the

Commonwealth. Indeed, Staff acknowledges that requiring the Customer to pay for the \$115 million incremental cost of undergrounding for the Project could jeopardize the future development of the Customer's campus.

Such a result would adversely impact not only Prince William County, but the region and state as well. The stated public policy of the Commonwealth is to make Virginia the "best state for business," and business leaders and policy makers testified that forcing the Customer to pay for the incremental cost of the I-66 Hybrid Alternative Route as compared to the Proposed I-66 Overhead Route could cause Virginia to lose its competitiveness in attracting new economic development of data centers. Accepting Staff's suggestion would damage Virginia's "pro-business" reputation and place great uncertainty over the future of economic development and job creation in Virginia.

For these reasons, the Company respectfully requests that the CPCN be granted by the Commission, that the need for the Project that has been shown be affirmed and the Company's Proposed I-66 Overhead Route be approved as the route that best meets the statutory requirements of Va. Code § 56-46.1.

II. BACKGROUND AND PROCEDURAL HISTORY

Dominion Virginia Power has the responsibility under Virginia law to provide its customers with reliable service, including the responsibility to construct necessary transmission facilities as part of a reliable system. In addition, it has the responsibility under criteria established by NERC and approved by FERC to maintain a reliable transmission system. In November 2004, the Commission approved the Company's application to join PJM, a federally-approved RTO responsible for ensuring the reliability of the transmission grid in the PJM

territory.³ PJM also applies the mandatory NERC Reliability Standards to evaluate the reliability of the transmission system and then determines the transmission upgrades that are needed to ensure NERC Reliability Standards are met through its Regional Transmission Expansion Plan ("RTEP").

On November 6, 2015, the Company filed with the Commission an application ("Application") for a CPCN for the construction and operation of electric transmission facilities in Prince William and Loudoun Counties and the Town of Haymarket, Virginia. More specifically, the Company's Project seeks to: (i) convert its existing 115 kV Gainesville-Loudoun Line #124, located in Prince William and Loudoun Counties, to 230 kV operation; (ii) construct in Prince William County, Virginia and the Town of Haymarket, Virginia, a new 230 kV double-circuit transmission line to run approximately 5.1 miles from a tap point approximately 0.5 mile north of the Company's existing Gainesville Substation on the converted Line #124 ("Haymarket Junction") to a new 230-34.5 kV Haymarket Substation; and (iii) construct a 230-34.5 kV Haymarket Substation on land in Prince William County to be owned by the Company. The Company proposed the Project to address three main reliability issues: (i) provide service requested by the Customer developing a data center with an approximate load of 120 MVA in Prince William County, Virginia; (ii) to maintain reliable service for the overall growth in the area; and (iii) to comply with NERC Reliability Standards.

The Company submitted for consideration a total of five fully developed routes, which included: (1) the Proposed I-66 Overhead Route; (2) the Carver Road Alternative Route; (3) the

³ *Ex parte*: In the matter concerning the application of Virginia Electric and Power Company d/b/a Dominion Virginia Power for approval of a plan to transfer functional and operational control of certain transmission facilities to a regional transmission entity, Case No. PUE-2000-00551, 2004 S.C.C. Ann. Rept. 294 at 300, Order Granting Approval ¶ 1 (Nov. 10, 2004). See generally Va. Code § 56-579 (1999, c. 411; 2001, c. 576; 2003, cc. 885, 990; 2007, cc. 888, 933) (requiring each incumbent electric utility owning or operating transmission capacity to join or establish a regional transmission entity and transfer management and control of its transmission assets by January 1, 2005, subject to Commission approval).

Madison Alternative Route; (4) the I-66 Hybrid Alternative Route; and (5) the Railroad Alternative Route. Information regarding these different routes was provided in the Application, which included an Environmental Routing Study prepared by Natural Resource Group, LLC (“NRG”) with detailed information on routing and electrical constraints that contributed to the Company’s ultimate selection of the Proposed Route over the four alternatives.

On December 11, 2015, the Commission issued an Order for Notice and Hearing that, among other things, assigned a Hearing Examiner to conduct all further proceedings in this matter; established a procedural schedule, set an evidentiary hearing for May 10, 2016, directed the Company to publish notice of its Application, permitted interested parties to participate in this case by filing comments or notices of participation, directed Staff to conduct an investigation of the Company’s Application and to file testimony and exhibits thereon, and provided the Company with the opportunity to file rebuttal testimony. The Virginia Department of Environmental Quality (“DEQ”) coordinated a review of the proposed Haymarket 230 kV Double Circuit Transmission Line and 230-34.5 kV Haymarket Substation and submitted a report to the Commission analyzing potential impacts to natural and cultural resources on January 20, 2016.

On April 22, 2016, FST Properties, LLC (“FST Properties”) filed a Motion to Consider Adjustment to Certain Routes requesting that the Hearing Examiner, if necessary, publish the FST Route Variation as depicted in Exhibit 1 to the motion and consider the route as a part of the Application. The Company filed a response stating that it had no objection to the route variation, and also presented the FST Route Optimization for consideration. On May 6, 2016, the Hearing Examiner issued a Ruling that granted FST Properties’ motion and directed the Company to serve notice of the new route on impacted property owners.

The Commission held hearings specifically for public comments in Haymarket, Virginia on February 24, 2016, March 14, 2016, and on May 2, 2016; and at the Commission in Richmond, Virginia on May 10, 2016. Approximately 170 public witnesses, including elected officials, representatives of local organizations, and residents, provided testimony at those hearings.

Pursuant to the Hearing Examiner's Ruling issued on March 21, 2016, Staff pre-filed direct testimony and exhibits on June 2, 2016; three Respondents⁴ pre-filed testimony and exhibits on or before May 10, 2016; and the Company filed rebuttal testimony and exhibits on June 9, 2016. Additionally, the DEQ filed a revised wetlands impact consultation letter on June 2, 2016.⁵

The evidentiary hearing commenced on June 21, 2016 at the Commission, with the Honorable Glenn P. Richardson presiding.

III. NEED: A TRANSMISSION SOLUTION IS REQUIRED

In its Application, the Company cited three reasons for the need for the new transmission facilities. First, to support the system at transmission voltage in order for Dominion Virginia Power as the LSE to provide distribution service, specifically to the Customer located in Prince William County, Virginia. Second, to maintain reliable electric service to its customers to support the overall growth in the area. And third, to comply with the mandatory NERC

⁴ The Respondents who pre-filed testimony included: Somerset Crossing Homeowners Association, Inc. ("Somerset Crossing"); Southview 66, LLC ("Southview 66"); and FST Properties, LLC. Heritage Hunt HT, LLC; Heritage Hunt Commercial, LLC; Heritage Hunt Retail, LLC; Heritage Hunt Office Condominium, LLC; Heritage Sport & Health, LLC; RBS Holdings, LLC and BKM at Heritage Hunt, LLC (collectively, "Heritage") previously entered the proceeding as a respondent and filed testimony; however, Heritage withdrew from the case as a respondent on June 17, 2016, two business days before the evidentiary hearing began, and did not participate at the hearing. Coalition to Protect Prince William County ("Coalition") participated at the hearing as a respondent, but did not file testimony. Old Dominion Electric Cooperative ("ODEC") filed a timely notice of participation as a respondent to the proceeding, but did not file testimony or appear at any hearing. The Prince William County Board of Supervisors filed a timely notice of participation as a respondent to the proceeding, but it then moved to withdraw on March 16, 2016, and did not file testimony or participate at the hearing as a respondent. See Hearing Examiner's Ruling (Mar. 22, 2016).

⁵ See *infra* n. 187.

Reliability Standards for transmission facilities and the Company's planning criteria.⁶ The record amply demonstrates a transmission solution must be built in order to serve the identified need.⁷ Additionally, the Company has demonstrated all customers in the Haymarket load area will benefit from increased reliability once the Project is in service.⁸

A. The Customer has submitted the load request, and the Company is obligated to serve the request.

As a regulated public utility, Dominion Virginia Power is charged with the responsibility of delivering adequate electric service and facilities at just and reasonable rates established by the Commission to any person, firm or corporation along its lines desiring service.⁹ No authority is given a public utility to refuse service to any customer requesting it.¹⁰

The Customer has requested retail electric service from Dominion Virginia Power to serve the expansion of a data center campus in Prince William County, which has been identified as the Haymarket Campus ("Haymarket Campus"). The development is approximately 44 acres located west of the Town of Haymarket approximately 0.4 mile west of U.S. Route 15 along John Marshall Highway (State Route 55).¹¹ The total Customer load at the Haymarket Campus is projected to be approximately 120 MVA, consisting of three buildings.¹² It is undisputed that

⁶ Ex. 3 (Appendix) at 1.

⁷ See Section III.C; see also Ex. 19 (Pre-Filed Direct Testimony of Neil Joshipura) at 6:12-14; Tr. 229:1-18.

⁸ See Section III.D.

⁹ Va. Code § 56-234 A. The term "service" is to be understood in "its broadest and most inclusive sense and includes not only the use and quality of accommodations afforded consumers or patrons, but also any product or commodity furnished by any public utility and equipment, apparatus, appliances and facilities devoted to the purposes in which such public utility is engaged and to the use and accommodation of the public." Va. Code § 56-233.

¹⁰ *Business Aides, Inc. v. Chesapeake & Potomac Tel. Co.*, 480 F.2d 754, 757 (4th Cir. 1973) (holding both Va. Code § 56-234 and the public utility's tariff direct the utility to supply authorized service anywhere along its lines as requested and do not permit refusal).

¹¹ Ex. 4 (Pre-Filed Direct Testimony of Mark R. Gill) at 5:1-3.

¹² Ex. 6 (Pre-Filed Direct Testimony of Harrison S. Potter) at 3:3-5.

the Customer had a by-right zoning permit and was able to site this campus in Prince William County without additional zoning approval.¹³

Indeed, Dominion Virginia Power's transmission system is responsible for providing transmission service to the Company's retail customers and to ODEC, NOVEC, Virginia Municipal Electric Association, and Central Virginia Electric Cooperative in Virginia, as well as the customers in North Carolina of North Carolina Electric Membership Cooperative and North Carolina Eastern Municipal Power Agency, to enable those entities to serve their own retail customers.¹⁴ The service request for a new block load driving the Project in this proceeding is no different than past cases where large block load was the catalyst,¹⁵ or for example, if NOVEC were to request a new distribution point ("DP") to serve its customers and new transmission facilities were required to serve that request.¹⁶ In either instance the Company must act to provide timely, adequate and reliable service as it has proposed for this Project.

¹³ Tr. 362:5-10.

¹⁴ Ex. 4 (Gill Direct) at 3:1-9.

¹⁵ Tr. 237:24-238:10; see also *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric facilities: Waxpool 230 kV Double Circuit Transmission Line, Brambleton - BECO 230 kV Transmission Line and 230-34.5 kV Waxpool Substation*, Case No. PUE-2011-00129, 2012 S.C.C. Ann. Rept. 353, Final Order (Dec. 28, 2012); *Application of Virginia Electric and Power Company For a certificate of public convenience and necessity in King George County: Dahlgren 230 kV Double Circuit Transmission Line and 230-34.5 kV Dahlgren Substation*, Case No. PUE-2011-00113, 2012 S.C.C. Ann. Rept. 319, Final Order (Oct. 4, 2012); *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric transmission facilities in Prince William County and the City of Manassas: Cannon Branch-Cloverhill 230 kV Transmission Line and Cloverhill Substation*, PUE-2011-00011, 2011 S.C.C. Ann. Rept. 319, Final Order (Dec. 21, 2011); *Application of Virginia Electric and Power Company For approval and certification of Beaufort-NIVO 230 kV Underground Transmission line and 230-34.5 kV NIVO Substation under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq., and as a pilot project pursuant to HB 1319*, Case No. PUE-2008-00063, 2009 S.C.C. Ann. Rept. 319, Final Order (May 29, 2009); *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For a certificate of public convenience and necessity for facilities in Fairfax County: EPG 230 kV Transmission Line and EPG Substation*, Case No. PUE-2008-00072, 2009 S.C.C. Ann. Rept. 328, Final Order (Apr. 14, 2009).

¹⁶ See *Application of Virginia Electric and Power Company For approval and certification of electric transmission facilities: Yardley Ridge 230 kV Double Circuit Transmission Line Loop and 230 kV Yardley Ridge Switching Station*, Case No. PUE-2015-00054 (filed May 20, 2015).

B. The proposed facilities are necessary in order to maintain reliable electric service and to support the overall growth in the area.

Prince William County is a growing and dynamic area in Northern Virginia with increasing electrical service needs. It is virtually undisputed that the Haymarket Load Area,¹⁷ specifically, is growing. For example, Prince William County's Planning Office website indicates that there are approximately 4.9 million square feet of non-residential development remaining to be built in the Company's service territory that would need to be served by the existing Gainesville Substation, and at least approximately 3.6 million square feet of non-residential development remaining to be built in NOVEC's (in the vicinity of the I-66, U.S. 15, and U.S. 29 corridors), with approximately 3.1 million square feet that would also be sourced from the Company's Gainesville Substation.¹⁸ Company Witnesses Potter and Gill testified that from a substation point of view, the Gainesville Substation is the "only game in town."¹⁹ In the evidentiary hearing for this proceeding alone there was testimony about "imminent" development of a new Home Depot with an expanded special use permit,²⁰ John Marshall Commons and Village Place,²¹ and the Southview 66 development.²² Moreover, Prince William County is actively promoting the area as one that can support data centers.²³

This ramping development and the subsequent load growth was depicted in Exhibit 40, which shows the actual and anticipated load growth that must be served off of the existing

¹⁷ Depicted in Ex. 39 (Potter Rebuttal), Rebuttal Schedule 1.

¹⁸ Ex. 28 (Rebuttal Testimony of Mark R. Gill) at 2:23-3:9.

¹⁹ Tr. 333:1-2, 475:10-13.

²⁰ Tr. 35:2-7, 36:8-12, 330:17-333:10.

²¹ Letter from J. Contrucci, Esq. on behalf of John Marshall Commons and Gainesville Village Place, with exhibits (June 16, 2016).

²² Tr. 148:11-150:1.

²³ Tr. 336:11-337:16. The Prince William County Board of Supervisors, at its February 11, 2014 meeting, approved Resolution 14-95, which amended the list of targeted industries for its economic development efforts to include data centers, among others. Ex. 28 (Gill Rebuttal) at 4:7-9; *see also* Ex. 29 (Prince William Cnty. Dep't of Economic Dev. Pamphlet).

Gainesville Substation until the Haymarket Substation is energized.²⁴ Even excluding any growth from NOVEC, this area has an average of 21% load growth over the next four years. Company Witness Potter further testified that this estimate could be “a little low” because it does not account for any new block load additions in the Company’s territory.²⁵

Some respondents to this case have tried to isolate the Customer’s load and argued that but for the Customer load, the Project would not be needed so the Project should not be built.²⁶ However, the Company must consider all load in the aggregate regardless of source when planning its transmission system. Indeed, the Virginia Supreme Court has spoken to this issue and made clear, “A utility must construct electrical generating and transmitting facilities to supply the peak electrical demands of its customers. To provide reliable electric service a utility must be able to satisfy the *collective-use needs, at any given moment, of all its customers.*”²⁷ Staff in this proceeding similarly agreed that a collective look at load growth is appropriate and has been recognized in prior cases where transmission line need was driven by a large block load addition.²⁸

In sum, the evidence demonstrates that while the Customer’s addition of a block load to the system in the Haymarket area is driving the need for the Project *at this time*, new transmission infrastructure would likely be needed in the future. In other words, it is not a question of *if* new transmission facilities are needed in the Haymarket Load Area, it is a question of *when* those facilities would be needed.

Accordingly, the electric facilities being proposed are necessary for the Company to perform its legal duty to furnish adequate and reliable electric service within its service territory.

²⁴ Tr. 475:4-477:2.

²⁵ Tr. 477:3-15.

²⁶ See, e.g., Ex. 16 (Amended Pre-Filed Direct Testimony of James R. Napoli) at 3-4 (May 12, 2016).

²⁷ *Bd. of Supervisors of Campbell Cnty. v. Appalachian Power Co.*, 216 Va. 93, 96 (1975) (emphasis added).

²⁸ Tr. 237:13-21.

Dominion Virginia Power could not perform its legal duty to serve the Customer and the Haymarket load area without the Project because the existing distribution infrastructure is not adequate to support this level of growth and would overload.²⁹ Specifically, there are three distribution circuits ("DC") in this area: DC#379, DC#695, and DC#378.³⁰ DC#379 and DC#695 currently tie outside of the Customer's existing data center block load that is ramping up and is effectively using all of the remaining capacity that these two circuits can provide. Additionally, DC#378 will feed the first new building on the Haymarket Campus, effectively using all of the remaining capacity of this circuit.³¹ In other words, there is insufficient capacity on the existing distribution circuits in the area and, as described below, construction of additional distribution circuits would not meet the need.

C. NERC Reliability Standards and the Company's transmission planning criteria require a transmission solution to meet the need.

From a distribution planning perspective, the Company made every attempt to serve the need from existing or upgraded sources, but nothing was suitable as a permanent solution because of circuits rated near their thermal operating limits, no capacity to "switch-before-restore," and simply no capacity to serve.³² Based on the more than 20% average annual load growth in the Haymarket Load Area, and insufficient distribution capacity, the Company determined that a transmission solution must be in service by June of 2018 in order to meet the projected need.³³

Federally-mandated NERC Reliability Standards establish minimum criteria with which all Transmission Owners ("TO") must comply as components of the interstate electric

²⁹ Ex. 39 (Rebuttal Testimony of Harrison Potter) at 6:4-14.

³⁰ Tr. 478:21-23.

³¹ Ex. 39 (Potter Rebuttal) at 6:4-14.

³² Tr. 483:21-484:5, 485:24-25.

³³ Ex. 39 (Potter Rebuttal) at 3:11-21.

transmission system. Moreover, the Energy Policy Act of 2005 mandates that TOs must follow these NERC Reliability Standards, and could be fined up to \$1 million per day per violation if found to be in non-compliance. NERC has been designated by FERC as the Electric Reliability Organization for the United States. In order to comply with mandatory NERC Reliability Standards, the Company maintains NERC-compliant "Facility Connection Requirements," which include the Company's Transmission Planning Criteria. The purpose of the NERC Facility Connection ("FAC") standards is to avoid adverse impacts on reliability by requiring each TO to establish facility connection and performance requirements in accordance with FAC-001, and that the TO and end-users meet and adhere to the established facility connection and performance requirements in accordance with FAC-002.³⁴

Specifically, FAC-001-2 requirement R1 requires the TO to document and make available the Facility Interconnection Requirements, and FAC-002-2 requirement R1.1.2 requires the Planning Coordinator (*i.e.*, PJM) and the TO (*i.e.*, Dominion Virginia Power) to adhere to the TO planning criteria and Facility Interconnection Requirements. The Company maintains the Facility Interconnection Requirements document, including the Company's Transmission Planning Criteria, to meet the mandatory NERC FAC requirements.³⁵

Section G of the Company's Transmission Planning Criteria states that "transmission facilities may be used . . . when the use of distribution feeders is not practicable" and "generally, the use of transmission facilities should be considered for the following conditions," including "all loads over 20 MW" and "remote locations where distribution facilities are not adequate."³⁶ The Company's Transmission Planning Criteria are provided in Section 6 of the NERC FAC-

³⁴ Ex. 28 (Gill Rebuttal), Rebuttal Schedule 6.

³⁵ Ex. 28 (Gill Rebuttal), Rebuttal Schedule 6; Exs. 34-36.

³⁶ Ex. 28 (Gill Rebuttal), Rebuttal Schedule 7.

001-2 mandatory Facility Interconnection Requirements document.³⁷ The 20 MW threshold is considered a minimum load level within the ten-year planning horizon that must be met as a condition for interconnecting to the transmission system. The 20 MW threshold is applied to 115 kV and 138 kV transmission lines and increases to 30 MW as the minimum threshold required for interconnecting with the 230 kV transmission system. Interconnection of loads below these levels will be permitted if the reliability of distribution alternatives is clearly inferior and costs exceed those associated with a transmission-voltage interconnection. Section C.2.6 of the Company's Transmission Planning Criteria also limits loading on a radial feed in excess of 100 MW without "an alternate transmission supply." Accordingly, the Company proposed the double circuit configuration for the Haymarket Loop to satisfy this criterion.³⁸

The approximately 120 MVA of new load projected for the Customer's Haymarket Campus (160 MVA of Customer load for the proposed Haymarket Substation at full build-out) clearly exceeds the minimum 30 MW threshold for interconnecting with the 230 kV transmission system. Additionally, the Haymarket Campus is approximately six miles away from the existing Gainesville Substation. Therefore, due to the amount of load identified by the Customer and the line mileage from the Company's existing Gainesville Substation, NERC Standards and the Company's planning criteria prevent building additional distribution circuits to feed the load long-term.³⁹

Additionally, an arrangement where load centers are located at the end of fully loaded distribution circuits is not prudent practice as it complicates the Company's ability to effectively operate its system. Throughout the year, the Company is required to switch load from one

³⁷ See Dominion Virginia Power Facility Connection Requirements, *available at* www.dom.com/library/domcom/pdfs/electrictransmission/facility-connection-requirements.pdf (last visited Aug. 2, 2016).

³⁸ Ex. 4 (Gill Direct) at 10:2-7.

³⁹ Ex. 6 (Potter Direct) at 5:9-12.

source to another during planned and unplanned outage events. During unplanned outage events on the distribution system, such as a car hitting a pole, fallen trees, or lightning, the Company typically operates in a “switch-before-restore” method to restore as many customers as possible in a timely manner.⁴⁰ In a “switch-before-restore” method, the Company switches load from the affected circuit to an adjacent circuit with capacity to quickly restore lights to as many customers as possible.⁴¹ Unfortunately, when DCs are loaded to capacity, the Company has to utilize the “fix-before-restore” method, which increases the timeframe of each service outage, because the Company must repair the damaged circuit before customer service can be restored as adjacent circuits do not have capacity to handle any additional load.⁴²

Staff’s investigation confirmed that transmission facilities are needed to meet the need and that a distribution solution is not feasible due to distribution system overloads.⁴³ Staff further testified that the Company has shown the need for a transmission solution, in accordance with Va. Code § 56-46.1.⁴⁴

D. Reliability benefits will accrue to customers in the Haymarket Load Area on “day one” once the Project is energized.

Upon energization, on “day one” the Haymarket Substation will serve Haymarket Load Area customer load in addition to the Customer’s load. Specifically, the Company distribution customers west of Route 15 will be switched from the Gainesville Substation to the new Haymarket Substation. This comprises approximately 456 customers, including Haymarket Village Center and the Novant Health Haymarket Medical Center for a total of approximately

⁴⁰ Ex. 39 (Potter Rebuttal) at 2:17-22 (corrected at Tr. 470:23-471:23).

⁴¹ Ex. 39 (Potter Rebuttal) at 2:22-3:1.

⁴² Ex. 39 (Potter Rebuttal) at 3:2-10.

⁴³ Ex. 19 (Joshiyura Direct) at 6:12-13; Tr. 228:22-25.

⁴⁴ Tr. 229:1-5.

5.5 MVA.⁴⁵ An additional 2,800 residential and commercial customers will also, on day one, have Haymarket Substation as their back up source in the event of outages.⁴⁶

This arrangement will enhance the reliability for all customers in the area for two distinct reasons. First, with additional capacity, the Company has greater opportunity to switch load to other available circuits in the event of an outage on any given circuit which can result in faster restoration times (under two minutes in certain outage scenarios). Second, by constructing new distribution circuits into the load area from the proposed Haymarket Substation, the length of certain circuits serving proximate customers from Gainesville Substation is reduced from approximately six miles to less than one mile, meaning there is simply less opportunity for damage.⁴⁷

Staff acknowledges this improved reliability for approximately 3,300 customers in addition to “the Customer” as real, tangible benefits of the Project that will accrue on day one of energization of the Haymarket Substation.⁴⁸ The Company has also planned space at the Haymarket Substation to install a third 230-34.5 kV 84 MVA transformer to supply future load growth.⁴⁹ The Company will add a third transformer to the Haymarket Substation if new load growth in the Haymarket Load Area requires additional transformer capacity, the Company is no longer able to support the contingency loss of either Haymarket 84 MVA 230-34.5 kV transformer from off-site bridging circuits, or other operational reasons deemed necessary to ensure reliable service.⁵⁰ NOVEC has also expressed interest in co-locating delivery point facilities within the proposed Haymarket Substation to help accommodate their load growth in

⁴⁵ Ex. 39 (Potter Rebuttal) at 5:3-7.

⁴⁶ Ex. 39 (Potter Rebuttal) at 5:8-12.

⁴⁷ Ex. 39 (Potter Rebuttal) at 2:7-16, 5:8-13, 7:3-14.

⁴⁸ Tr. 229:19-231:5.

⁴⁹ Ex.39 (Potter Rebuttal) at 5:17-18.

⁵⁰ Ex. 39 (Potter Rebuttal) at 5:19-6:3.

the area.⁵¹ The Haymarket Substation can meet these needs on day one and can accommodate these future needs.

IV. THE I-66 OVERHEAD ROUTE REASONABLY MINIMIZES ADVERSE IMPACTS TO THE SCENIC AREAS, HISTORIC DISTRICTS AND ENVIRONMENT OF THE AREA CONCERNED. IT IS THE MOST RELIABLE, LEAST COST SOLUTION WITH THE FEWEST CONSTRUCTION IMPACTS AND HAS THE ABILITY TO MEET THE IN-SERVICE DATE

A. The routing of the Project should not deviate from well-established routing principles endorsed by the Commission.

As noted above, large block load additions driving the need for new transmission infrastructure have been approved by the Commission in the past. Yet in this proceeding, Staff for the first time introduced a new standard, or "statement"⁵² noting, "Because the need for the Project is driven by a single large customer requesting new service, as opposed to being driven by system network needs, the Staff gives considerable weight to the concerns of the respondents and impacted property owners, in addition to just looking at costs alone."⁵³ Staff admitted this standard/statement could be "construed" as being a shift in Staff's analysis;⁵⁴ however, upon questioning from the Hearing Examiner, Staff acknowledged that all projects should be reviewed the same regardless of the driver of the need.⁵⁵ Staff Witness Joshipura further testified that in terms of load growth and routing, all customers should be treated the same.⁵⁶ Therefore, although the language used by Staff appears to introduce a new treatment for routing a transmission line when the need is driven by large block load, the Staff clarified that routing for this Project should be consistent with prior precedent.

⁵¹ Ex. 28.(Gill Rebuttal) at 17:20-23.

⁵² Tr. 241:19-25.

⁵³ Ex. 19 (Joshipura Direct) at 16:9-12.

⁵⁴ Tr. 242:6-9.

⁵⁵ Tr. 239:5-241:18.

⁵⁶ Tr. 238:16-24.

B. The Proposed I-66 Overhead Route meets the standard of Va. Code § 56-46.1 B to reasonably minimize adverse impact to scenic assets, historic districts, and the environment of the area concerned.

With that background in mind, like all transmission CPCN projects, the proposed Haymarket Project must be evaluated under Va. Code § 56-46.1 B. That statute requires in relevant part, "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."⁵⁷ In addition to these factors, the Commission has often also considered reliability concerns, cost, construction impediments, and timing.⁵⁸ While Staff Witness McCoy recommends the I-66 Hybrid Alternative Route as the least impacting, he admits that his analysis does not consider cost, reliability, the ability to meet the need, or the need date.⁵⁹ This Commission should, however, consider these factors—all of which favor the Proposed I-66 Overhead Route.

1. The Proposed I-66 Overhead Route has minimal impact on "scenic assets."

The Code does not provide a definition for what constitutes a "scenic asset" as that term is used in Va. Code § 56-46.1 B, but it is often thought of as a natural resource or a pristine viewshed.⁶⁰ The Proposed I-66 Overhead Route does not impact any natural resources or pristine viewsheds. Instead, as Staff Witness McCoy notes, the Proposed I-66 Overhead Route utilizes collocation with the I-66 corridor for approximately 90% of its length.⁶¹ Indeed, the Company chose the overhead route parallel to I-66 as its Proposed Route for the Project

⁵⁷ Va. Code § 56-46.1 B.

⁵⁸ See, e.g., *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric facilities: Surry-Skiffes Creek 500 kV Transmission Line, Skiffes Creek-Wheaton 230 kV Transmission Line, and Skiffes Creek 500 kV-230 kV-115 kV Switching Station*, Case No. PUE-2012-00029, 2013 S.C.C. Ann. Rept. 240, 244-45, Final Order (Nov. 26, 2013).

⁵⁹ Tr. 182:15-183:7.

⁶⁰ Tr. 196:12-13, 593:25-594:4.

⁶¹ Ex. 17 (Pre-Filed Direct Testimony of Wayne D. McCoy) at 9:12-13.

precisely because, among other factors, it provides an opportunity to maximize collocation with the existing infrastructure of I-66 and the Norfolk Southern Railroad.⁶²

Collocation with existing rights-of-way are considered routing opportunities, as this approach generally minimizes impacts to both the natural and human environment; is consistent with FERC Guideline #1, which states that existing rights-of-way should be given priority when adding new transmission facilities; and is consistent with Va. Code §§ 56-46.1 and 56-259, both of which also promote the use of existing rights-of-way for new transmission facilities.⁶³ Staff Witness McCoy agrees that collocation is “the standard,” and that generally in those collocation areas “there is an incremental increase and impact, visual impact, versus a line that was cut through a new area.”⁶⁴ Moreover, collocation of a transmission line with interstate highways is quite common on the Dominion Virginia Power system.⁶⁵

While Mr. McCoy, at the hearing, opined that the Town of Haymarket could be considered a scenic asset, his own report notes that he confirmed with Virginia Department of Historic Resources (“DHR”) that the Town of Haymarket is not recognized as a Historic District and, due to the fact that several of the original historic assets have been destroyed, it is not eligible for Historic District status.⁶⁶ Instead, the evidence demonstrates this is a rapidly changing area and due to the collocation of the transmission line with the interstate highway that is currently four or six lanes being widened to eight lanes,⁶⁷ the new utility infrastructure will generally be visually consistent with the developed character of the area.

⁶² Ex. 10 (NRG Environmental Routing Study) at 88.

⁶³ Ex. 10 (Pre-Filed Direct Testimony of Jeff Thommes as adopted by Jon Berkin) at 6:2-7.

⁶⁴ Tr. 214:13-16.

⁶⁵ Tr. 217:4-6; Ex. 18 (Images of transmission lines co-located with highways).

⁶⁶ Ex. 17 (McCoy Direct) at 11:9-12.

⁶⁷ Tr. 206:3-7.

The Proposed I-66 Overhead Route takes advantage of the opportunity to collocate with a major interstate for approximately 90% of its length. Staff agrees it is a heavily developed corridor and area generally,⁶⁸ and that the existence of I-66 itself represents “a pretty significant impact” from a “visual standpoint.”⁶⁹ Given the level of existing infrastructure and modern development in the area, the Proposed I-66 Overhead Route reasonably minimizes adverse impact to scenic assets because there are minimal scenic assets in the area and collocating the transmission line with I-66 is visually consistent with the developed nature of the area.⁷⁰ The existing development has largely compromised much of the scenic integrity of the area.

2. The Proposed I-66 Overhead Route has minimal impact on historic resources.

The Company and Staff concur the Proposed I-66 Overhead Route has limited impact on historic resources.⁷¹ There are no architectural resources within the right-of-way, and Staff Witness McCoy’s report only noted one historic resource of particular concern, Manassas Battlefield, which would be impacted by the Proposed I-66 Overhead Route. Moreover, Mr. McCoy concluded that the “area near the Manassas Battlefield is already encumbered by I-66, existing power lines and development. Thus, MAE concurs that a new transmission line in this area would impose only an incremental impact.”⁷² Mr. McCoy further agreed that the impacts to Manassas Battlefield would be the “same” as between the Proposed I-66 Overhead Route and the I-66 Hybrid Alternative Route.⁷³ Accordingly, like with scenic assets, the Proposed I-66 Overhead Route reasonably minimizes adverse impact on historic resources because there are

⁶⁸ Tr. 195:4-7.

⁶⁹ Tr. 206:23-207:2.

⁷⁰ See, e.g., *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric facilities: Surry-Skiffes Creek 500 kV Transmission Line, Skiffes Creek-Wheaton 230 kV Transmission Line, and Skiffes Creek 500 kV-230 kV-115 kV Switching Station*, Case No. PUE-2012-00029, 2013 S.C.C. Ann. Rept. 240, 258, Final Order (Nov. 26, 2013).

⁷¹ Ex. 48 (Rebuttal Testimony of Jon Berkin) at 9:8-14:16; Tr. 194:11-14.

⁷² Ex. 17 (McCoy Direct) at 8:4-7; Tr. 195:8-11.

⁷³ Tr. 196:2-5.

limited historic resources in the area and the integrity of the resources that are present already have been impacted by significant previous development.

3. The Proposed I-66 Overhead Route has limited impact on the environment of the area concerned.

The final area the Commission must consider under Va. Code § 56-46.1 B is potential adverse impact to the environment, namely wetland impact, forest clearing, and potential impacts to endangered species.

The Company and Staff both agree the Proposed I-66 Overhead Route has "limited wetland impact at 0.5 miles or 5.9 acres."⁷⁴ Further, impact to wetlands from overhead lines is mitigated by the ability to span wetland areas.⁷⁵ Indeed, as noted by Company Witness Berkin, with an overhead line, the Company makes every effort to locate the actual transmission structures outside of the wetlands area.⁷⁶ As discussed in further detail below, this is superior to the wetland impact associated with underground lines, which must actually trench and travel through the wetlands areas.

The Proposed I-66 Overhead Route also crosses the least amount of forested area of any of the overhead alternatives, primarily due to its position along the north side of I-66 where it is developed and already cleared of trees.⁷⁷ It also does not cross any Virginia Department of Forestry ("DOF") High Forest Conservation Value forests.⁷⁸ Finally, there are no endangered species expected to be impacted by the Proposed I-66 Overhead Route.⁷⁹

In sum, because it is the shortest and most direct alternative, travels through a heavily developed area, and is collocated with I-66 for most of its length, the Proposed I-66 Overhead

⁷⁴ Ex. 17 (McCoy Direct) at 10:13-14.

⁷⁵ Ex. 17 (McCoy Direct) at 10:14.

⁷⁶ Ex. 48 (Berkin Rebuttal) at 4:3-5.

⁷⁷ Ex. 10 (NRG Environmental Routing Study) at 88.

⁷⁸ Ex. 10 (NRG Environmental Routing Study) at 88.

⁷⁹ Ex. 10 (NRG Environmental Routing Study) at 36.

Route reasonably minimizes adverse impact on scenic assets, historic districts, and the environment as required by the Code and should be the route selected by the Commission.

4. The Proposed I-66 Overhead Route is a more reliable electrical solution than the I-66 Hybrid Alternative Route.

The Company is obligated to provide reliable and adequate electric service at just and reasonable rates to the public. The Company helps meet this obligation by utilizing overhead transmission facilities to meet the load demands of customers in the most economical manner possible.⁸⁰ Indeed, the Company's present unplanned outage rate for overhead transmission lines rated 230 kV is 0.66 outages per hundred miles per year for sustained outages. The present unplanned outage rate for underground transmission lines of all ratings is 1.30 outages per hundred miles per year for sustained outages.⁸¹

Staff Witness Joshipura testified that he did not look into specific outage rates or reliability issues among the routing options, but acknowledged the Company's rebuttal testimony providing those statistics.⁸² The Company respectfully believes reliability must be a factor in the Commission's analysis and the Proposed I-66 Overhead Route provides a more reliable transmission option for the growing Haymarket Load Area.

5. The Proposed I-66 Overhead Route can be constructed at a reasonable cost.

The Proposed I-66 Overhead Route will cost approximately \$51.0 million, which is comprised of approximately \$30.2 million for transmission line work, and approximately \$20.8 million for substation work.⁸³ Alternatively, the other overhead options, Carver Road and Madison Alternative Routes, cost approximately \$61.9 million and \$67.8 million respectively.

⁸⁰ Ex. 46 (Rebuttal Testimony of Donald Koonce) at 3:3-6.

⁸¹ Ex. 46 (Koonce Rebuttal) at 12:8-12.

⁸² Tr. 282:19-283:6.

⁸³ Ex. 3 (Appendix) at 4.

And, the I-66 Hybrid Alternative Route costs, conservatively, \$166.7 million.⁸⁴ These cost estimates were not challenged by any party to the proceeding or Staff.

Staff acknowledges that based on cost comparison alone the Proposed I-66 Overhead Route is preferable.⁸⁵ Staff concludes that “if the cost associated with the hybrid is unacceptable, then the Staff recommends the I-66 overhead proposed route.”⁸⁶

6. The Proposed I-66 Overhead Route poses fewer construction impacts than the I-66 Hybrid Alternative Route.

The Company’s transmission system is comprised of approximately 6,490 miles of lines operating at voltages of 69 kV and above.⁸⁷ Of this total, 98.72% is overhead construction.⁸⁸ Underground transmission lines have been installed in the very limited number of cases where either there were no viable overhead routes available to meet customer load demands or the Company submitted an underground option as a legislatively-approved pilot or for the purpose of gaining further experience with underground construction.⁸⁹ Put simply, the Company has more experience with overhead construction. Additionally, overhead construction involves far fewer “unknowns,” is faster, less subject to cost overruns, and is far less disruptive to neighbors.⁹⁰

7. As between the Proposed I-66 Overhead Route and the I-66 Hybrid Alternative Route, only the overhead option can be built in time to meet the need date.

It is undisputed that the Proposed I-66 Overhead Route can be built by the June 2018 need date. Staff acknowledges that it should consider the need date for a project and that it is

⁸⁴ See Ex. 46 (Koonce Rebuttal) at 3:11-5:19 (explaining multiple issues likely to add costs to estimate for the I-66 Hybrid Alternative).

⁸⁵ Ex. 19 (Joshupura Direct) at 16:5-8; Tr. 282:9-15.

⁸⁶ Tr. 284:16-18.

⁸⁷ Ex. 46 (Koonce Rebuttal) at 2:15-16.

⁸⁸ Ex. 46 (Koonce Rebuttal) at 2:16-19.

⁸⁹ Ex. 46 (Koonce Rebuttal) at 3:6-10.

⁹⁰ See Ex. 46 (Koonce Rebuttal) at 8:8-12, 14:4-9, Rebuttal Schedule 2.

“quite possible” the I-66 Hybrid Alternative Route could not meet the target in-service date.⁹¹ Indeed, as discussed below, the Company’s analysis demonstrates that between the Proposed I-66 Overhead Route and I-66 Hybrid Alternative Route, only the overhead option can be constructed in time to meet the need date identified by the Company.

C. Opposition to the I-66 Overhead Route is based entirely on visual impacts and ignores other factors.

Even though Staff, upon questioning from the Hearing Examiner, denied treating this case and the analysis of this project any differently based on the driver of the need, it appears to have given “considerable,” i.e., “more” weight to respondent and impacted property owner concerns than it has in the past. For example, in the Company’s Skiffes Creek transmission application proceeding,⁹² Staff Witness McCoy recommended an overhead variation rather than the underground option based on the “level of existing impacts” in the James River area. He further noted that it would be “difficult” for the Commission to “require spending an additional \$310 to \$390 million dollars to underground the line.”⁹³ Despite the underground option in this proceeding costing an additional \$115 million, Mr. McCoy’s report here did not include such a caveat, though he eventually acknowledged it would be a similarly difficult decision during the hearing.⁹⁴

Staff Witness McCoy’s objections (and respondents’ and public witnesses’) to the Proposed I-66 Overhead Route are entirely based on potential impacts to the viewsheds to the homes that front I-66. The Company does not deny that residents to the north side of I-66 could

⁹¹ Tr. 283:10-284:1.

⁹² *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric facilities: Surry-Skiffes Creek 500 kV Transmission Line, Skiffes Creek-Wheaton 230 kV Transmission Line, and Skiffes Creek 500 kV-230 kV-115 kV Switching Station*, Case No. PUE-2012-00029 (filed June 11, 2012).

⁹³ McCoy Report in PUE-2012-00029 at 4:6-5:6. Mr. McCoy noted in that proceeding that his conclusion was agnostic to whether the underground line would satisfy reliability requirements.

⁹⁴ Tr. 207:6-16.

have a view of the overhead route if it is built, whether potentially of a tower or a conductor. But that view depends on the location and elevation where a person is standing, nearby landscaping, as well as the actual line features, which consist of a structure approximately every 700 feet.⁹⁵

Further, potential impact to the viewsheds of residences that abut an eventual eight-lane interstate highway cannot trump all other factors and do not justify spending an additional \$115 million on the Project, a cost that will be borne by all customers, including a party to this proceeding ODEC.⁹⁶ Not to mention that one of the Respondents who may have been the most visually impacted, Heritage, withdrew from the proceeding and their evidence is now not a part of this record leaving no respondent visually impacted by the potential viewshed of the Proposed I-66 Overhead Route.⁹⁷

Staff Witness Joshipura testified that “[u]ltimately the selection of the appropriate route requires a balancing of the impacts and the costs.”⁹⁸ And, as Company Witness Berkin testified, “at some point you have to make a judgment call and decide that [there will be a tradeoff], but that is going to depend on the character of the area.”⁹⁹ The I-66 Overhead Route reasonably minimizes adverse impact to scenic assets, historic resources and the environment of the Haymarket area. It is the most reliable solution, least cost solution, has the fewest construction impacts, and can be built in time to meet the need. Although it would have visual impacts to the I-66 corridor, the overhead route is collocated with an existing transportation corridor that is

⁹⁵ Tr. 587:1-589:8; Ex. 46 (Koonce Rebuttal) at 9:19.

⁹⁶ See Supplemental Comments of ODEC at 4-5 (June 17, 2016) (noting the costs of undergrounding transmission lines are extraordinarily high and because ODEC is responsible for approximately 8.5% of the costs of such projects, the I-66 Hybrid Alternative alone, if built, would add \$1.5 million/year in costs to ODEC’s customers).

⁹⁷ The withdrawal of Heritage illustrates the importance of not deviating from prior precedent on routing of transmission lines. Just because the catalyst for this Project was based on addition of large block load should have no relevance to how much “weight” to give any particular respondent’s or property owner’s concerns. Impartial application of the findings necessary to show the public convenience and necessity for any particular project is paramount so that no one particular individual interest provides a trump card over another individual interest or a transmission system need.

⁹⁸ Ex. 19 (Joshipura Direct) at 23:9-10.

⁹⁹ Tr. 598:8-10.

already impacted from a visual standpoint: The Proposed I-66 Overhead Route would be visually consistent with the developed character of the area and reasonably balances the many competing concerns raised in this proceeding.

D. There is no opposition to potential overhead route variations.

The Company also offered for the Commission's consideration two variations to the I-66 Overhead Route known as the Jordan Lane Variation and the Walmart Variation. These variations are described in Appendix section II.A.7 and depicted on II.A.7.2.

The Jordan Lane Variation has no known opposition. As noted in the rebuttal testimony of Company Witness Faison, the Company requests the Commission to approve the Proposed Route and, if approved, the Company will work with the landowners and localities to negotiate the necessary overhang easement, making the Jordan Lane Variation unnecessary. However, if the Company is unable to obtain such easements from landowners, the Town of Haymarket and/or the County within a reasonable amount of time, the Company requests the Commission to alternatively authorize construction of the Jordan Lane Variation¹⁰⁰ in its Final Order granting a certificate of public convenience and necessity in this proceeding.¹⁰¹

The Walmart Variation is preferred by FST, Staff and the Company. However, during the evidentiary hearing, Peter Cooper testified on behalf of the Cloverleaf Trust, which owns property on State Route 55 adjacent to the Walmart property that is commonly known as the Clavelli property because LJ Clavelli is the trustee.¹⁰² Mr. Cooper was concerned with the potential impact the Walmart Variation would have on future retail development on the Clavelli

¹⁰⁰ The Company requests this additional authorization to the extent deemed necessary by the Commission. The Jordan Lane Variation is a minor route variation to the Proposed I-66 Overhead Route that would involve the placement of one structure inside the proposed sound wall along I-66 and as such may be viewed by the Commission as a minor modification and no additional authorization would be needed for its construction. Ex. 3 (Appendix) at 48.

¹⁰¹ Ex. 45 (Rebuttal Testimony of Diana Faison) at 9:17-10:1.

¹⁰² Tr. 25:16-19.

property. As a result, the Company presented a "variation on the Walmart Variation" or the "Clavelli Variation," as depicted on Exhibit 49. This Clavelli Variation would move the angle structure originally planned to be cited on the Clavelli property across the highway to the south of I-66. The Company did not originally propose such an alignment because it necessitates crossing the highway at an angle, but believes in this circumstance it is possible and reasonable and would work with the developer and the Virginia Department of Transportation ("VDOT") on the engineering should the Commission ultimately select the Proposed I-66 Overhead Route.¹⁰³

V. THE I-66 HYBRID ALTERNATIVE ROUTE SHOULD BE REJECTED.

The I-66 Hybrid Alternative Route should be rejected as a potential alternative because the record shows that it has greater construction impacts, is less reliable, is significantly more costly, cannot meet the need date, and would potentially have a detrimental economic impact on planned economic development projects in the area. As explained below, the adverse impact on scenic assets, historic districts and environment of the area concerned are not substantially different than the Proposed I-66 Overhead Route, and the factors of reliability, cost, temporary construction impacts and detriment to economic development support rejection of the I-66 Hybrid Alternative Route.

A. The I-66 Hybrid Alternative Route would not provide the same level of reliable service as the Proposed I-66 Overhead Route.

It is uncontested that the I-66 Hybrid Alternative Route could meet the need for the Project,¹⁰⁴ but it is also uncontested that this alternative, which consists of both an overhead portion and an underground portion,¹⁰⁵ would be less reliable than the Proposed I-66 Overhead

¹⁰³ Tr. 585:9-586:2.

¹⁰⁴ See Ex. 19 (Joshipura Direct) at 12:10-15.

¹⁰⁵ Ex. 3 (Appendix) at 16-17. The overhead portion of the I-66 Hybrid Alternative Route will run from Haymarket Junction for approximately 2.6 miles on new right-of-way to a new station near the intersection of I-66 and U.S. 29, where the line will transition ("transition station") from overhead to underground. From the transition station, this I-66 Hybrid Alternative Route will run underground for approximately 3.2 miles along new right-of-way immediately

Route.¹⁰⁶ As Company Witness Koonce stated, "Underground lines have an inherent less degree of reliability than overhead lines; *i.e.*, overhead lines are more reliable than underground lines."¹⁰⁷ Mr. Koonce's testimony shows that underground transmission lines are more difficult to repair, maintain, and operate in comparison to overhead transmission lines and therefore create challenges for the Company to provide adequate and reliable electrical service to its customers.

First, failures causing outages with underground transmission lines should be expected,¹⁰⁸ and they are difficult to repair when they happen.¹⁰⁹ Because the transmission line is underground, special fault equipment must be used to identify the distance to the fault. Once the damaged section is identified, the site must be excavated to provide workers access to the damaged cable. Then, depending on the nature of the damage, the cable must be repaired by either splicing the cable or by replacing the entire damaged section.¹¹⁰ To further complicate matters, these repairs typically are conducted by specialized contractors, causing added delay to the repair and in turn delaying the restoration of power to customers.¹¹¹ And unless there is adequate access to the repair location for the specialized equipment necessary to repair or replace the damaged cable, the repair process can take even longer to complete.¹¹² According to Mr. Koonce, repairs to underground transmission cables can take a week or longer to finish¹¹³ in contrast to overhead repairs that can be completed in a matter of hours.¹¹⁴

adjacent to I-66, terminating at the proposed Haymarket Substation. Each circuit will be constructed in a concrete-encased duct bank adjacent to and underneath portions of I-66.

¹⁰⁶ See Ex. 46 (Koonce Rebuttal) at 10:13-18.

¹⁰⁷ Tr. 520:15-17.

¹⁰⁸ Tr. 533:3-4.

¹⁰⁹ Ex. 46 (Koonce Rebuttal) at 10:17-18.

¹¹⁰ Ex. 46 (Koonce Rebuttal) at 11:5-11.

¹¹¹ Ex. 46 (Koonce Rebuttal) at 11:11-13.

¹¹² Tr. 533:9-12.

¹¹³ Ex. 46 (Koonce Rebuttal) at 11:13-18.

¹¹⁴ Ex. 46 (Koonce Rebuttal) at 10:17-18.

In addition to repair challenges, underground transmission lines also pose unique maintenance demands. As Mr. Koonce explained, the Company's current policy is to send maintenance personnel from terminal to terminal once each week to patrol and inspect the underground right-of-way,¹¹⁵ and this weekly patrol requirement would continue for the life of the facilities.¹¹⁶ This patrolling requirement places a greater burden on the Company in conducting routine maintenance, but it also poses a potential hardship on customers living adjacent to underground lines who must experience an increased frequency of repair crews directly adjacent to their homes. According to Mr. Koonce, when it comes to underground transmission lines, "it's not out of sight out of mind."¹¹⁷

In addition to repair and maintenance challenges, underground transmission lines can create operational challenges due to their inherent capacitance issues. Underground cables have a significantly higher capacitance relative to overhead cables. As the effect of capacitance increases during periods of light electrical load, area voltage increases. Thus, when the power usage on the system is low, underground lines can raise the voltage to unacceptable levels, which is usually during milder temperatures in the fall and spring months.¹¹⁸ When voltage rises to an unacceptable level, the Company may need to close or switch out a line, which is not always feasible and is never preferred.¹¹⁹

In addition to capacitance issues, underground lines do not employ automatic reclosing of circuit breakers. As Company Witness Koonce explained, automatic reclosing is frequently used when overhead lines experience faults. The circuit breakers open to protect the overhead line when the fault occurs, and then immediately "reclose" so that if the line has not been damaged,

¹¹⁵ Tr. 526:7-14.

¹¹⁶ Tr. 527:6-8.

¹¹⁷ Tr. 526:10-11.

¹¹⁸ Ex. 46 (Koonce Rebuttal) at 12:15-17.

¹¹⁹ Ex. 46 (Koonce Rebuttal) at 12:18-13:2.

the power flow can continue and the power is interrupted only momentarily. However, automatic reclosing is not typically used with underground transmission cables. Because a fault will likely result in damage to the cable and its surrounding insulation, immediate reclosing of the circuit would only cause more damage to the cable.¹²⁰ Consequently, whenever there is a fault on an underground line, the circuit breakers will remain open until the line can be inspected, leading to extended circuit outages when a fault occurs.

The contrast in reliability performance between overhead and underground transmission lines can be illustrated in the Company's unplanned outage rate. For overhead lines, the unplanned outage rate for 230 kV overhead transmission lines is 0.66 outages per hundred miles per year for sustained outages. In contrast, current unplanned outage rate for underground transmission lines of all rates is 1.30 outages per hundred miles,¹²¹ which is roughly twice the outage rate for overhead lines.¹²² In other words, "overhead lines have twice the reliability of underground lines,"¹²³ which means that customers being served by underground transmission facilities would not be served as reliably as customers served via overhead lines.¹²⁴

B. The I-66 Hybrid Alternative Route is significantly more costly than the Proposed I-66 Overhead Route.

In addition to posing reliability challenges for the Company and its customers, the I-66 Hybrid Alternative Route would also be substantially more costly than any other alternative for the Project.¹²⁵ It is uncontested that the Hybrid Alternative Route is three times more expensive

¹²⁰ Ex. 46 (Koonce Rebuttal) at 12:2-7.

¹²¹ It is for these reliability concerns, along with other issues, that underground transmission lines are rare in the Company's system. In fact, all the 6,490 miles of transmission lines in the Company's service territory, only 1.28% are underground facilities. Ex. 46 (Koonce Rebuttal) at 2:15-19.

¹²² Ex. 46 (Koonce Rebuttal) at 12:8-13.

¹²³ Tr. 520:22-23.

¹²⁴ Tr. 548:13-21.

¹²⁵ Ex. 3 (Appendix) at 14-17.

than the I-66 Overhead Route (nearly \$167 million in comparison to \$51 million),¹²⁶ and Staff recommends that if the Commission finds that the significantly higher cost is unacceptable, then the I-66 Hybrid Alternative Route should be rejected and the Proposed I-66 Overhead Route should be selected.¹²⁷

The record also shows that the Company's \$166.7 million cost estimate is conservative, perhaps by a considerable degree. Company Witness Koonce's testimony identified several additional considerations based on a recent field inspection of the project area that are likely to increase the actual cost of the I-66 Hybrid Alternative Route.¹²⁸ First, VDOT's newly constructed drainage ditches and storm water retention ponds along the I-66 sound wall area would need to be excavated and graded by the Company to accommodate both the underground cable construction and to build access points for continued line maintenance. This would add time and additional cost to the construction of the I-66 Hybrid Alternative Route.¹²⁹ Second, Mr. Koonce identified several additional boring locations for the underground portion of the I-66 Hybrid Alternative Route that would add to the cost of the original construction estimate, specifically at Catharpin Road on the south side of I-66 and the crossing of State Route 55 just west of its intersection with U.S. 15.¹³⁰ He also noted that a third bored crossing of Old Carolina Road just north of I-66 may be necessary because VDOT may be unwilling to close lanes for an open cut crossing.¹³¹ Third, Mr. Koonce noted that if the Company encounters rock – which appears likely based on his field inspection¹³² – then construction time and costs will be greater than are currently estimated. Mr. Koonce noted that the Company's current estimate accounts

¹²⁶ Ex. 19 (Joshipura Direct) at 16:6-8.

¹²⁷ Ex. 19 (Joshipura Direct) at 23:14-17.

¹²⁸ See Ex. 46 (Koonce Rebuttal) at 3:15-19.

¹²⁹ Ex. 46 (Koonce Rebuttal) at 4:7-12.

¹³⁰ Ex. 46 (Koonce Rebuttal) at 4:13-17.

¹³¹ Ex. 46 (Koonce Rebuttal) at 4:17-21.

¹³² Ex. 46 (Koonce Rebuttal) at 5:9-12.

for only encountering rock for about 2% of the total trenching length of the route. His field inspection, however, leads him to believe that rock “will be found along the majority of the route and roughly half of the volume of excavated material would be rock.”¹³³ If the excavated backfill has to be disposed of because of its high-rock content, then obtaining other suitable material for trenching backfill would further increase costs. Most of the aforementioned issues were not known to the Company at the time it prepared its cost estimate¹³⁴ and were therefore not included in it.¹³⁵

Another portion of the Company’s cost estimate that may prove to be underestimated is the land associated with the transition station, which is to be located on a parcel owned by Southview 66 at the southwest corner of the I-66 and U.S. 29 intersection (“Parcel Two”). The Company had estimated the cost to acquire Parcel Two to be approximately \$3.2 million,¹³⁶ but testimony from Southview 66 Witness Fuccillo indicates that the cost to acquire Parcel Two, presumably through condemnation, could be closer to approximately \$17-20 million.¹³⁷

The Company’s past experience with the Garrisonville project is also instructive to analyze. The Garrisonville project,¹³⁸ which involved the construction of an underground transmission line, featured an initial cost estimate of \$82.3 million for the construction of an underground 230 kV transmission line.¹³⁹ However, unforeseen costs in the form of adverse soil conditions, large amounts of rock in the right-of-way, unfavorable topography, and interstate

¹³³ Ex. 46 (Koonce Rebuttal) at 5:11-12.

¹³⁴ Tr. 554:2-7.

¹³⁵ Ex. 46 (Koonce Rebuttal) at 5:16-19.

¹³⁶ Tr. 525:7-14.

¹³⁷ Tr. 146:23-147:8, 524:23-525:7.

¹³⁸ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For a certificate of public convenience and necessity for facilities in Stafford County: Garrisonville 230 kV Transmission Line and 230 kV-34.5kV Garrisonville Switching Substation*, Case No. PUE-2006-00091 (filed Aug. 30, 2006).

¹³⁹ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For a certificate of public convenience and necessity for facilities in Stafford County: Garrisonville 230 kV Transmission Line and 230 kV-34.5kV Garrisonville Switching Substation*, Case No. PUE-2006-00091, 2008 S.C.C. Ann. Rept. 343, 346, Final Order (Apr. 8, 2008).

crossings resulted in significant increases to the cost estimate for that project.¹⁴⁰ Mr. Koonce testified that the construction process used in the Garrisonville project is similar to the process that would be used for the I-66 Hybrid Alternative Route,¹⁴¹ and he is concerned that many of the issues that led to cost overruns in the Garrisonville project exist with the I-66 Hybrid Alternative Route, as well.¹⁴²

C. The I-66 Hybrid Alternative Route would generate substantial impacts during construction.

The record also shows that the construction of the underground portion of the I-66 Hybrid Alternative Route will also have a substantial impact on the community and nearby residents.

First, excavation operations to make room for the duct banks that will house the underground cables would cause significant dust and noise. In contrast to overhead construction, where excavation activity is limited to small-diameter drilled holes for each structure approximately every 700 feet, underground construction requires either an open trench or a boring tunnel for the length of the underground portion of this alternative.¹⁴³ The open trenching excavation process would require truckloads of material to be excavated and disposed of offsite, generating substantial dust and debris in the proximity of the construction area.¹⁴⁴

In addition, the boring process will create significant noise. The Company will need to bore in multiple locations along the underground route, primarily with underground crossings of I-66 and other highly-trafficked roadways. The noise level associated with boring can be extreme, and the Company has received substantial complaints from nearby residents in past

¹⁴⁰ Ex. 46 (Koonce Rebuttal) at 9:22-10:3; *see also Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For a certificate of public convenience and necessity for facilities in Stafford County: Garrisonville 230 kV Transmission Line and 230 kV-34.5kV Garrisonville Switching Substation*, Case No. PUE-2006-00091, Motion for Extension of Construction and In-Service Date at 2-5 (Oct. 27, 2010).

¹⁴¹ Tr. 559:7-13.

¹⁴² Ex. 46 (Koonce Rebuttal) at 10:1-3.

¹⁴³ Ex. 46 (Koonce Rebuttal) at 8:8-10.

¹⁴⁴ Ex. 46 (Koonce Rebuttal) at 8:10-12.

undergrounding projects from the noise associated with directional boring.¹⁴⁵ However, due to the high cost of directional boring equipment and to emplace conduits before the tunnel collapses, the equipment is sometimes kept in operation around the clock to minimize construction time.¹⁴⁶ In this case, sound mitigation would be difficult. For example, in the Garrisonville construction project discussed *supra*,¹⁴⁷ the Company had to place large sound walls made of hay to help mitigate the extensive sound due to the drilling operations.¹⁴⁸ Due to space restrictions, however, Company Witness Koonce does not feel that a similar sound barrier could be used in this case.¹⁴⁹ In contrast, Mr. Koonce believes that the overhead route poses no such sound issues.¹⁵⁰

Other significant temporary impacts will be necessary to construct the underground portion of the I-66 Hybrid Alternative Route. For example, the Company will need to clear large temporary staging areas to position boring equipment and stage the steel casing and ducts to line the underground borings.¹⁵¹ Further, the Company will need to build sufficient access roads to accommodate the heavy equipment used to construct and install the underground cable. Large reels that hold the cable can weigh in excess of 60,000 pounds, so substantial access roads adequate to support such weight will need to be constructed to accommodate the trucks holding these reels.¹⁵² Due to the limited space between the underground right-of-way and existing homes, these access roads will need to be constructed in close proximity to homes and

¹⁴⁵ Ex. 46 (Koonce Rebuttal) at 9:6-15.

¹⁴⁶ Ex. 46 (Koonce Rebuttal) at 9:8-11. The Company may need to seek special permission from VDOT to be able to operate the equipment in this manner.

¹⁴⁷ See *supra* n. 138 and accompanying text.

¹⁴⁸ Tr. 558:21-559:13.

¹⁴⁹ Ex. 46 (Koonce Rebuttal) at 9:15-16.

¹⁵⁰ Ex. 46 (Koonce Rebuttal) at 9:17-19.

¹⁵¹ See Ex. 46 (Koonce Rebuttal) at 6:20-7:3.

¹⁵² Ex. 46 (Koonce Rebuttal) at 9:1-5.

residents.¹⁵³ It is also important to note that the underground construction process is likely to take two or more years to complete.¹⁵⁴

D. It is uncontested that the I-66 Hybrid Alternative Route cannot meet the Project need date.

In addition to being less reliable, more costly, and substantially more impactful to residents and the environment during its construction, it is uncontested that the I-66 Hybrid Alternative Route cannot be constructed by need date identified by the Company.¹⁵⁵ The Company estimates that it will take 32 months to construct the I-66 Hybrid Alternative Route.¹⁵⁶ With a requested in-service date of June 2018, it is simply not possible to complete this alternative in time to meet the ramp schedule provided by the Customer that led to the in-service date.¹⁵⁷

The record shows, however, that the I-66 Hybrid Alternative Route's 32-month construction schedule is only a "best-case" scenario.¹⁵⁸ It is more likely, based on the Company's experience with underground transmission line construction, albeit limited, that the I-66 Hybrid Alternative Route will take longer than 32 months to construct. Company Witness Koonce estimates that the construction schedule could take as long as 40 months and would require close coordination with VDOT.¹⁵⁹ His testimony indicated that several factors in the first stage of underground construction (constructing the duct bank) could delay construction: (1) the crossing of I-66 at two locations; (2) four horizontal borings under I-66 that will reach between 350 to 400 feet in length; (3) confined areas on the western crossing of I-66, which would complicate installation; (4) limited space for the staging of boring equipment; and (5) limited

¹⁵³ See Tr. 530:21-532:23; see also *infra* p. 41 (discussion regarding permanent access roads).

¹⁵⁴ Ex. 46 (Koonce Rebuttal), Rebuttal Schedule 2.

¹⁵⁵ See Tr. 283:7-284:1.

¹⁵⁶ Tr. 521:24-522:2.

¹⁵⁷ Tr. 522:3-9.

¹⁵⁸ Tr. 561:6-10.

¹⁵⁹ Tr. 521:10-21.

space for a laydown yard to stage steel casing and associated ducts.¹⁶⁰ In the second stage of construction (installing the cable), the construction schedule could be delayed if the trenching rate slows and if VDOT imposes further restrictions on the work schedule so as not to interfere with peak traffic on I-66.¹⁶¹

As a point of comparison, Mr. Koonce testified that the Company's Garrisonville project experienced a schedule overrun of nearly 40%; the actual construction process took 50 months to complete, in comparison to the original construction estimate of 36 months.¹⁶² Company Witness Koonce's testimony states that he has similar construction schedule concerns with the I-66 Hybrid Alternative Route in this proceeding.¹⁶³

E. The I-66 Hybrid Alternative Route and the Proposed I-66 Overhead Route do not have substantially different levels of impact on scenic assets, historic district and environment of the area concerned.

Although Staff Witness McCoy states that the I-66 Hybrid Alternative Route has fewer visual impacts than the Proposed I-66 Overhead Route, the record makes clear that the I-66 Hybrid Alternative Route and the Proposed I-66 Overhead Route do not have substantially different levels of impact to the scenic assets, historic districts and environment of the area concerned.¹⁶⁴

1. Like the Proposed I-66 Overhead Route, the I-66 Hybrid Alternative Route will have minimal impact on "scenic assets."

Although portions of the I-66 Hybrid Alternative Route will be underground, this route alternative will have visual impacts. As noted *supra*,¹⁶⁵ the I-66 Hybrid Alternative Route has an overhead component that would traverse 2.6 miles from Haymarket Junction to the proposed

¹⁶⁰ Ex. 46 (Koonce Rebuttal) at 6:20-7:4.

¹⁶¹ See Ex. 46 (Koonce Rebuttal) at 7:10-19.

¹⁶² Ex. 46 (Koonce Rebuttal) at 10:4-6.

¹⁶³ See Ex. 46 (Koonce Rebuttal) at 10:2-6.

¹⁶⁴ See Va. Code 56 § 46.1 B.

¹⁶⁵ See *supra* n. 105 and accompanying text.

transition station¹⁶⁶ located at the southwest corner of the intersection of U.S. 29 and I-66. Staff acknowledges that these two facilities – the overhead portion and the transition station – would have visual impacts similar to those of the overhead route to the area east of the transition station.¹⁶⁷ More specifically, the transition station will have 30-foot tall structures within its location, along with backbones that would be at least 75-feet tall to support the line as it transitions from overhead to underground.¹⁶⁸ Staff acknowledged that there will be a visual impact to adjacent properties from this transition station.¹⁶⁹

In addition, along the buried portion of the I-66 Hybrid Alternative Route, the Company will need to clear and maintain a 40-foot wide permanent easement. This right-of-way would need to be permanently cleared and maintained to provide access to the manhole locations located every 2,000 feet along the right-of-way.¹⁷⁰ The Company would also need to construct permanent access roads used to conduct any repairs or necessary maintenance along the line and the route. Because of the Company's weekly patrolling requirements, Company personnel are likely to use these roads with some frequency to conduct maintenance and make operational repairs.¹⁷¹

Nevertheless, although there are visual impacts for the I-66 Hybrid Alternative Route, the impact to "scenic assets" is similarly minimal when compared to the Proposed I-66 Overhead Route because there are minimal scenic assets in the area.¹⁷²

¹⁶⁶ Ex. 3 (Appendix) at 16.

¹⁶⁷ Tr.185:15-22.

¹⁶⁸ Tr.178:14-23; Ex. 48 (Berkin Rebuttal) at 17:22-18:3.

¹⁶⁹ Tr.178:24-179:2.

¹⁷⁰ Ex. 48 (Berkin Rebuttal) at 17:11-16.

¹⁷¹ See Tr. 526:7-22.

¹⁷² See *supra* p. 23 (discussion on impact to scenic assets associated with Proposed I-66 Overhead Route).

2. Although slight, the I-66 Hybrid Alternative Route will likely have greater impact to historic assets.

The I-66 Hybrid Alternative Route will likely result in slightly greater impacts to historic resources in the Project area than the Company's Proposed I-66 Overhead Route. According to Company Witness Berkin, the I-66 Hybrid Alternative Route would actually have a greater impact on archaeological resources because its construction would likely require trenching through a small portion of an archaeological site.¹⁷³ While the Proposed I-66 Overhead Route could span this site, the underground route, with its duct bank, would require trenching through the site.¹⁷⁴ Staff Witness McCoy also indicates that the I-66 Hybrid Alternative Route is likely to have a greater potential impact to archeological sites than the Proposed I-66 Overhead Route.¹⁷⁵

Otherwise, as reflected in the DHR review, the impacts of the Proposed I-66 Overhead Route and the I-66 Hybrid Alternative Route on historic resources are not dramatically different.¹⁷⁶ As discussed *supra*, the Proposed I-66 Overhead Route has a known visual impact to local battlefields, but as Staff Witness McCoy noted, these battlefields are already visually compromised by the existing developed characteristics of the area.¹⁷⁷ He agreed that the battlefields, as well as other historic sites in the area, are already "encumbered by modern development."¹⁷⁸ As Mr. McCoy noted, "I think some of the battlefield issues are really the same with overhead and hybrid just because of where they are located"¹⁷⁹ He also testified that the impacts to the Manassas battlefields are the same between the Proposed I-66 Overhead

¹⁷³ Ex. 48 (Berkin Rebuttal) at 18:7-10.

¹⁷⁴ Ex. 48 (Berkin Rebuttal) at 11:2-5.

¹⁷⁵ Ex. 17 (McCoy Direct) at 14:6-9.

¹⁷⁶ Ex. 48 (Berkin Rebuttal) at 14:11-16.

¹⁷⁷ Ex. 17 (McCoy Direct) at 8:3-7; Tr.194:16-195:3; *see also supra* p. 24 (discussion on impact to battlefields associated with Proposed I-66 Overhead Route).

¹⁷⁸ Tr. 196:8-17, 195:4-15.

¹⁷⁹ Tr.193:8-10.

Route and the I-66 Hybrid Alternative Route.¹⁸⁰ Therefore, although slight, the impact to historic resources and potential impacts to archaeological resources is greater with the I-66 Hybrid Alternative Route.

3. The impacts on the environment are either the same or favor the Proposed I-66 Overhead Route.

Staff also concurs that the I-66 Hybrid Alternative Route will result in a permanent impact to potential wetlands along the route.¹⁸¹ And the record shows that the wetlands impacts associated with the I-66 Hybrid Alternative Route are essentially comparable to the Proposed I-66 Overhead Route at roughly 5.9 acres for each alternative.¹⁸² However, the nature of the impact from the I-66 Hybrid Alternative Route is different than the impact from the Company's Proposed Route. The I-66 Hybrid Alternative Route would be more intrusive to wetlands, requiring trenching and soil excavation to construct the concrete duct banks for the transmission cable.¹⁸³ During this trenching process, wetland hydrology would be disrupted, seed banks disturbed, and wetland functions and operability changed, which would be more impactful to wetlands than with the construction of an overhead transmission line.¹⁸⁴

In contrast, overhead transmission structures can typically be placed outside of wetlands, and timber mats can be used to avoid alteration of soils, seedbank, or hydrology during construction operations.¹⁸⁵ Staff also acknowledged that the wetland impacts associated with the Proposed I-66 Overhead Route would be considerably reduced due to the ability of an overhead

¹⁸⁰ Tr. 196:2-5.

¹⁸¹ Tr. 191:3-6.

¹⁸² Ex. 48 (Berkin Rebuttal) at 5:1-6.

¹⁸³ Ex. 48 (Berkin Rebuttal) at 4:7-10.

¹⁸⁴ Ex. 48 (Berkin Rebuttal) at 4:14-17.

¹⁸⁵ Ex. 48 (Berkin Rebuttal) at 4:16-20.

line to span wetlands.¹⁸⁶ Thus, the I-66 Hybrid Alternative Route would impact wetlands in a much more significant and permanent way than the Proposed I-66 Overhead Route.¹⁸⁷

The remaining environmental impact considerations – forest clearing and endangered species – are roughly the same as between the I-66 Hybrid Alternative Route and the Proposed I-66 Overhead Route. The I-66 Hybrid Alternative Route crosses nearly the same amount of forested lands as the Proposed I-66 Overhead Route,¹⁸⁸ and as with the Proposed I-66 Overhead Route, there are no endangered species expected to be impacted by the I-66 Hybrid Alternative Route.¹⁸⁹

F. The I-66 Hybrid Alternative Route may harm economic development.

The record also makes clear that the I-66 Hybrid Alternative Route may harm planned economic development in the Haymarket Load Area. For example, the transition station for the I-66 Hybrid Alternative Route would need to be sited on a parcel of property currently owned by Southview 66.¹⁹⁰ By siting the transition station there, Southview 66 contends, and the Company agrees, that it would not be able to complete its plans for that parcel (“Parcel Two”), which includes the development of a hotel and other retail space.¹⁹¹ Furthermore, the I-66 Hybrid Alternative Route right-of-way would impact Southview 66’s adjoining parcel (“Parcel One”), where it currently has plans for an extensive mixed commercial and residential development

¹⁸⁶ Ex. 17 (McCoy Direct) at 10:11-21.

¹⁸⁷ The DEQ issued a Revised Wetland Impact Consultation on June 2, 2016 (correcting the November 30, 2015 consultation) and changed its recommendation from the Proposed I-66 Overhead Route to the I-66 Hybrid Alternative Route because it had fewer areal wetland impacts. See DEQ letter regarding Revised Wetland Impact Consultation (June 17, 2016). This information was based on the information presented in Table 4-1 of the Company’s Environmental Routing Study, which stated that the Proposed I-66 Overhead Route could impact 5.9 acres of wetlands in comparison to the I-66 Hybrid Alternative Route, which could impact 5.1 acres of wetlands. Ex. 10 (NRG Environmental Routing Study) at 62. As explained by Company Witness Berkin, this comparison did not include the wetland impacts of the transition station for the I-66 Hybrid Alternative Route, which is 0.8 acre. Thus, the total estimated wetlands impacts along the I-66 Hybrid Alternative Route is 5.9 acres, which is equal to the 5.9 acres estimated for the Proposed I-66 Overhead Route. Ex. 48 (Berkin Rebuttal) at 3:10-5:6.

¹⁸⁸ Ex. 10 (NRG Environmental Routing Study) at 62, 88.

¹⁸⁹ Ex. 10 (NRG Environmental Routing Study) at 36.

¹⁹⁰ Ex. 11 (Pre-Filed Direct Testimony of Arthur Fuccillo) at 1:6-2:20.

¹⁹¹ Ex. 11 (Fuccillo Direct) at 3:46-49; Ex. 48 (Berkin Rebuttal) at 5:13-21.

along I-66.¹⁹² Indeed, Southview 66 Witness Fuccillo testified that the I-66 Hybrid Alternative Route would lead to Southview suffering “a loss of economic value . . . given the Property’s premier location as a gateway into the Gainesville market.”¹⁹³ Specifically, he estimated the land value associated with Parcel Two would be approximately \$17-20 million.¹⁹⁴ For the estimated loss to Parcel One,¹⁹⁵ Mr. Fuccillo stated that the I-66 Hybrid Alternative Route’s right-of-way would likely require “having to move the buildings back,” leading to reduced square footage to the development because of certain parking ratios that are required with buildings.¹⁹⁶ His testimony indicated that I-66 Hybrid Alternative Route would lead to the loss of significant square footage for the planned and nearly approved development, at the cost of approximately \$50 to \$75 per square foot.¹⁹⁷

In addition to the I-66 Hybrid Alternative Route’s harmful economic impact on Southview 66’s development, the I-66 Hybrid Alternative Route is also expected to adversely impact the planned development of John Marshall Commons and Village Place. John Marshall Commons is a 22.4-acre commercial project with plans for 245,000 square feet of retail, office, and flex space. Village Place is a 47.6-acre parcel located between John Marshall Highway and the Norfolk Southern Railroad that it is projected to have nearly 650,000 square feet of commercial development and residential units. Public comments by Mr. Joseph J. Contrucci stated that the right-of-way for the I-66 Hybrid Alternative Route would take approximately 20,000 square feet of planned and approved development space from these projects, causing the

¹⁹² Tr. 80:11-16, 136:4-14; Ex. 11 (Fuccillo Direct) at 3:55-58.

¹⁹³ Ex. 11 (Fuccillo Direct) at 2:26-30.

¹⁹⁴ Tr. 146:23-147:8.

¹⁹⁵ Tr. 147:13-22.

¹⁹⁶ Tr. 147:14-22.

¹⁹⁷ Tr. 147:25-148:7. Mr. Fuccillo stated that Southview 66’s current development plan is for approximately 1 million square feet of commercial development. Tr. 80:9-10. He indicated Lerner filed and obtained permission from the Army Corps of Engineers based on the wetlands impact for the planned development (Tr. 130:14-23) and filed with VDOT and Prince William County, which is “nearing or at completion and at approval.” Tr. 131:13-21.

owners "serious financial loss."¹⁹⁸ Mr. Contrucci's letter makes clear that the I-66 Hybrid Alternative Route would harm the scope and scale of this development and, as a consequence, would likely have an adverse impact on potential tax revenue to Prince William County.¹⁹⁹

VI. THE REMAINING ROUTE ALTERNATIVES ARE EITHER NOT VIABLE OR MORE IMPACTFUL AND EXPENSIVE THAN THE PROPOSED I-66 OVERHEAD ROUTE

As part of its Application, the Company considered several route alternatives for the Project. In addition to the Proposed Route and the I-66 Hybrid Alternative Route, the Company analyzed and evaluated three other fully developed route alternatives: the Railroad, Madison, and Carver Road Routes.²⁰⁰ It is uncontested that these alternatives could satisfy the electrical need for the Project and would be less costly than the I-66 Hybrid Alternative Route. However, the record makes clear that these alternatives are either not viable or would not reasonably minimize adverse impacts as compared to the Proposed I-66 Overhead Route and therefore are not suitable alternatives to the Company's Proposed Route.

A. The Railroad Alternative Route would likely have been the Company's preferred route, but it is no longer viable.

The Railroad Alternative Route is a 5.7-mile double circuit transmission line between Haymarket Junction and the proposed Haymarket Substation. From Haymarket Junction, this route would follow the Norfolk Southern Railroad, traverse through the town of Haymarket, and terminate at the new Haymarket Substation. This route was identified initially as a route that

¹⁹⁸ Public Comments, Letter from Joseph Contrucci, Esq. on behalf of John Marshall Commons and Gainesville Village Place, with Exhibits, at 2 (June 16, 2016).

¹⁹⁹ Public Comments, Letter from Joseph Contrucci, Esq. on behalf of John Marshall Commons and Gainesville Village Place, with Exhibits, at 1-3 (June 16, 2016). Mr. Contrucci noted that the owners of John Marshall Commons and Village Place have collectively paid over \$1.4 million in real estate taxes to the County since 1986.

²⁰⁰ The Company also analyzed three additional transmission alternatives: Wheeler-Haymarket 230 kV Double Circuit Loop ("Wheeler Alternative Route"); Wheeler-Haymarket 230 kV Single Circuit Line and a Haymarket-New Road 230 kV Single Circuit Line ("New Road Alternative Route"); and a New Road-Haymarket 230 KV Double Circuit Loop ("Double Circuit Portion of New Road Alternative Route"). These alternatives were considered and rejected due to higher cost, excessive environmental impacts, or inferiority as an electrical solution. See Ex. 3 (Appendix) at 14-16. Staff agreed with the Company's assessment that these three alternatives should be rejected from consideration. Ex. 19 (Joshiapura Direct) at 13:15-17, 14:12-13, 15:9-11.

could reasonably minimize impacts and was a potential route that did not parallel the I-66 right-of-way and that represented an opportunity to maximize co-location with the railroad line.²⁰¹

But for an open space easement gifted from Somerset Crossing to Prince William County, the Railroad Alternative Route would likely have been the Company's proposed route for the Project.²⁰² The Railroad Alternative Route not only could meet the need, but it also seemed to be the route that could reasonably minimize adverse impacts to the area.²⁰³ While the wetlands impacts on the Railroad Alternative Route were greater than other alternatives, the route did offer many advantages.²⁰⁴ First, this route provided collocation opportunities because it would be sited alongside the existing infrastructure of the Norfolk Southern Railroad.²⁰⁵ Second, this route had significantly fewer impacts on adjacent residences because it is the only route (including the Proposed I-66 Overhead and the I-66 Hybrid Alternative Routes) that has no residences or dwellings within 200 feet of the edge of its proposed right-of-way.²⁰⁶ Third, the heavily-wooded area along the Railroad Alternative Route would provide a screen of trees on either side of the line to minimize visual impacts.²⁰⁷

However, property along the Railroad Alternative Route was gifted by Somerset Crossing to the Prince William County Board of Supervisors as an open space easement, which removed it as a viable alternative route without County consent.²⁰⁸ The easement stipulates that "no use shall be made of, nor shall any improvement be made within the open space easement area,

²⁰¹ Ex. 10 (NRG Environmental Routing Study) at 6; Ex. 10 (Thommes Direct) at 9:5-14.

²⁰² Tr. 601:2-602:12.

²⁰³ Ex. 10 (Thommes Direct) at 9:15-18.

²⁰⁴ Tr. 599:12-17.

²⁰⁵ Tr. 599:1-11.

²⁰⁶ Ex. 48 (Berkin Rebuttal) at 9:1-4.

²⁰⁷ Tr. 599:1-11.

²⁰⁸ The Company included the Railroad Route for public notice and consideration by the Commission pending affirmative consent or rejection by the County.

without prior written authorization of the County.”²⁰⁹ Although the precise reasons remain unclear, it appears that Somerset Crossing gifted the property to the County for the express purpose of blocking the construction of the Railroad Alternative Route.²¹⁰

The record shows that the Railroad Alternative Route is no longer a viable alternative for the Project. Prince William County has made it clear that it has no intention to grant an overhead easement to construct the Railroad Alternative Route.²¹¹ In fact, Mr. Curt Spear, on behalf of the Board of Supervisors stated: “I would like to advise any parties to this proceeding that the Board will not consent to the use of its Open-Space Easement for the installation of transmission lines. It is the Board’s hope that this will end any further consideration of the Railroad Route as a viable route.”²¹²

B. The Carver Road and Madison Alternative Routes should not be selected by the Commission.

The Carver Road and Madison Alternative Routes remain under consideration for the Project;²¹³ however, it is uncontested that these routes should not be selected because they will involve greater adverse impacts and costs than the Proposed I-66 Overhead Route.

The Carver Road Alternative Route is a 6.7-mile double circuit transmission line between Haymarket Junction and the proposed Haymarket Substation. From Haymarket Junction, this alternative follows the similar path as the Proposed I-66 Overhead Route for approximately 2.1 miles until it crosses U.S. 29. It then crosses south of I-66 and heads in a southwesterly direction to Carver Road. From there, the Carver Road Alternative continues in a general northwesterly direction and terminates at the proposed Haymarket Substation.²¹⁴ This route was developed to

²⁰⁹ Ex. 45 (Faison Rebuttal) at 7:16-18.

²¹⁰ Tr. 601:25-602:7.

²¹¹ Ex. 45 (Faison Rebuttal) at 8:12-23, Rebuttal Schedule 6.

²¹² Public Comments, Prince William Cnty. Bd. of Supervisors, at 2 (June 17, 2016).

²¹³ See Ex. 48 (Berkin Rebuttal) at 20:11-18.

²¹⁴ Ex. 3 (DEQ Supplement) at 2-3.

provide an opportunity to partially collocate with existing infrastructure (Norfolk Southern Railroad), and also to avoid crossing through the residential areas located north of Carver Road and the subdivisions of Greenhill Crossing and Somerset Crossing.²¹⁵

The Madison Alternative Route is an 8.2-mile double circuit transmission line between Haymarket Junction and the proposed Haymarket Substation. From Haymarket Junction, this route follows much of the path of the Carver Road Alternative Route, although it runs further southwest to Old Carolina Road and Thoroughfare Road. It then runs northeast and follows the same path as the Carver Road Alternative Route before terminating at the proposed Haymarket Substation.²¹⁶ The Madison Alternative Route was developed to provide an opportunity to partially collocate with the Norfolk Southern Railroad and also to avoid crossing near some of the residences near I-66 along the Proposed I-66 Overhead Route.²¹⁷

While the Madison and Carver Road Alternative Routes can meet the need and remain viable options under consideration, they are not preferable to the Proposed I-66 Overhead Route for several reasons. First, both of these routes have greater adverse impacts than the Proposed I-66 Overhead Route. While the Carver Road and Madison Alternatives would have fewer single family and townhome and condominium dwellings within 100 feet of their routes in comparison to the I-66 Hybrid Alternative Route and the Proposed I-66 Overhead Route, the Carver Road and Madison Alternatives would require significant clearing of forest land and would have substantial wetland impacts.²¹⁸ The Madison Alternative would impact at least 11.3 acres of wetlands and 61.6 acres of forested lands.²¹⁹ The Carver Road Alternative would impact roughly

²¹⁵ Ex. 10 (Thommes Direct) at 8:2-6.

²¹⁶ Ex. 3 (DEQ Supplement) at 3.

²¹⁷ Ex. 10 (Thommes Direct) at 8:8-15.

²¹⁸ Ex. 48 (Berkin Rebuttal) at 21:3-6.

²¹⁹ Ex. 17 (McCoy Direct) at 16:8-10.

11.5 acres of wetlands and 46.2 acres of forested lands.²²⁰ These impacts are in contrast to the Proposed I-66 Overhead Route, which would impact only 5.9 acres of wetlands²²¹ and 31.3 acres of forested lands.²²² The Carver Road and Madison Alternatives also cross more waterbodies than the I-66 Hybrid Alternative Route and the Proposed I-66 Overhead Route.²²³ Indeed, Staff noted that in comparison to the I-66 alignments, the Carver Road and Madison Alternatives cross double the private lands assessed by length and triple the total number of private parcels and impact significantly greater wetlands compared to the I-66 overhead Alternative and the I-66 Hybrid Alternative Route.²²⁴ For these reasons, Staff Witness McCoy stated that he also cannot recommend these two alternatives.²²⁵

Second, the Carver Road and Madison Route Alternatives are both longer than the Proposed Route and therefore result in greater costs. The record shows that the Madison Alternative would be 8.2 miles in length and the Carver Road Alternative 6.7 miles in length (in comparison to the 5.0 miles for the Proposed I-66 Overhead Route). Consequently, the Carver Road Alternative would cost approximately \$61.9 million to construct and the Madison Alternative would cost approximately \$67.8 million to construct,²²⁶ which are both greater than \$51.0 million estimated cost for the Proposed I-66 Overhead Route.²²⁷

Thus, due to the significant environmental impacts associated with these routes, along with their more substantial cost in comparison to the Proposed I-66 Overhead Route, the Company believes these routes should not be selected by the Commission. Staff does not dispute

²²⁰ Ex. 10 (NRG Environmental Routing Study) at 62.

²²¹ Ex. 48 (Berkin Rebuttal) at 5:3-6.

²²² Ex. 10 (NRG Environmental Routing Study) at 62.

²²³ Ex. 48 (Berkin Rebuttal) at 21:6-7.

²²⁴ Ex. 17 (McCoy Direct) at 21:6-8; *see also* Ex. 10 (NRG Environmental Routing Study) at 60.

²²⁵ Ex. 17 (McCoy Direct) at 21:8-9.

²²⁶ *See* Ex. 19 (Joshipura Direct) at 16:1-8.

²²⁷ Ex. 3 (Appendix) at 4.

this conclusion and no other party to the proceeding supports the Carver Road or Madison Alternatives.

VII. STAFF'S SUGGESTION FOR COST SHARING SHOULD BE DISREGARDED

The Staff Report sponsored by Staff Witness Joshipura states that "the Project may also be viewed as a line extension for electrical service to a new customer."²²⁸ As such, the Staff Report opines that the Project "may" be "subject to cost allocation in accordance with Section XXII" of the Company's Retail Tariff.²²⁹ Such cost allocation (if lawful and appropriate) could result in allocation of about \$115 million to the Customer, and concededly could result in the Customer abandoning the development of the Haymarket Campus.²³⁰ At the hearing, Mr. Joshipura clarified that Staff is not advocating for such cost allocation,²³¹ and that the Commission has "discretion" whether to allocate costs in this manner.²³²

As discussed in the following subsections, the Commission should not (and indeed cannot) directly charge the costs of this networked, high voltage line to retail customers or a single retail customer. It is undisputed that the Project is a high-voltage, networked transmission facility that will be operated by PJM under the PJM OATT. The PJM OATT provides for cost allocation of facilities such as these to the Dominion Zone of PJM ("Dom Zone"), not a single customer. This is the way that costs of new transmission-level projects have been allocated under the PJM OATT, the applicable tariff for the Dominion Virginia Power service territory since the Company joined PJM in 2005, including costs of projects resulting from substantial load growth associated with a single customer, such as a military base or data center. The Commission cannot change the wholesale customer cost allocation of the PJM OATT, which is

²²⁸ Ex. 19 (Joshipura Direct) at 17:6-9.

²²⁹ Ex. 19 (Joshipura Direct) at 17:6-9.

²³⁰ Ex. 19 (Joshipura Direct) at 21:1-5.

²³¹ Tr. 259:3-10.

²³² Tr. 260:13-16.

subject to the exclusive jurisdiction of FERC. As a result, any reading of the terms and conditions of the Retail Tariff that would conflict with the wholesale customer cost allocation already established in the PJM OATT is preempted. But equally important, the interpretation of the terms and conditions of the Dominion Virginia Power Retail Tariff suggested by Staff for Commission consideration is not a reasonable or accurate reading of the tariff.

A. Service using the Project will be provided under the PJM OATT.

Dominion Virginia Power has been fully integrated into PJM as required by statute²³³ and order of the Commission²³⁴ since May 1, 2005. PJM is an RTO charged with, among other things, operating the transmission system that spans its multi-state region pursuant to a tariff – the PJM OATT – that is on file with FERC, and subject to FERC’s exclusive jurisdiction. Dominion Virginia Power is an LSE within PJM, and it takes NITS under the PJM OATT for all Dominion Virginia Power transmission facilities operated by PJM, which will include the Project, once constructed (overhead, underground or both). Accordingly, as described more fully below, the charges for service over the Project are, in the first instance, a wholesale charge to Dominion Virginia Power for only a portion of the Project costs, via a load ratio share allocation under the FERC-jurisdictional PJM OATT.

To be sure, state statute also preserves the Commission’s authority over transmission line or facility construction,²³⁵ but the Commission’s authority to regulate transmission is preserved

²³³ As part of the 1999 Restructuring Act, each incumbent electric utility was required by Chapter 23 of Title 56 of the Code to “join or establish” a “regional transmission entity” and transfer “the management and control of an incumbent electric utility’s transmission assets” to a “regional transmission entity,” subject to approval by the Commission. Va. Code §§ 56-577 A 2 and 56-579.

²³⁴ The Commission approved on November 10, 2004, Dominion Virginia Power’s application for approval of Dominion Virginia Power’s plan to join, and transfer such control of its transmission assets to PJM. *Commonwealth of Virginia ex rel. State Corporation Commission, Ex Parte: In the matter concerning the application of Virginia Electric and Power Company d/b/a Dominion Virginia Power for approval of a plan to transfer functional and operational control of certain transmission facilities to a regional transmission entity*, Case No. PUE-2000-00551, 2004 S.C.C. Ann. Rept. 294, Order Granting Approval (Nov. 10, 2004).

²³⁵ Va. Code § 56-579 D 1.

only “to the extent not prohibited by federal law.”²³⁶ Thus, the statute recognizes the potential preemptive effect of federal law, and essentially requires a preemption analysis to occur before additional Commission authority over transmission of electric energy is undertaken. This means that in situations like this one, where principles of preemption do apply, the Commission is not caught between the “rock and a hard place” of deciding whether to follow state or federal law: the statute avoids such conflict and appears to mandate a preemption analysis before additional authority can be exercised.²³⁷

B. The Proposed Transmission Facilities in this Proceeding.

As stated in Section I hereof, the Company filed the Application in this proceeding for approval under Va. Code §§ 56-46.1 and 56-265.2 to: (i) convert its existing 115 kV Gainesville-Loudoun Line #124 to 230 kV operation; (ii) construct the Haymarket Loop, a new 230 kV double circuit transmission line to run approximately 5.1 miles from a tap point in the vicinity of the Company’s existing Gainesville Substation to Haymarket Substation; and (iii) construct 230-34.5 kV Haymarket Substation.²³⁸

From the Haymarket Substation, the Company will deliver power to the Customer, along with 456 other retail customers initially, via distribution circuits.²³⁹ The existing data center campus that continues to ramp and the Customer’s new Haymarket Campus will be served at distribution-level voltage upon energization of the Project.²⁴⁰

²³⁶ Va. Code § 56-580 A.

²³⁷ See also Va. Code § 56-579 A 2 b (requiring that terms and conditions established by the Commission for joining PJM “[b]e consistent with lawful requirements of the Federal Energy Regulatory Commission”); Va. Code § 56-581 A (providing authority to the Commission for regulation of rates for transmission “to the extent not prohibited by federal law”).

²³⁸ Ex. 3 (Application) ¶ 3.

²³⁹ Ex. 39 (Potter Rebuttal) at 5:3-7.

²⁴⁰ Tr. 318:17-19.

C. Cost recovery for Dominion Virginia Power's costs of transmission facilities used by PJM to provide NITS to the Company.

As noted above, as an integrated electric utility member of PJM the Company obtains NITS from PJM and pays PJM charges for such service at the rates contained in PJM's OATT approved by FERC. Of particular interest in this proceeding is the Company's recovery of costs associated with transmission facilities, which is accomplished under Attachment H-16, Annual Transmission Charges – Virginia Electric and Power Company ("Attachment H-16"). This is the Company's FERC-jurisdictional electric transmission formula rate, which produces an Annual Transmission Revenue Requirement ("ATRR") associated with the Company's electric transmission facilities. The ATRR revenue is collected by PJM from the appropriate NITS customers, and the ATRR revenue collected by PJM is credited to the Company.²⁴¹

The Haymarket Project has been designated as a Supplemental Project by PJM, specifically Project No. S0918, meaning the associated project cost is not eligible for regional cost allocation under the PJM OATT. Rather, the costs of the Haymarket Transmission Facilities are to be recovered from NITS customers in the Dom Zone on a load ratio share basis. The Company in its LSE capacity is the largest NITS customer in Dom Zone, with a load ratio share of about 85% applicable to billing during 2016. About 84% of the Company's 2016 share is attributable to Virginia jurisdictional load.²⁴²

Each annual population of the Attachment H-16 formula includes a projected cost component. It also includes a true-up component associated with the second year prior to the projection year to reconcile any differences between that year's projected amounts and actual amounts, plus interest. For example, the 2016 billing includes a projection for 2016 plus a true-up with interest for 2014. As such, costs associated with the Haymarket Transmission Facilities

²⁴¹ Ex. 47 (Rebuttal Testimony of Harold Payne) at 2:1-11.

²⁴² Ex. 47 (Payne Rebuttal) at 2:12-19.

will be included in the ATRR beginning with the calendar year that the first element of the Haymarket Transmission Facilities are projected to go into service.²⁴³

The Company annually files for approval from the Commission for cost recovery via a combination of base rates and a rate adjustment clause ("RAC") under § 56-585.1 A 4 of the Code of Virginia ("Subsection A 4"). The Code of Virginia permits dollar-for-dollar recovery of that amount by the Company from its Virginia jurisdictional customers through a combination of base rates and the Subsection A 4 RAC. Specifically, Subsection A 4 declares that costs incurred by the utility for transmission service provided by the RTO and approved by FERC "shall be deemed reasonable and prudent," and further that "[u]pon petition of a utility at any time after the expiration or termination of capped rates, but not more than once in any 12-month period, the Commission shall approve a rate adjustment clause under which such costs, including, without limitation, costs for transmission service, charges for new and existing transmission facilities, administrative charges, and ancillary service charges designed to recover transmission costs, shall be recovered on a timely and current basis from customers. Retail rates to recover these costs shall be designed *using the appropriate billing determinants in the retail rate schedules.*"²⁴⁴

²⁴³ Ex. 47 (Payne Rebuttal) at 2:20-3:4.

²⁴⁴ Va. Code § 56-585.1 A 4 (emphasis added): It is important to note that from a cost recovery and rate design perspective, recovering the costs outlined in Subsection A 4 requires the Company to use billing determinants that exist in the rate schedules themselves. Section XXII is not a retail rate schedule but is part of the Company's Terms and Conditions for the Provision of Electric Service. The Table of Contents of the Company's Terms and Conditions is broken down into three categories: (1) Terms and Conditions for the Provision of Electric Service (which includes Section XXII), (2) Rate Schedules, and (3) Riders. This, in the Company's opinion, clearly establishes a difference between the Terms and Conditions and the rate schedules themselves. An even clearer distinction between the two can be found in Section B of the Introduction Section of the Table of Contents which reads as follows:

INTRODUCTION

A. This filing sets forth the Terms and Conditions under which the Virginia Electric and Power Company provides Electric Service to its Customers and is on file with the State Corporation Commission of Virginia.

B. These Terms and Conditions and all Rate Schedules and agreement forms for Electric Service, which are on file with the State Corporation Commission of Virginia, are subject to modification by the Commission in the manner prescribed by law. The Company provides Electric Service only in accordance with these Terms and Conditions, subject to all applicable Rate Schedules and agreement forms at the time

D. Section XXII of Dominion Virginia Power's Virginia Retail Tariff.

The above cost recovery applies to the Company's transmission facilities as FERC-jurisdictional assets. On the other hand, certain distribution facilities are subject to Dominion Virginia Power's Retail Tariff, as approved by this Commission.

Specifically, Section XXII, Electric Line Extensions and Installations²⁴⁵ of the Company's Retail Tariff prescribes specific methods for recovery by the Company to construct new lines, including:

- i. Subsection D.1, which requires the retail customer to pay Dominion Virginia Power the amount by which the cost of construction methods identified in subsections D.2, D.3, D.5, D.6.a, D.6.b, D.6.c, D.6.d and D.6.e exceeds four times the continuing estimated annual revenue – less fuel charge revenue – that can reasonably be expected; and
- ii. Subsections D.4, D.6.f and D.6.g, which require the retail customer to pay Dominion Virginia Power a Transitional Cost equal to the difference between overhead and underground construction of an Approach Line, Branch Feeder and Bulk Feeder.

While not explained by Staff, the Staff Report appears to imply that it is through the above cited provisions of Section XXII that the Customer either could or should be charged the incremental cost of undergrounding the networked transmission facilities if the I-66 Hybrid Alternative Route is chosen by the Commission. Staff's reading of the Retail Tariff was explored at the hearing through cross-examination of Witness Joshipura.²⁴⁶ The Staff

effectively on file with the Commission. Terms and Conditions and Rate Schedules can be found at the Company's Internet website (www.dom.com.)

²⁴⁵ There is nothing in Section XXII that sets forth an approach – or even an expectation – that an ongoing load ratio share charge to Dominion Virginia Power as the LSE under the PJM OATT could be or should be converted into a line extension charge.

²⁴⁶ See Tr. 274:2-278:19. Although it is unclear what specific provisions of the Retail Tariff that Staff will argue in its post-hearing brief are applicable, the Company believes it would relate to "Approach Lines" and "Branch Feeder."

presumably will explain its legal theory for cost recovery in its post-hearing brief.²⁴⁷ Since post-hearing briefs are filed the same day, the Company is at a disadvantage because it has not been privy to Staff's legal theory and therefore cannot provide a wholly responsive rebuttal. Nevertheless, the Company must respond to Staff's suggestion for cost sharing by the Customer as the Company understands it at this time.

- E. Staff's single-Customer allocation construction of the cost recovery and allocation provisions of Section XXII is illogical, because it would require reading the Retail Tariff in a way that would cause those provisions to be preempted.

Staff does not claim that there is only one way to read the cost recovery provision of Section XXII of the Dominion Virginia Power Retail Tariff. Rather, Staff opines that the provision is ambiguous, and that one possible way to read it is to require allocation to a single retail customer²⁴⁸ of the costs of transmission lines that Staff concedes will be operated by PJM,²⁴⁹ even though such allocation is not required by the PJM OATT, as discussed above. Dominion Virginia Power does not agree that the provision is ambiguous. As explained below, by its plain terms, Section XXII cannot apply to require cost allocation to the end user Customer under the facts of this case. But even assuming *arguendo* that Staff is right in claiming that there is room for interpretation, the terms and conditions of the Retail Tariff should not be read to conflict with the PJM OATT, because if there is such a conflict, the terms and conditions of the Retail Tariff are preempted. It is axiomatic that in interpreting ambiguous provisions,

²⁴⁷ If the Staff does not provide any additional legal analysis of why the Commission is not preempted from exercising jurisdiction on wholesale customer cost recovery and more detail on what exact provision of the Retail Tariff would apply, the Company respectfully requests that this argument be rejected as vague as it has been presented without adequate legal support and analysis.

²⁴⁸ See Ex. 19 (Joshiyura Direct) at 20:8-12.

²⁴⁹ Tr. 232:14-233:8.

interpretations that would render application of the provision unlawful or of no effect are disfavored.²⁵⁰

That would be exactly the effect of adopting Staff's single-Customer allocation interpretation. As described above, the PJM OATT will allocate the costs for this Project. Staff agrees that this will not be a dedicated line or substation;²⁵¹ it is an integrated line that will be constructed by Dominion Virginia Power and administered by PJM. The PJM OATT does not have any provision requiring a retail customer to provide a CIAC for the construction of transmission extensions to a new LSE delivery point,²⁵² like the Project, which provides wholesale service over interstate transmission lines. FERC has exclusive jurisdiction to set the wholesale rates for such assets, including the allocation of costs.²⁵³ To be clear, Dominion Virginia Power recognizes that the Commission has jurisdiction over siting of a line through this CPCN proceeding, and that decisions on these issues can affect customer rates. But incidental effects on transmission cost allocation and recovery are different than affirmatively dictating a retail pricing outcome that is inconsistent with how such cost allocation and recovery are to occur at the wholesale level. Indeed, this principle has been at least tacitly recognized in prior Commission cases where transmission facilities were built to serve data centers and other large block loads and cost allocation and recovery occurred under the PJM Tariff.²⁵⁴

²⁵⁰ See, e.g., Restatement (Second) Of Contracts § 203 (1981) ("an interpretation which gives a reasonable, lawful, and effective meaning to all the terms is preferred to an interpretation which leaves a part unreasonable, unlawful, or of no effect"); *Time Warner Entm't Co., L.P. v. Everest Midwest Licensee, L.L.C.*, 381 F.3d 1039, 1044-45 (10th Cir. 2004) (citation omitted) (stating that "interpretations which lead to absurdity or negate the purpose of the contract should be avoided").

²⁵¹ Tr. 232:14-233:8.

²⁵² The LSE in this instance is Dominion Virginia Power.

²⁵³ 16 U.S.C. § 824(b); see also, e.g., *Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 953, 966 (1986) ("*Nantahala*").

²⁵⁴ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric facilities: Waxpool 230 kV Double Circuit Transmission Line, Brambleton - BECO 230 kV Transmission Line and 230-34.5 kV Waxpool Substation*, Case No. PUE-2011-00129, 2012 S.C.C. Ann. Rept. 353, Final Order (Dec. 28, 2012); *Application of Virginia Electric and Power Company For a certificate of public convenience and necessity in King George County: Dahlgren 230 kV Double Circuit Transmission Line and 230-*

Those prior decisions were correct. The Supremacy Clause of the Constitution and the Federal Power Act prohibit the Commission from varying the FERC-established rate structure. A state cannot “second-guess the reasonableness” of FERC’s exercise of its rate jurisdiction and the resulting rate.²⁵⁵ Here the rate that cannot be “second guessed” is the PJM OATT,²⁵⁶ which provides the *exclusive* means for allocating and charging the costs of the Project to wholesale customers, including Dominion Virginia Power (as an LSE), ODEC, NOVEC, NCEMC, and others.

When a rate is subject to FERC’s exclusive jurisdiction, all aspects of the rate, including cost allocation (which may be accomplished using a CIAC or other means), are within FERC’s sole purview.²⁵⁷ Indeed, cost allocation was the express subject of *Nantahala*, one of the seminal U.S. Supreme Court cases on the topic. In that case, a state sought to alter the FERC-approved allocation of low-cost power among two affiliated entities.²⁵⁸ The Supreme Court held that a state cost allocation that varies from that approved by FERC “cannot withstand the pre-emptive force of FERC’s decision.”²⁵⁹

Thus, the cost allocation provisions of Section XXII are preempted *if* the provisions are read, as Staff contemplates, to be contrary to the FERC-approved PJM OATT. For avoidance of

34.5 kV Dahlgren Substation, Case No. PUE-2011-00113, 2012 S.C.C. Ann. Rept. 319, Final Order (Oct. 4, 2012); Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric transmission facilities in Prince William County and the City of Manassas: Cannon Branch-Cloverhill 230 kV Transmission Line and Cloverhill Substation, PUE-2011-00011, 2011 S.C.C. Ann. Rept. 319, Final Order (Dec. 21, 2011); Application of Virginia Electric and Power Company For approval and certification of Beaumeade-NIVO 230 kV Underground Transmission line and 230-34.5 kV NIVO Substation under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq., and as a pilot project pursuant to HB 1319, Case No. PUE-2008-00063, 2009 S.C.C. Ann. Rept. 319, Final Order (May 29, 2009); Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For a certificate of public convenience and necessity for facilities in Fairfax County: EPG 230 kV Transmission Line and EPG Substation, Case No. PUE-2008-00072, 2009 S.C.C. Ann. Rept. 328, Final Order (Apr. 14, 2009).

²⁵⁵ *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1298 (2016).

²⁵⁶ See PJM OATT, Schedule 12, Transmission Enhancement Charges.

²⁵⁷ See *Nantahala*, 476 U.S. at 966-67.

²⁵⁸ FERC’s exclusive jurisdiction over wholesale sales of power arises from the same provision that provides its exclusive jurisdiction over the transmission in this case. 16 U.S.C. § 824(b).

²⁵⁹ *Nantahala*, 476 U.S. at 968.

doubt, we note that FERC has said in numerous orders that CIACs are subject to its jurisdiction.²⁶⁰ This is true even though a CIAC is often set forth in a separate agreement, because the separate agreement is simply a means of implementing the tariff's cost allocation.²⁶¹ In fact, in another ongoing FERC case with which this Commission is familiar, FERC has squarely held that allocation of costs of undergrounding Dominion Virginia Power transmission is subject to its jurisdiction, notwithstanding state laws regarding undergrounding:

NOVEC argues that the undergrounding costs were incurred with an expectation that they would be collected from Dominion's retail customers pursuant to Virginia legislation and therefore any localized allocation of costs must be done only under the auspices of the Virginia legislation pursuant to which the particular projects were undergrounded. *Whether the incremental costs of undergrounding the Projects should be allocated to all wholesale transmission customers is a question appropriately before the Commission*, given its jurisdiction over the transmission of electric energy in interstate commerce and the sale of such energy at wholesale in interstate commerce.²⁶²

The above case is still pending final decision at FERC, including resolving issues raised at hearing, but FERC made the quoted holding, as a determination of a threshold issue, in setting the matter for hearing.

While *Nantahala* first held that states cannot interfere with FERC cost allocation determinations, a more recent case is otherwise more directly on point. In *Hughes v. Talen Energy Marketing*,²⁶³ decided earlier this year, the U.S. Supreme Court held that a state cannot

²⁶⁰ See, e.g., *Tampa Elec. Co.*, 148 FERC ¶ 61,172, at P 340 (2014) (citing *Am. Mun. Power-Ohio, Inc. v. Ohio Edison Co.*, 57 FERC ¶ 61,358 (1991)).

²⁶¹ See *Prior Notice and Filing Requirements Under Part II of the Federal Power Act*, 64 FERC ¶ 61,139, at P 81 (1993) ("CIAC agreements do not lose their jurisdictional status simply because they must operate as 'stand alone' contracts separate and distinct from agreements for the provision of jurisdictional service over the facilities constructed under the CIAC agreements.").

²⁶² *Old Dominion Elec. Coop. and N.C. Elec. Membership Corp. v. Va. Elec. and Power Co.*, 146 FERC ¶ 61,200, at P 55 (2014) (citing 16 U.S.C. § 824(a) (2012)), *reh'g pending* (emphasis added) (FERC held in this proceeding that "it is not just and reasonable to allocate the costs of undergrounding to wholesale transmission customers beyond those NITS customers with Virginia loads in the Dominion Zone." *Id.* at P 51.).

²⁶³ 136 S. Ct. 1288 (2016).

substitute a payment from retail ratepayers for the payment structure established by FERC for a service subject to FERC's exclusive jurisdiction.²⁶⁴ In other words, as applied to this case, the Commission cannot substitute a payment from the Customer for a portion of the payments due from all customers in the DOM Zone under the FERC-approved formula rate of the PJM OATT.

In *Hughes*, the Court struck down a Maryland effort to provide a generator with a side payment from retail customers for a sale to the PJM market of electric capacity. The side payment was intended to replace the payment the generator would otherwise have received from the PJM market. The problem was that electric generating capacity, like electric transmission service over Dominion Virginia Power's system, is sold through PJM under rates filed with FERC. Maryland could not create a separate retail payment because that "disregards an interstate wholesale rate required by FERC."²⁶⁵ That is prohibited "even when States exercise their traditional authority over retail rates."²⁶⁶ For the same reasons, this Commission's authority over siting and certificating do not permit the Commission to extend the scope of its actions into issues of wholesale ratemaking, cost allocation and cost recovery that are reserved, in these circumstances, to FERC. Just as in *Hughes*, this Commission cannot create a separate payment from a retail ratepayer intended to substitute for payment under the PJM OATT.

In short, for service over the Project – which Staff agrees is an integrated transmission facility²⁶⁷ subject to the PJM OATT²⁶⁸ – a CIAC could be charged is if it is required under the rate filed with and accepted by FERC. As described above, the PJM OATT rate for NITS has no such requirement applicable to the Project. Accordingly, the single-Customer allocation

²⁶⁴ *Hughes*, 136 S. Ct. at 1298-99.

²⁶⁵ *Hughes*, 136 S. Ct. at 1299.

²⁶⁶ *Hughes*, 136 S. Ct. at 1299.

²⁶⁷ As noted, Staff concurs that the Project will provide service over an integrated transmission line. This is a networked line and fully integrated into the transmission system. Tr. 232:8-17.

²⁶⁸ Tr. 233:2-8.

interpretation of the cost allocation and recovery provisions of Section XXII of the Retail Tariff suggested as one possible interpretation by Staff should be rejected, because such an interpretation would thwart the PJM OATT's cost allocation and recovery provisions, and as a result is preempted. Instead, the Commission should do as it has done in the past for similar bulk load facilities, and issue a CPCN that does not seek to interfere with or modify the wholesale customer cost allocation and recovery established under the PJM OATT and approved by FERC.

- F. The Company clearly communicated to the Staff and the Commission that the Retail Tariff did not apply to underground transmission and Staff is not advocating applying the Retail Tariff in this situation.

It is important to note, Staff is not even proposing the Commission apply Section XXII of the Retail Tariff in this proceeding; they are merely raising the issue for the Commission's consideration. Staff does not advocate charging the Customer \$115 million for placing the Haymarket Transmission Facilities underground.²⁶⁹ Furthermore, Staff does not even take a position that applying the Company's Retail Tariff in order to charge the Customer for a FERC-jurisdictional asset is a viable, valid or preferable option.²⁷⁰ Staff's only real position with respect to the Line Extension policy is that it is "ambiguous" and "may be applicable to certain transmission lines."²⁷¹

Yet this claim of current ambiguity cannot be analyzed in a vacuum. The Company, Staff and this Commission, in fact, twice previously dealt with the provisions of Section XXII. Initial revisions to Section XXII to incorporate underground line extensions into its line extension policy and provide additional specificity describing the components of an underground line extension were proposed in the Company's going in rate review in Case No. PUE-2009-00019 that clearly applied to underground distribution facilities only, though the revisions were

²⁶⁹ Tr. 259:7-10.

²⁷⁰ See Tr. 260:13-16.

²⁷¹ Ex. 19 (Joshipura Direct) at 19:2-6, 20:2-6.

later withdrawn. This issue came up again in the Company's 2013 Biennial Review proceeding, Case No. PUE-2013-00020, when revisions to Section XXII relating to underground distribution installations were proposed and approved.

In the going in proceeding, Company Witness Julius M. Griles provided direct testimony and was asked, "Do the proposed revisions to the line extension policy relate or apply in any way to transmission lines?" To which he responded, "No. The facilities targeted for expanded underground are rated below 50 kV."²⁷² Importantly, Staff Witness Timothy R. Faherty²⁷³ filed testimony raising "ambiguities" with the 2009 submittal, but none of those prior ambiguities, which were addressed by the Company in the 2013 Biennial Review proceeding filing of the tariff revisions, asserted that the tariff was "ambiguous" on whether it applied to overhead or underground transmission facilities.²⁷⁴

In the 2013 Biennial Review, Company Witness Steven Eisenrauch was asked the question, "Do the proposed revisions to the line extension plan relate or apply in any way to transmission lines?" He responded by stating, "The facilities targeted for expanded underground installations are rated below 50kV." Mr. Eisenrauch also made clear that the Company "was proposing a line extension plan that will expand the utilization of underground *distribution* lines for new services and enhance the opportunity to convert overhead service feeds to underground for existing residences. This new plan is facilitated by the development of improved and more reliable underground *distribution* cable and other facilities and equipment." Mr. Eisenrauch submitted with his testimony two schedules – Schedule 1 is Section XXII and Schedule 2

²⁷² Ex. 21 (Pre-Filed Direct Testimony of Timothy Faherty in Case No. PUE-2009-00019) at 11:19-22.

²⁷³ See Ex. 21 (Faherty Direct in Case No. PUE-2009-0019); Tr. 263:2-23.

²⁷⁴ Tr. 271:5-8.

summarizes the cost impacts of Section XXII as to *distribution facilities only* – and 90 pages of workpapers filed under separate cover that assess *distribution facilities only*.²⁷⁵

Notably, Staff Witness Joshipura also filed testimony in the 2013 Biennial Review proceeding stating that Staff did not oppose the replacement of Plan F with Section XXII, and otherwise not commenting on the Company's assertion that the underground revisions to Section XXII would apply to distribution facilities only. Indeed, Mr. Joshipura testified in that proceeding that "Staff supports the installation of new facilities underground whenever it is operationally feasible."²⁷⁶ A statement Mr. Joshipura clarified was intended to apply to new *distribution facilities*.²⁷⁷

Finally, the Commission's Final Order in Case No. PUE-2013-00020 approving Section XXII states, "We approve Dominion's proposed reforms to its line extension policy, which include certain revisions proposed by Staff and are designed to have a positive impact on *distribution system* reliability and to reduce the annual impact on customers requesting underground service."²⁷⁸

The underground revisions to Section XXII as approved in the 2013 Biennial Review proceeding are not ambiguous. Staff states, "nothing in the actual Commission-approved language of Section XXII, or any part therein, explicitly states that these terms and conditions apply to distribution facilities only," and "other sections of the Company's Terms and Conditions contemplate certain services at transmission level voltage."²⁷⁹ However, when the Company

²⁷⁵ Staff Witness Joshipura included an excerpt of Mr. Eisenrauch's testimony as his Attachment 14. See Case No. PUE-2013-00020 for the full filing, including Mr. Eisenrauch's schedules.

²⁷⁶ Tr. 280:7-16.

²⁷⁷ Tr. 280:17-19.

²⁷⁸ *Application of Virginia Electric and Power Company, For a 2013 biennial review of the rates, terms and conditions for the provision of generation, distribution and transmission services pursuant to § 56-585.1 A of the Code of Virginia*, Case No. PUE-2013-00020, 2013 S.C.C. Ann. Rept. 371, 382, Final Order (Nov. 26, 2013) (emphasis added).

²⁷⁹ Ex. 19 (Joshipura Direct) at 19:13-17.

proposed the relevant provisions of the line extension policy in the 2013 Biennial Review proceeding, the Company made clear the underground revisions were to apply to *distribution facilities only*. The Staff took no issue with the Company's representations and the Commission recognized this fact in its Final Order when it noted that the revisions were designed to have a positive impact on *distribution* system reliability. The expanded underground provisions of Section XXII were never intended to apply to underground transmission facilities.

G. A plain reading of Section XXII of the Retail Tariff would not apply to this Project.

Moreover, no party to this proceeding has affirmatively explained what provisions of Section XXII would even apply in order for an incremental cost of \$115 million for underground installation to be charged to the end user Customer.

The only provisions where a transition cost could possibly be charged, if not preempted, are for Approach Lines, Branch Feeders, and/or Bulk Feeders. These terms were not part of Plan F (the prior underground tariff provisions) or the prior versions of Section XXII. They were created with the revisions to Section XXII. As noted above, Company Witnesses Griles and Eisenrauch both submitted testimony that the proposed revisions to the line extension plan do not relate or apply to underground transmission lines. Approach Lines are defined as "Facilities installed from an existing source *to the property of the customer* or developer requesting Electric Delivery Service." The Haymarket Loop goes from the Company's existing Gainesville Substation to the proposed Haymarket Substation, which is on property that will be owned by the Company, not the end user Customer. In any case the true "customer" of the Haymarket Transmission Facilities is not the end user Customer, but rather the segment of the Company acting as a wholesale customer or the LSE. In other words, the end user Customer is not being

served at transmission voltage²⁸⁰ and therefore is not a “customer” for purposes of the “Approach Line” definition.²⁸¹

Similarly, Branch Feeders are “Facilities installed *on the property of the Customer* or developer requesting Electric Delivery Service.” Again, the Haymarket Transmission Facilities are being provided to the Company as the LSE, not the end user Customer.²⁸²

Further, both Approach Lines and Branch Feeders include the phrase “customer or developer requesting Electric Delivery Service.” This is a term in the tariff assigned the definition “Distribution Service, and the delivery of electricity under this tariff to Customers served at transmission level voltage, and related utility services, to the extent each is provided under this tariff by the Company.”²⁸³ While the Customer will be receiving “distribution service,” that service will be through distribution circuits, not a transmission line, regardless of whether it is overhead or underground.²⁸⁴ Indeed, Staff Witness Joshipura confirmed the hybrid component of the I-66 Hybrid Alternative is not providing distribution service, not providing transmission level voltage to the Customer, and is not related utility service and, therefore, “it is not electric delivery service.”²⁸⁵

Finally, a Bulk Feeder is “A three-phase main feeder circuit with an ampacity greater than 200 Amperes that is required to serve a general area, or large load(s).” This is generally understood to be a distribution term and, therefore, would not apply to the transmission facilities

²⁸⁰ Tr. 318:17-19.

²⁸¹ Even if a route is chosen that crosses the end user Customer’s property, the transmission lines will not be terminating on the end user Customer’s property. The Staff may assert the fact that the land for the Haymarket Substation is currently owned by the Customer, but the Company made clear that the Company would be acquiring that property before construction and energization of the Substation. Tr. 374:25-375:13. In any case, the ultimate customer for the Haymarket Transmission Facilities is the Company as the LSE and not the end user Customer.

²⁸² See *supra* n. 281.

²⁸³ Tr. 316:2-317:9.

²⁸⁴ Tr. 318:17-19.

²⁸⁵ Tr. 319:2-15.

at issue in this proceeding.²⁸⁶ Indeed, Company Witness Koonce testified that in his 34 years working for the Company in Transmission, these terms have never been applied in a transmission context, only distribution.²⁸⁷

The Supreme Court of Virginia has stated that “the basic legal consideration in evaluating line extension charges is one of reasonableness; that is, the policy should not place an unreasonable burden on the customers or upon the [utility] as a whole.”²⁸⁸ Charging the Customer \$115 million under a state tariff for a FERC-jurisdictional asset when Company made clear it should not apply and, indeed, by its own terms it does not apply, would be the epitome of unreasonableness.²⁸⁹

VIII. ECONOMIC DEVELOPMENT

A. The Project will have a positive effect on economic development and will support future growth.

1. The Project and the Customer’s Haymarket Campus will have a positive effect on economic development in Prince William County.

This Project is expected to have significant economic benefits for Prince William County and its residents. Indeed, the Commission Staff notes that the Customer’s campus is expected to generate new employment opportunities,²⁹⁰ substantial tax revenue, and therefore “will likely have a significant positive impact on Prince William County.”²⁹¹ Staff also acknowledged that

²⁸⁶ Tr. 528:2-11.

²⁸⁷ See Tr. 528:6-11.

²⁸⁸ *Cent. Va. Elec. Coop. v. State Corp. Comm’n*, 221 Va. 807, 814 (1981).

²⁸⁹ Also instructive is Staff’s argument in the Company’s 2009 biennial proceeding in which Staff Witness Faherty explained that customers should be made aware of any charges related to the line extension policy and receive a detailed breakdown thereof. Ex. 21 (Faherty Direct in Case No. PUE-2009-0019) at 14-15. As noted during the hearing in this proceeding, the Customer has not been told that Section XXII applies and is already in the process of constructing the Haymarket Campus. See Tr. 411:11-16.

²⁹⁰ Ex. 19 (Joshapura Direct) at 21:11-12.

²⁹¹ Ex. 19 (Joshapura Direct) at 21:13-14.

this Project will “[s]upport[] the critical business processes of the national and international technology companies” of Prince William County.²⁹²

This assessment is consistent with previous Staff analyses of Company transmission projects built to serve data center developments. In those cases, Staff concluded that the Company’s projects would have positive economic benefits on the community. In the Company’s application for the Waxpool 230 kV double circuit transmission line, Staff noted “the proposed project benefits economic development in Loudoun County including that associated with the Customer’s new datacenter campus.”²⁹³ Similarly, in the Company’s application for a 230 kV transmission line from Cannon Branch to Cloverhill, Staff noted the “substantial economic benefit of the Project” in serving the electrical power needs of the customer’s data center.²⁹⁴ Again, Staff noted that the customer’s project would add jobs to the locality, add to the local tax base, support necessary business infrastructure needs, and generate tax revenue for Prince William County.²⁹⁵

2. The Project will support future development in Prince William County.

In addition to the positive effect on economic development associated with the customer’s data center campus, the Project will also allow for the continued economic growth in

²⁹² Tr. 248:24-249:9.

²⁹³ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric facilities: Waxpool 230 kV Double Circuit Transmission Line, Brambleton-BECO 230kV Transmission Line and 230-34.5 kV Waxpool Substation*, Case No. PUE-2011-00129, Staff Report at 22 (July 6, 2012).

²⁹⁴ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric transmission facilities in Prince William County and the City of Manassas: Cannon Branch-Cloverhill 230 kV Transmission Line and Cloverhill Substation*, Case No. PUE-2011-00011, Staff Report at 14 (July 8, 2011).

²⁹⁵ *Application of Virginia Electric and Power Company d/b/a Dominion Virginia Power For approval and certification of electric transmission facilities in Prince William County and the City of Manassas: Cannon Branch-Cloverhill 230 kV Transmission Line and Cloverhill Substation*, Case No. PUE-2011-00011, Staff Report at 14-15 (July 8, 2011).

the area. The record makes clear that significant commercial expansion in the Haymarket Load Area is anticipated in the very near future, some of which is “imminent.”²⁹⁶

According to the Prince William County Chamber of Commerce, Prince William County has grown at an unprecedented rate—nearly 55% since 2000.²⁹⁷ The County has “diligently worked towards transitioning away from being primarily a bedroom community to a hub for innovative businesses.”²⁹⁸ The Chamber also noted that “the planned energization of the Haymarket Substation will serve not only the local commercial sector—including a large hospital, but also a growing residential community.”²⁹⁹

The record shows that significant commercial development is coming to the Haymarket area in the very near future. Southview 66 Witness Fuccillo testified that his company is planning to build a significant commercial and residential development adjacent to the I-66 and U.S. 29 intersection. This development has received approval from Prince William County for 1.1 million square feet of commercial space³⁰⁰ and features a residential development plan consisting of approximately 900 to 1000 units.³⁰¹ Mr. Fuccillo described the timing of this development as “imminent.”³⁰²

To the west of Southview 66’s property is the planned development of John Marshall Commons and Village Place. According to the public comments of Mr. Joseph J. Contrucci, these two developments have received approval from Prince William County for 245,000 square feet of retail office and flex space and 650,000 square feet of commercial and residential

²⁹⁶ Tr. 149:25-150:1.

²⁹⁷ Public Comments, Mr. Brendon Shaw, Prince William Chamber of Commerce (June 20, 2016).

²⁹⁸ Public Comments, Mr. Brendon Shaw, Prince William Chamber of Commerce (June 20, 2016).

²⁹⁹ Public Comments, Mr. Brendon Shaw, Prince William Chamber of Commerce (June 20, 2016).

³⁰⁰ Tr. 130:2-5.

³⁰¹ Tr. 148:17-25.

³⁰² Tr. 149:25-150:1.

development, respectively.³⁰³ This collective 895,000 square feet of new development, which includes 475 residential units (222 of which have been built)³⁰⁴ will also add to the electrical demands of the Haymarket Load Area.

The record also shows that Cloverleaf Trust ("Cloverleaf") has plans for a "substantial retail development" on property located across U.S. 15 from the Haymarket Campus.³⁰⁵ Mr. Peter Cooper, testifying on behalf of Cloverleaf, stated that this development has received approval from Prince William County for 160,000 square feet of new retail space for a Home Depot, though Cloverleaf intends to seek ultimate approval for a total of 200,000 square feet of space.³⁰⁶ The record also shows that FST Properties has received approval from Prince William County for the development of 91,600 square feet of office and retail space directly adjacent to the Haymarket Campus.³⁰⁷

These four approaching developments, each of which has received development approval from the County, are representative of the continued growth in western Prince William County. These developments are anticipated to have a positive economic benefit on the community, and the Company's Project will facilitate this economic growth by continuing to provide an adequate and reliable supply of electricity.³⁰⁸

In addition to the aforementioned developments, Prince William County is also actively soliciting data centers to locate in the area. The record shows that the Prince William County's

³⁰³ Public Comments, Letter from Joseph Contrucci, Esq. on behalf of John Marshall Commons and Gainesville Village Place, with Exhibits, at 1-2 (June 16, 2016).

³⁰⁴ Public Comments, Letter from Joseph Contrucci, Esq. on behalf of John Marshall Commons and Gainesville Village Place, with Exhibits, at 2 (June 16, 2016).

³⁰⁵ Tr. 26:10-14.

³⁰⁶ Tr. 36:5-22.

³⁰⁷ Tr. 158:4-15, 171:3-24.

³⁰⁸ Company Witness Gill testified that additional properties east of the Gainesville Substation will all be loads when they develop. Tr. 333:11-19. Without the Haymarket Substation, as the Gainesville load grows, the Company will face the potential for a NERC Reliability Violation. Gainesville Substation will have to serve those new loads inquiries about service since the filing of the Company's application. Tr. 334:1-15.

data center marketing material highlights the County's "robust power and fiber" and notes that the County provides data centers with "fast-track permitting and accelerated time to market."³⁰⁹ That marketing material also identifies Haymarket as a potential location.³¹⁰

Thus, it is evident that the Haymarket Load Area will see substantial development in the near future. According to a Prince William County Board of Supervisors member, "[t]he reality is the western end of the county continues to grow. We're getting more and more commercial development in the Route 15 corridor, and any major commercial expansion there is going to trigger the need for more power."³¹¹ The record shows that major commercial expansion in addition to the Customer's Haymarket Campus is quickly coming to Haymarket and western Prince William County, and the Company's Project is necessary to provide an adequate and reliable supply of electricity to support that growth.³¹² As noted by the Dulles Regional Chamber of Commerce, the Company's Project "will strengthen the entire electrical system in Northern Virginia, and benefit many more customers in addition to the new data center."³¹³

B. The Staff's cost sharing suggestion could have a chilling effect on future growth.

Staff acknowledged that if the Customer were required to contribute to the approximately \$115 million incremental cost of the I-66 Hybrid Alternative Route associated with undergrounding, then the entire Project, including the development of the Customer's Haymarket

³⁰⁹ Ex. 29 (Prince William Cnty. Dep't of Econ. Dev. Pamphlet); Tr. 337:8-16.

³¹⁰ Tr. 335:8-20, 337:1-10. The record also shows that Prince William County Board of Supervisors has adopted an ordinance with a defined "Data Center Opportunity Zone Overlay District" in which future data centers will not need a special use permit prior to construction. See Public Comments, Robert Weir, Memorandum attaching supplemental testimony, at 5 and Exhibit C (June 17, 2016). It appears that the County's overlay district is oriented around existing transmission line corridors. Tr. 352:1-16. However, as Company Witness Gill explained, it is a "myth" that proximity to a transmission line means that transmission infrastructure is sufficient to support data center growth. Tr. 348:12-22. "[P]roximity to a transmission line greater than 69 kV does not establish that existing infrastructure has the capability to serve nonspecific block load additions." Tr. 351:9-12. Rather, "[c]ase-by-case analysis" is needed to determine whether existing facilities are suitable for new load. Tr. 351:13-16.

³¹¹ Tom Jackman, *New route options for major Va. power line*, The Washington Post, June 29, 2015, at B01.

³¹² See Tr. 150:2-6.

³¹³ Public Comments, Ms. Eileen D. Curtis, Dulles Reg'l Chamber of Commerce (June 20, 2016).

campus could be in jeopardy.³¹⁴ Staff also agreed that if the Customer were forced to pay for the Project, it could decide to build the proposed data center elsewhere,³¹⁵ which would have a detrimental economic effect on Prince William County.³¹⁶ The record also makes clear that if the customer is forced to take the unprecedented step of contributing to the cost of an integrated transmission facility, it could have a chilling effect on future development in not only Prince William County, but for Virginia more broadly.

Data centers have a significant impact upon Virginia's economy. The Northern Virginia Technology Council ("NVTC") released a research report earlier this year showing that the total statewide economic impact attributable to the data center industry was approximately 36,043 jobs, \$2.7 billion in wages, \$8.6 billion in economic output, and \$298.9 million in state and local tax revenue.³¹⁷ And this sector is growing in Virginia. According to the NVTC, the data center sector represented 31.5% of total statewide investment announced in 2012, 44.4% of announced investment in 2013, and 47.2% in 2014.³¹⁸

Northern Virginia is the hub for this industry in Virginia and the country. Half of the country's internet traffic runs through the Northern Virginia region.³¹⁹ The region's infrastructure, strategic location, and work force provide many competitive advantages to the Commonwealth.³²⁰ According to NVTC, "[a]s a capital-intensive industry, data centers employ a site-selection process that is very sensitive to costs associated with building out facilities in various potential jurisdictions."³²¹ In that regard, Virginia has maintained a special sales tax

³¹⁴ Ex. 19 (Joshipura Direct) at 21:4-7.

³¹⁵ Tr. 257:8-13.

³¹⁶ Tr. 256:21-257:3.

³¹⁷ Public Comments, Mrs. Bobbie Kilberg, NVTC (June 20, 2016).

³¹⁸ Tr. 13:9-12; *see also* Public Comments, Mrs. Bobbie Kilberg, NVTC (June 20, 2016).

³¹⁹ Tr. 44:4-6.

³²⁰ Public Comments, N. Va. Chamber of Commerce (June 20, 2016).

³²¹ Tr. 14:8-12; *see also* Public Comments, Mrs. Bobbie Kilberg, NVTC (June 20, 2016).

exemption since 2009 for qualified data centers “and subsequently strengthened it to ensure the Commonwealth is competitive in landing new data center jobs and investment.”³²²

To potentially force the Customer to pay for the incremental cost of undergrounding the Project would break from precedent and damage the Commonwealth’s competitiveness. This policy change would lead “many business prospects, including data centers, to look elsewhere.”³²³ Indeed, the Northern Virginia Chamber of Commerce stated that “[t]he prospect of bearing tens of millions of dollars in additional cost could be a game-changer not only for this customer, but for businesses and industrial prospects seeking to locate in Virginia moving forward.”³²⁴

Moreover, public witness testimony shows that concerns about maintaining a competitive advantage is not isolated to Northern Virginia and Prince William County. Other parts of Virginia would be adversely affected by a decision that would place cost responsibility on the Customer. Public witness testimony expressed significant concern about other future data centers and other large commercial and industrial business development in the state if the Customer is forced to pay. Policymakers commented that Staff’s cost proposal that would have the Customer cover a significant portion of an electric transmission project “would be devastating” for rural communities attempting to attract new business development.³²⁵ To force the Project underground and for the Customer to pay for such construction “would be a severe blow to bringing new economic opportunities and the prospect of a better life to the men and women of these [rural] communities.”³²⁶

³²² Tr. 13:20-23; *see also* Public Comments, Mrs. Bobbie Kilberg, NVTC (June 20, 2016).

³²³ Tr. 45:12-14; *see also* Public Comments, Mr. Jim Corcoran, N. Va. Chamber of Commerce (June 20, 2016).

³²⁴ Tr. 45:20-224; *see also* Public Comments, Mr. Jim Corcoran, N. Va. Chamber of Commerce (June 20, 2016).

³²⁵ Public Comments, Letter from Del. Terry Kilgore, at 2 (June 15, 2016) (passed at hearing).

³²⁶ Tr. 20:5-10; Public Comments, Terry Kilgore Letter, at 2 (June 15, 2016) (passed at hearing).

If implemented, Staff's vague cost sharing suggestion³²⁷ would simply be contrary to the widely-stated public policy goals of growing business in Virginia and would likely have a detrimental effect on citizens of the Commonwealth. Governor McAuliffe's policy priorities for the economy are to "[p]romote Virginia's competitive business climate to maintain the designation as the best state for business."³²⁸ Consequently, policy makers are concerned that if the Customer is required to pay for the Project, "Virginia would very quickly lose its competitiveness in attracting new data center jobs and investment and see impairment to its pro-business reputation."³²⁹ Virginia's "'open for business' reputation would be in severe jeopardy, and with it, the prospect of attracting new opportunities for our working men and women, in Northern Virginia and elsewhere."³³⁰

IX. CONCLUSION

WHEREFORE, for the reasons set forth herein, Dominion Virginia Power respectfully requests that the Commission approve pursuant to §§ 56-46.1 and 56-265.2 of the Code of Virginia the construction of the proposed 230 kV transmission facilities, grant a certification of public convenience and necessity for the facilities under the Utility Facilities Act, and approve the Project with the I-66 Overhead Route as the appropriate route for the necessary transmission facilities, based on the facts and circumstances of this case.

³²⁷ Another option for cost sharing for underground transmission lines could have been pursued pursuant to Va. Code § 15.2-2404 F. However, Prince William County made it clear through an August 4, 2015 resolution, that it "will not enter into agreement with Dominion to assess the costs of line burial under the provisions of Section 15.2 2404F of the Code of Virginia." Ex. 16 (Amended Napoli Direct) at JN-1 (corrected).

³²⁸ Governor Terry McAuliffe, Economic Policy Priorities, <https://governor.virginia.gov/policy-priorities/economy/> (last visited Aug. 2, 2016).

³²⁹ Public Comments, Mrs. Bobbie Kilberg, N. Va. Tech. Council (June 20, 2016).

³³⁰ Public Comments, Mr. Jim Corcoran, N. Va. Chamber of Commerce (June 20, 2016).

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August 5, 2016

CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of August, 2016, a true and accurate copy of the foregoing filed in Case No. PUE-2015-00107 was electronically delivered or mailed first class, postage pre-paid, to the following:

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