COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

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APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

CASE NO. PUR-2025-00056

For approval and certification of electric transmission facilities: 500 kV and 230 kV Golden-Mars Lines, Lockridge 230 kV Loop,[1] Sojourner 230 kV Loop, and Related Projects

ORDER

On March 28, 2025, Virginia Electric and Power Company ("Dominion" or the "Company") filed with the State Corporation Commission ("Commission") an application ("Application") for approval and certification of electric transmission facilities in Loudoun County, Virginia.[2] Dominion filed its Application pursuant to § 56-46.1 of the Code of Virginia ("Code") and the Utility Facilities Act, Code § 56-265.1 *et seq*.[3]

Through its Application, the Company proposed to complete the following (collectively, the "Golden-Mars Project" or "Project"): (i) construct a new overhead 500 kilovolt ("kV") single circuit transmission line and a new overhead 230 kV single circuit transmission line between Golden Substation and Mars Substation (the "Golden-Mars Lines"); (ii) construct a new overhead double circuit 230 kV transmission line by cutting the proposed 230 kV Golden-Mars Lines and looping them into and out of the Prentice Drive Substation (the "Prentice Loop"); (iii) construct a new overhead double circuit 230 kV transmission line between Mars Substation and

[1] On October 15, 2025, Dominion filed amendments to its application and supplemental direct testimony supporting the substitution of the Prentice Loop for the Lockridge Loop. While the Prentice Loop replaced the Lockridge Loop as a component of the project for which Dominion requests approval, the caption of this case has remained consistent since the Company's initial filing in this docket.

[2] Ex. 11 (Application) at 1, 2.

[3] *Id.* at 1.

Sojourner Substation (the "Sojourner Loop"); and (iv) perform work at the Company's Golden, Mars, Prentice Drive, Sojourner, and Shellhorn Substations.[4]

Dominion stated in its Application that the Project is necessary to relieve identified violations of North American Electric Reliability Corporation ("NERC") Reliability Standards in order to maintain and improve reliable electric service to customers in the load area.[5] The Company further stated the Project is needed (i) to resolve a 300 megawatt ("MW") N-l-1 load drop violation identified by PJM Interconnection, L.L.C. ("PJM") by looping the Golden-Mars Lines into and out of the Prentice Drive Substation (*i.e.*, the Prentice Loop) and (ii) to address spatial and Federal Aviation Administration constraints along the Carters School Road Segment of the Golden-Mars Lines by removing existing Lines #2095/#2292 from an existing transmission corridor and reconnecting the Mars and Sojourner Substations along a route that will allow the Company to interconnect future load (*i.e.*, the Sojourner Loop Proposed Route, as described herein).[6] According to Dominion, the proposed Project, along with the Mars-Wishing Star Project[7] and the Aspen-Golden Project,[8] will complete the 500 kV transmission loop in the Northern Virginia area surrounding Data Center Alley, bringing needed capacity to the Eastern

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[4] *See id.* at 2-6; Dominion's Post-Hearing Brief at 1.

[5] Exhibit 11 (Application) at 6. Dominion defines the load area as the area extending generally from the Fairfax/Loudoun County line to the east, Potomac River to the north, the Company's existing 500 kV Brambleton-Goose Creek Line #558 to the west, and State Route 50 to the south, including Data Center Alley and Washington Dulles International Airport in Loudoun County, Virginia (the "Eastern Loudoun Load Area"). *Id.*

[6] *Id.* at 6-7.

[7] *See Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: 500-230 kV Wishing Star Substation, 500 kV and 230 kV Mars-Wishing Star Lines, 500-230 kV Mars Substation, and Mars 230 kV Loop*, Case No. PUR-2022-00183, Final Order (Apr. 5, 2023) ("Mars-Wishing Star Project").

[8] *See Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: 500-230 kV Aspen Substation, 500 kV Aspen-Goose Creek Line #5002, and 500 kV and 230 kV Aspen-Golden Lines #5001, et al.,* Case No. PUR-2024-00032, Final Order (Feb. 6, 2025) ("Aspen-Golden Project").

Loudoun Load Area, while also mitigating identified NERC reliability violations and maintaining reliable service for overall load growth in the Project area and the Commonwealth.[9]

In its Application, the Company identified six separate alternative routes for the Golden-Mars Lines, including an approximately 9.4-mile overhead alternative route ("Route 1"); an approximately 9.3-mile overhead alternative route ("Route 2"); an approximately 8.3-mile overhead alternative route ("Route 3"); an approximately 8.4-mile overhead alternative route ("Route 3A"); an approximately 8.3-mile overhead alternative route ("Route 4"); and an approximately 9.8-mile overhead alternative route ("Route 5").[10] The Company selected Golden-Mars Route 3 in the Application as its proposed route for the Golden-Mars Lines.[11] The Company initially[12] noted that only Route 5 can be constructed without Loudoun County Board of Supervisors and/or Loudoun County School Board approval.[13] Additionally, the Company identified an approximately 0.4-mile overhead proposed route for the Prentice Loop ("Prentice Loop Proposed Route"), as well as an approximately 1.9-mile overhead proposed route for the Sojourner Loop ("Sojourner Loop Proposed Route").[14]

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[9] Exhibit 11 (Application) at 7.

[10] *Id.* at 6-7. Additional alternative routes were presented for the Commission's consideration in the course of this proceeding: the Commission Staff proposed the Staff Alternative Route, *see* Ex. 58 (Staff Report) at 55-57; the Company presented Route 3B, *see* Tr. (Rosenberg) at 2311-21, and Route 5A, *see id.* at 1153-59, 1192; and Loudoun County proposed Underground Options A, B, and C, *see* Ex. 29 (Conroy Direct) at Exhibit BC-3. The Commission wishes to express its deepest sympathies to the family and loved ones of Brian A. Conroy, P.E., on his untimely passing shortly after the hearing in this case. Mr. Conroy was a respected expert who appeared multiple times before the Commission. His expertise, candor, and demeanor will be missed.

[11] Exhibit 11 (Application) at 7.

[12] During the hearing, the Company acknowledged that a portion of Route 5 traverses a small section of County-owned land that is expected to be transferred to a community currently under development. Tr. (Rosenberg) at 1151-55.

[13] Ex. 11 (Application) at 7.

[14] *Id.* at 9.

Dominion's desired in-service target date for the proposed Project is June 1, 2028.[15] The Company represented that the total estimated conceptual cost of the Project as proposed is approximately $513.1 million, which includes approximately $459.0 million for transmission-related work and approximately $54.1 million for substation-related work (2025 dollars).[16]

On June 3, 2025, the Commission issued an Order for Notice and Hearing in this proceeding that, among other things, docketed the Application; established a procedural schedule; directed Dominion to provide notice of its Application to the public; provided interested persons an opportunity to comment on the Application or participate in the proceeding as respondents; scheduled public witness and evidentiary hearings; directed the Staff of the Commission ("Staff") to investigate the Application and file testimony and exhibits containing its findings and recommendations thereon; provided the opportunity for respondents to file testimony and exhibits; provided the opportunity for the Company to file rebuttal testimony and exhibits; and appointed a Hearing Examiner to rule on all discovery matters and *pro hac vice* motions.

Staff requested that the Department of Environmental Quality ("DEQ") coordinate an environmental review of the Project by the appropriate agencies and provide a report on the review.[17] On May 16, 2025, DEQ filed its report on Dominion's Application ("DEQ Report"), which included a Wetlands Impact Consultation provided by DEQ's Office of Wetlands and Stream Protection.

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[15] *Id.*

[16] *Id.* at 10.

[17] Letter from Andrew F. Major, Esquire, State Corporation Commission, dated March 31, 2025, to Bettina Rayfield, Department of Environmental Quality, filed in Case No. PUR-2025-00056; Letter from Andrew F. Major, Esquire, State Corporation Commission, dated March 31, 2025, to David L. Davis, Department of Environmental Quality, filed in Case No. PUR-2025-00056.

The following parties filed notices of participation in this proceeding: Loudoun County, Virginia ("Loudoun County"); Loudoun Valley Estates Homeowners' Association, Inc. ("LVE I"); LVE II Homeowners Association, Inc. ("LVE II"); LVE III Homeowners Association, Inc. ("LVE III"); Theresa Ghiorzi, *pro se* ("Ms. Ghiorzi"); HOA Roundtable, Inc. ("HOA Roundtable"); the Coalition to Protect the Broad Run Stream Valley (the "Coalition"); Loudoun County School Board and Loudoun County Public Schools (collectively, "LCSB"); and Piedmont Environmental Council ("PEC").

Dominion, Staff, Loudoun County, LVE I, LVE II, LVE III, PEC, the Coalition, LCSB, HOA Roundtable, and Ms. Ghiorzi prefiled testimony in this case.

Local public witness hearings were held in Loudoun County on September 18, 2025, and September 29, 2025. A public witness hearing was held in Richmond on December 15-18, 2025. The evidentiary hearing convened on January 8-9, 2026, continued on January 12-13, and concluded on January 15, 2026. Counsel for Dominion, Loudoun County, LVE I, LVE II, PEC, HOA Roundtable, LCSB, the Coalition, and Commission Staff were in attendance.[18] Ms. Ghiorzi appeared *pro se*.

[18] Counsel for LVE III was excused from the proceedings following opening arguments. Tr. at 1015.

At the direction of the Commission, post-hearing briefs were filed by Staff,[19] Dominion, LVE II, LVE III, the Coalition, Ms. Ghiorzi, LVE I/HOA Roundtable,[20] PEC, LCSB, and Loudoun County on February 3, 2026.

NOW THE COMMISSION, upon consideration of this matter, is of the opinion and finds that the public convenience and necessity require construction of the Golden-Mars Project. The Commission finds that a certificate of public convenience and necessity ("CPCN") authorizing the Project should be issued subject to certain findings and conditions stated herein. The Commission further finds that the approval herein satisfies all statutory requirements attendant thereto, supported by the analysis below.[21]

Applicable Law

Dominion seeks a CPCN for, and approval of, the proposed Project pursuant to the Utility Facilities Act and Code § 56-46.1. Section 56-265.2 A 1 of the Utility Facilities Act states in part as follows:

[19] In its brief, Staff recommends that the Company be required to separately track costs for certain transmission projects on a project-by-project basis. Staff's Post-Hearing Brief at 7. Staff further submits that such information is necessary for, and should be provided to Staff prior to, the Company's next Rider T-1 proceeding. *Id*. The Commission declines to adopt Staff's recommendations here. However, we clarify that for purposes of the Company's next Rider T-1 proceeding, while Staff may wish to propose, among other things, a procedure or methodology for the direct assignment of certain project costs in future proceedings, the Commission does not necessarily anticipate that Staff will be in a position at that time to also propose specific project-by-project cost allocations.

[20] LVE I and HOA Roundtable filed a joint brief.

[21] The Commission has fully considered the evidence and arguments in this record. Any lack of discussion of any particular part thereof does not indicate otherwise. Moreover, to the extent this Order does not speak to a particular issue or claim, the Commission has found that such is neither legally nor factually necessary and that the approval herein is supported by the record and satisfies statutory requirements.

> [I]t shall be unlawful for any public utility to construct, enlarge or acquire . . . any facilities for use in public utility service, except ordinary extensions or improvements in the usual course of business, without first having obtained a certificate from the Commission that the public convenience and necessity require the exercise of such right or privilege.

Code § 56-46.1 A states in part as follows:

> Whenever the Commission is required to approve the construction of any electrical utility facility, it shall give consideration to the effect of that facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact. . . . In every proceeding under this subsection, the Commission shall receive and give consideration to all reports that relate to the proposed facility by state agencies concerned with environmental protection; and if requested by any county or municipality in which the facility is proposed to be built, to local comprehensive plans that have been adopted. . . . Additionally, the Commission (a) shall consider the effect of the proposed facility on economic development within the Commonwealth . . . and (b) shall consider any improvements in service reliability that may result from the construction of such facility.

Code § 56-46.1 B further provides, in part, that:

> As a condition to approval the Commission shall determine that the line is needed and that the corridor or route chosen for the line will avoid or reasonably minimize adverse impact to the greatest extent reasonably practicable on the scenic assets, historic and cultural resources recorded with the Department of Historic Resources, cultural resources identified by federally recognized Tribal Nations in the Commonwealth, and environment of the area concerned. . . . In making the determinations about need, corridor or route, and method of installation, the Commission shall verify the applicant's load flow modeling, contingency analyses, and reliability needs presented to justify the new line and its proposed method of installation. . . . Additionally, the Commission shall consider, upon the request of the governing body of any county or municipality in which the line is proposed to be constructed, (a) the costs and economic benefits likely to result from requiring the underground placement of the line and (b) any potential impediments to timely construction of the line.[22]

[22] Code § 56-46.1 D provides that unless the context requires a different meaning, the terms "environment" or "environmental," which as shown above are used in Code §§ 56-46.1 A and B, "shall be deemed to include in meaning 'historic,' as well as a consideration of the probable effects of the line on the health and safety of the persons in the area concerned."

In addition, the Code requires consideration of existing rights-of-way when siting transmission lines. Code § 56-46.1 C provides that "[i]n any hearing, the public service company shall provide adequate evidence that existing rights-of-way cannot adequately serve the needs of the company." Code § 56-259 C also provides that "[p]rior to acquiring any easement of right-of-way, public service corporations will consider the feasibility of locating such facilities on, over, or under existing easements of rights-of-way."

Background

This proceeding is about the need and authorized routing for a proposed transmission project planned to resolve critical, near-term reliability violations anticipated in Northern Virginia. Although the Commission has no jurisdiction over the permitting or siting of data centers located in the region, which are primarily responsible for the recent and forecasted load growth in Loudoun County, data centers have unsurprisingly become part of the dialogue in this proceeding given the challenges and opportunities they present with respect to planning for and operating the electric system.

The Golden-Mars Project is located in Eastern Loudoun County, home to "Data Center Alley" and the largest concentration of data centers on the planet. The County has actively recruited these businesses to locate within its borders since at least 2009, and continues to do so.[23] In fiscal year 2024, tax revenues from data centers totaled $875 million, according to the County's economic development office, which was $35 million more than the County's entire

[23] David Uberti, *The 'Godfather of Data Centers' Making Offers Big Tech Can't Refuse*, The Wall Street Journal, Feb. 22, 2026. The items cited herein outside the record are solely for background purposes and have not been weighed or considered in exercising our statutory discretion in this matter.

general operations budget.[24] Tax revenues from data centers support county amenities, infrastructure, and public schools—including Rosa Lee Carter Elementary School and Rock Ridge High School. The County also attributes data center tax revenue with supporting a decline in the real estate tax rate—paid by Loudoun County homeowners—from $1.155 per $100 of assessed value in fiscal year 2015 to $0.805 per $100 of assessed value in fiscal year 2026, a reduction of more than 30 percent.[25]

The proliferation of data centers in eastern Loudoun County over the past two decades, however, has placed new demands on the electric system. These increased demands require increased infrastructure, and that infrastructure comes at a cost—fiscal, environmental, and societal. And having long enjoyed the benefits of the data center economy, Loudoun County is now faced with some of those increasing costs.[26]

As discussed below, the reliability risks presented in this case are real and imminent, irrespective of the driver. And these reliability implications extend to all customers within, and even beyond, Loudoun County's borders. Without the proposed Project, the potential for outage and load-shed events in the near term grows more likely. The Commission's authority in transmission line proceedings, however, does not end with a determination of need. We are also tasked with evaluating and selecting *how* that need is addressed in a manner that best serves the

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[24] Loudoun Virginia Economic Development Data Center Fact Sheet located at https://23372029.fs1.hubspotusercontent-na1.net/hubfs/23372029/Website%20Files/Data%20Center%20Fact%20Sheet%20One%20Pager%205.1.25.pdf

[25] *Id.*

[26] The Commission is agnostic as to the business operations of any individual or class of electricity user serviced by an electric utility. Accordingly, we express no opinion on the relative merits or challenges associated with data centers, generally.

public interest. This includes consideration of environmental, scenic, economic, and historic impacts.

It is clear, based on the continued courtship of data centers not only within Loudoun County but in other jurisdictions as well, that data centers offer real benefits to the localities in which they are located.[27] However, as the transmission infrastructure necessitated by data center development continues to grow, particularly in data center "dense" regions, our options for meeting those needs will likely become more impactful and challenging, generally. That is, the impacts to the community and environment proximate to any new transmission line in some concentrated areas of data center development will become greater, regardless of route.[28] Hence, much of the opposition seen in the present proceeding.

The Commission has compiled an extensive record in this case. It is clear that the communities most impacted by the proposed routes are united in their concerns regarding this infrastructure project. In a commendable expression of civic engagement, thousands of Virginians availed themselves of the various avenues the Commission provided for public engagement. The Rock Ridge High School auditorium was filled twice for in-person local hearings. Thousands of pages of written comments were received through the Commission's public comment web portal. The Commission called approximately 600 individuals who signed up to comment orally over the first three days of the hearing. And while we were not able to

[27] In addition to economic benefits in the form of increased tax revenues for a county or locality, there is a growing body of evidence that, if planned correctly, data centers can result in greater rate stability or rate reductions for residential and other non-large load customers in service territories within which they are located. *See, e.g.*, EPRI, *Win-Win Watts: When Can Data Centers, Efficient Electrification, and New Loads Lower Electricity Prices?* (Jan. 28, 2026), https://www.epri.com/research/products/000000003002034619.

[28] This suggests that there may be a level of data center concentration in specific regions that results in no reasonable transmission solution. To avoid such an outcome, the Commission may need to explore in the future whether a more coordinated or proactive approach to planning on the part of both the Company and the relevant localities is prudent and achievable.

connect with all 600, at least eighty-six individuals we did not reach had previously submitted written comments, and others did so subsequently.

High-volume response cases are not unknown to the Commission, but these comments stood out for their personalization, passion, and civility. In large part, they did not contest need. Many, in fact, recognized the need for increased capacity, either explicitly or implicitly. But they were almost universal in their support for undergrounding the line and, in large part, their opposition to all overhead routes. This is understandable, but unfortunate, as it leaves the Commission with comparatively few comments from the community on their preferences among the overhead routes.

As discussed below we conclude, based on the record evidence, that an underground route for the Golden-Mars Project is not feasible. We find, after considering the factors prescribed by law and the evidence presented in this case, that Route 4 is the least impactful of the potential overhead routes and, within the parameters of the statute, best serves the total public interest and we approve Route 4.[29]

[29] It was suggested during the hearing that the Commission could issue a ruling wherein it would address the topics of need and undergrounding feasibility, and, if undergrounding were determined to be infeasible, the Commission could rank the routes in order of preference and allow the participants 60 days to attempt to reach an agreed-upon solution. The Commission declines this invitation. A Commission order for a CPCN represents an essential exercise of the Commission's duty and discretion as delegated by the General Assembly; it is not an opening bid against which some subset of parties can then negotiate.

Moreover, we recognize that Route 4—and all overhead route options for the proposed Project—can be blocked by Loudoun County, the LCSB, or both. Indeed, the changing representations by both Loudoun County and the LCSB throughout the hearing and in post-hearing briefs made identifying workable overhead routing options unnecessarily challenging, particularly in the face of a time-sensitive reliability need. However, those potential legal obstacles have not yet been definitively exercised. To the extent Route 4 is barred in the future due to a concrete lack of consent, an alternative route that satisfies the statutory criteria will need to be approved.

Public Convenience and Necessity

NERC is designated by the Federal Energy Regulatory Commission ("FERC") to reduce risks to the reliability and security of the bulk power system.[30] FERC regulates, and NERC monitors, the PJM regional transmission organization which is "responsible for ensuring the reliability and coordinating the movement of electricity through all or parts of" 13 states—including Virginia—and the District of Columbia.[31] To that end, NERC develops and enforces mandatory NERC Reliability Standards[32] to ensure the current and future reliability of the electric grid.

Dominion is a transmission operator and part of PJM. Within PJM, Dominion's transmission system provides transmission service to entities in the DOM Zone.[33] Dominion must comply with the mandatory NERC Reliability Standards or face fines of up to $1.3 million per violation per day.[34]

PJM regularly conducts its Regional Transmission Expansion Plan ("RTEP") process, by which it analyzes the electric transmission system for needed improvements in the PJM region. Projects identified through the RTEP process are classified as: (i) baseline upgrades, meaning they "resolve a system reliability criteria violation;" (ii) network upgrades needed "primarily to

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[30] Ex. 11 (Appendix) at 2.

[31] *Id.* at 1.

[32] Violations of the NERC Reliability Standards are also referred to herein as "NERC Reliability Criteria" violations.

[33] The "DOM Zone" is the transmission area within PJM that is served by Dominion. Dominion's transmission system provides transmission service for redelivery to the Company's retail customers and to the following: Appalachian Power Company; Old Dominion Electric Cooperative; Northern Virginia Electric Cooperative; Central Virginia Electric Cooperative; the Virginia Municipal Electric Association; the North Carolina Electric Membership Corporation; and North Carolina Eastern Municipal Power Agency. Ex. 11 (Appendix) at 1.

[34] *Id.* at 2.

eliminate reliability criteria violations caused by proposed generation, merchant transmission, or long-term firm transmission service requests;" and (iii) supplemental projects that are needed "to interconnect new customer load, address degraded equipment performance, improve operational flexibility and efficiency, and increase infrastructure resilience."[35]

Through the RTEP process, PJM identified multiple contingency scenarios that are expected to result in violations of NERC's Reliability Standards in the Eastern Loudoun Load Area by summer 2028 due to projected load growth in the area.[36] The identified violations were included in PJM's "open window" Competitive Planning Process—a process that provides opportunities for both incumbent (*e.g.*, a public utility like Dominion that owns, operates, and develops transmission infrastructure within a designated service territory) and non-incumbent transmission developers to propose projects that address identified transmission needs.[37] Dominion submitted its proposed solution for the identified violations—which included the scope of the Golden-Mars Project[38]—in PJM's 2022 Open Window #3.[39] Dominion's proposal was selected by PJM as the preferred solution and was ultimately approved by the PJM Board of

[35] *Id.* at 3.

[36] Ex. 58 (Staff Report) at 6-7.

[37] Ex. 11 (Appendix) at 4.

[38] *Id.*

[39] *Id.*

Managers[40] as a baseline project.[41] It is the third and final component of a 500 kV/230 kV transmission loop in Eastern Loudoun County that interconnects the Mars-Wishing Star and Aspen-Golden Projects previously approved by the Commission.[42]

Dominion asserts that the Project is needed to: (i) relieve the NERC Reliability Standard violations beginning in the summer 2028 timeframe caused by significant increases in electrical demand and projected load growth; (ii) interconnect future load; and (iii) maintain the integrity and reliability of the Company's transmission system.[43]

The record evidence demonstrates that PJM identified—through its regular RTEP process—load-based violations of the NERC Reliability Standards in the Eastern Loudoun Load Area as early as summer 2028; that solutions were solicited through a competitive process; and that the Golden-Mars Project (designated a critical baseline reliability project by PJM) was selected by PJM as the preferred solution[44] to address the identified violations. Dominion asserts

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[40] *Id*. at 39-40. PJM identified the following benefits of Dominion's proposal: (i) offers a robust transmission solution in the area that adds one new 500 kV circuit along the existing 500 kV corridor and encompasses the load center; (ii) introduces one additional 500 kV source substation at the heart of the load center; (iii) does not bottleneck the existing 500 kV infrastructure in the area due to higher overhead line ratings; (iv) offers direct accessibility to the transmission infrastructure; and (v) offers a parallel 500 kV path to the current 500 kV circuit between Brambleton/Loudoun and Goose Creek area. *Id*. at 39, 50.

[41] *Id*. at 2. As described above, a baseline project is designed to resolve a system reliability criteria violation. Dominion witness Gardner explained that baseline reliability projects are driven by aggregate load growth whereas "supplemental projects are oriented towards interconnecting new large-load customers onto our system." Tr. (Gardner) at 2501-02.

[42] *See* Ex. 90 (Gardner Rebuttal) at 5. This transmission loop "creates something analogous to a major highway bringing bulk power to relieve constraints in [Data Center Alley] and ensure reliability for all customers in the area." Ex. 80 (Rosenberg Rebuttal) at 10. PJM has approved three new 500 kV lines that are currently in development and have not yet been submitted to the Commission for approval. *Id*. These projects would bring an additional 6.3 gigawatts into Loudoun County and, according to Dominion, "are dependent upon the Golden-Mars Lines being timely constructed." Ex. 90 (Gardner Rebuttal) at 6. *See* Ex. 80 (Rosenberg Rebuttal) at 10-11. Stated simply by Dominion witness Gardner, "other projects that we have proposed stack on top of this one and rely upon its being in service to our customers for them to work and have the intended effect in the future." Tr. (Gardner) at 2480.

[43] Ex. 11 (Appendix) at i.

[44] *See id*. at 39.

that "the failure to address the identified projected violations for this area could lead to service interruptions and potentially damage the Company's electrical facilities in this area, negatively impacting electric service to the region."[45]

Staff testified that it verified the Company's load flow modeling, contingency analyses, and reliability needs presented to justify these lines and the proposed method of installation.[46] Staff concluded that "additional infrastructure would be necessary by 2029 to address projected reliability criteria violations"[47] and the Project will "(i) address projected NERC Reliability Criteria violations starting in the summer of 2028; (ii) ensure the structural integrity and reliability of the transmission system to accommodate overall load growth in the Eastern Loudoun Load Area; and (iii) provide reliable service to future customers within the Project area."[48] Staff also recognized that failing to address the projected NERC Reliability Criteria violations at issue in this case "could critically impair the transmission system's ability to deliver reliable electric service, exacerbating an already energy-constrained area."[49]

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[45] *Id*. at 4.

[46] Staff analyzed the need for the Project and determined that the 230 kV Golden-Mars Line with the Prentice Loop ("230 kV Project Component") resolves the projected NERC Reliability Standards violations in the summer of 2028. Ex. 58 (Staff Report) at 10. However, the 230 kV Project Component would not resolve additional projected violations expected to occur a year later. *Id.* at 10-11. Staff asked the Company to conduct additional modeling and contingency analyses to identify whether certain alternatives would support the undergrounding of the Golden-Mars Lines. Ex. 57 (Company's Response to Commission Staff's Interrogatory Set 09-118). The results of these additional studies demonstrated that a new switching station (Rubus Switching Station) would be needed to support undergrounding the Golden-Mars Lines; however, the earliest in-service date for the Rubus Switching Station would be in 2030. *Id.* The Company concluded that construction sequencing proposed by Staff would not be viable within the timeframe required to mitigate the identified near-term system violations. *Id.* Thus, the timing of the projected NERC Reliability Standard violations is not compatible with an underground solution.

[47] Ex. 58 (Staff Report) at 11-12.

[48] *Id.* at 13.

[49] *Id.* at 9-10.

The Commission finds that the Project is needed. In addition to the foregoing, this conclusion is supported by evidence of the current demands on Dominion's system in general and on the Eastern Loudoun Load Area in particular. Regarding the former, Dominion's transmission system set its top ten peak loads in 2025.[50] Further, based on PJM's 2025 Load Forecast, the DOM Zone is expected to experience average load growth rates of 6.3% and 6.0% for summer and winter, respectively, over the next 10 years.[51]

Regarding the Eastern Loudoun Load Area specifically, current strains on the Company's system are evidenced by the number and duration of Post-Contingency Local Load Relief Warnings ("PCLLRWs") that occurred last year.[52] A Company witness explained that in 2025, Dominion experienced 105 PCLLRWs throughout its system, and "this is by far the largest number of PCLLRWs ever issued in [Dominion's] system."[53] Ninety-four of the PCLLRWs occurred in Northern Virginia (Loudoun and Prince William Counties).[54] In 2025, the Company was under some form of PCLLRW for over 1,600 hours, occurring during 65 days of the year.[55]

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[50] Tr. (Gardner) at 2477.

[51] Ex. 11 (Appendix) at 1. By way of comparison, PJM's average growth rate over the same period is projected to be 3.1% and 3.8% for summer and winter, respectively. *Id*. at 1-2.

[52] According to Dominion, its system is operated on an "N-1 basis." This means that if one element of the grid is lost, the loss could be supported by other equipment that is in service. Tr. (Lowe) at 1095-96. Stated differently, "N minus one makes sure that if you were to lose something, we aren't causing any violation elsewhere." *Id*. at 1096. During a PCLLRW, "if the contingency or the event were to occur or if the element were to be lost, the only option that [Dominion has] is to shed load." *Id*.

[53] Tr. (Gardner) at 2474.

[54] *Id*.; *see also* Dominion's Post-Hearing Brief at 14.

[55] *See* Tr. (Gardner) at 2476; *see also* Dominion's Post-Hearing Brief at 14.

We note that no party to this proceeding presented evidence contesting the need for any of the Project components—namely, the Golden-Mars Lines, the Prentice Loop,[56] and the Sojourner Loop.[57] The present demands on Dominion's system in the Project area, in conjunction with significant load growth on the horizon,[58] clearly support an urgent need for the Golden-Mars Project. We further recognize that the need for the Project cannot be obviated by delaying the connection of additional load to the system, as some respondents suggest.[59]

Undergrounding

Several parties urge the Commission to approve an underground route for the Project and, to that end, Loudoun County developed three routes that purport to underground a segment of the Golden-Mars Lines ("County Hybrid Proposals").[60] The threshold question with respect to any

[56] The Prentice Loop is needed to resolve a projected 300 MW N-1-1 load drop violation and to comply with the associated NERC Reliability Criteria. *See* Ex. 11 (Appendix) at 7. *See also* Ex. 58 (Staff Report) at 8-9. Staff concluded that the Company demonstrated the need for the Prentice Loop. *See id.* at 13. We concur.

[57] The Sojourner Loop is needed to address spatial limitations and Federal Aviation Administration constraints along the Carters School Road segment of the Golden-Mars Lines and to provide necessary infrastructure to support future load growth without requiring new right-of-way along a separate greenfield route. *See* Ex. 11 (Appendix) at 7-8. *See also* Ex. 58 (Staff Report) at 9. Staff concluded that the Company demonstrated the need for the Sojourner Loop. *See id.* at 13. We concur.

[58] Such future load growth includes 37 additional delivery points in the Eastern Loudoun Load Area that are in various stages of development. Four of these are planned delivery points for the Northern Virginia Electric Cooperative associated with a new data center development adjacent to the Mars Substation. *See* Ex. 11 (Appendix) at 18-19. *See also* Ex. 58 (Staff Report) at 6, 10.

[59] *See, e.g.,* Tr. (Winston) at 969 ("new connections can be managed or delayed to accommodate for any construction extensions resulting from underground placement"); Tr. (Powers) at 1093 ("one of the main ways they can protect grid reliability is by delaying the addition of new large-load customers until there is adequate generation and transmission capacity."). *But see* Tr. (Gardner) at 2486-87 ("I think we've made it crystal clear, in my testimony and others, that this is not an interconnection case, that this is a baseline reliability project with an urgent need to be in service by June 1st of 2028. We cannot delay the interconnection of new customers to avoid this need. This need persists beyond–beyond the control of a delay."). *See also* Tr. (Cizenski) at 1931, 1936 (confirming Staff's position that the Project needs to be in service by June 1, 2028, regardless of the interconnection of any new customers). Further, the Project is needed despite accounting for demand-side resources. *See* Ex. 11 (Appendix) at 32.

[60] *See* Ex. 29 (Conroy Direct) at Exhibit BC-3.

underground alternative is feasibility. And while one synonym of "feasible" is "possible," the more appropriate synonym for these purposes is "practicable."[61] With unlimited time, resources, capital, and creativity, there is little that is outside the realm of the possible. That is not what we are called upon to decide. Our role in these proceedings is not merely to separate the theoretically possible from the demonstrably impossible. Rather, it is incumbent on the Commission to determine whether a particular project or alternative is practicable (*i.e.*, feasible as determined by the Commission in its exercise of discretion). And based on the record evidence in this case—especially as it relates to timing, cost, and constructability (including topography and engineering challenges)—we conclude that no proposed undergrounding alternative is feasible.

First, the County Hybrid Proposals cannot be constructed in time to meet the Company's targeted in-service date of June 1, 2028. Loudoun County estimates that it would take approximately 45 months after the Commission's Final Order in this case to place one of the County Hybrid Proposals into service.[62] This would exceed the target in-service date by approximately 18 months and the Company's requested sunset date of June 1, 2029, by approximately six months.[63] Even assuming an underground option is otherwise feasible—which it is not—the record evidence suggests this to be an optimistic timeframe to complete any of the County Hybrid Proposals.[64] Further, as discussed above, the Company's system in the

[61] https://www.merriam-webster.com/dictionary/feasible#synonyms (last visited Apr. 8, 2026).

[62] *See* Ex. 36 (Loudoun County's Response to Dominion's Interrogatory 5-95).

[63] *See* Tr. (Conroy) at 1533-34.

[64] Loudoun County's 45-month timeframe does not fully account for delays associated with securing a viable transition station site, *see id.* at 1472; relocating existing utilities, *see id.* at 1513-14; and the presence of diabase rock in the area, *see id.* at 1502-09. *See also* Dominion's Post-Hearing Brief at n.213.

Eastern Loudoun Load Area is currently strained, as evidenced by the recent increase of PCLLRWs and the PJM-identified reliability violations projected to occur as soon as the summer of 2028. Significant delays in energizing the Golden-Mars Project would jeopardize service reliability in the Eastern Loudoun Load Area.

Second, it is uncontested that the cost of even a partial underground option would vastly exceed the cost of a fully overhead route.[65] In addition to developing overhead route options for the Golden-Mars Lines, the Company considered undergrounding options and provided 11 hybrid route alternatives to its consultant for review.[66] The total estimated cost of the Project using these hybrid options could, in certain circumstances, exceed $1.2 billion.[67] In contrast, the total Project cost using one of Dominion's overhead routes ranges from approximately $513 million to $582 million.[68] Loudoun County's estimates of the total cost of the County Hybrid Proposals (overhead and underground segments) range from approximately $732 million to $823 million.[69] Notably, Loudoun County's witness testified that the cost estimates of the

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[65] *See, e.g.,* Ex. 58 (Staff Report) at 64 (concluding that "the estimated cost of any of the undergrounding proposals is significantly higher than any of the overhead Golden-Mars route alternatives"). *See also* Tr. (Brown) at 1620 (Loudoun County witness Brown acknowledges that underground options would result in a higher cost for the Project).

[66] *See* Ex. 11 (Routing Study) at Appendix C. *See also* Ex. 58 (Staff Report) at 57-58. According to Dominion's Underground Feasibility Study that analyzed the 11 potential hybrid routes, "[e]ach hybrid route studied had multiple insuperable flaws, including: conflicts with existing utilities and land uses, permitting risks, crossings of public land, high costs compared to overhead options, lack of suitable transition station sites, and adverse geologic conditions." Ex. 11 (Appendix) at 100-01. *See also* Ex. 11 (Routing Study) at Section 8-1. The Underground Feasibility Study further concluded that "none of these hybrid routes would meet the required in-service target date of June 1, 2028, even if deemed viable." Ex. 11 (Appendix) at 100-01. The Commission agrees that these routes do not present feasible undergrounding options for the Golden-Mars Project.

[67] *See* Ex. 11 (Routing Study) at Appendix C, Sections 4 and 5. *See also* Ex. 58 (Staff Report) at 59. We note that these hybrid options still cannot surmount constructability barriers to undergrounding the Golden-Mars Lines discussed herein.

[68] *See, e.g.,* Ex. 58 (Staff Report) at 37.

[69] *See* Ex. 31 (Loudoun County Response to Staff's Interrogatory Set 5-13, 5-17, 5-18, 5-19) at 8.

underground portion of the County Hybrid Proposals—which range from $354 million to $471 million—could vary by as much as +200%/-50%.[70] Thus, the high end of the estimated cost of *just the underground portion* of the County Hybrid Proposals could approach $1.5 billion, which is approximately three times more than the entire Project constructed overhead.

Third, constructability impediments significantly challenge—if not preclude—underground options for the Golden-Mars Lines. Each of the County Hybrid Proposals traverses areas known to contain diabase rock, which is exceptionally hard, abrasive volcanic rock that presents severe challenges for construction activities such as trenching and horizontal directional drilling.[71] Additionally, all three of the County Hybrid Proposals significantly conflict with existing utility easements.[72] The County Hybrid Proposals also lack at least one viable transition station site. Each of the County Hybrid Proposals originates at a transition station within the Amazon Web Services ("AWS") Northwoods data center development.[73] The record evidence shows that potential sites for this transition station are encumbered by an AWS building

[70] *See, e.g.,* Ex. 78 (Anderson Rebuttal) at 18. *See also* Tr. (Conroy) at 1451-52.

[71] *See, e.g.,* Ex. 29 (Conroy Direct) at Exhibit BC-3; Dominion's Post-Hearing Brief at 42. *See also* Ex. 80 (Rosenberg Rebuttal) at 68 (explaining that "[t]he prevalence of shallow diabase bedrock throughout eastern Loudoun County is well documented" and "[t]he presence of shallow diabase bedrock is not a minor design detail. It is a fundamental constraint that determines construction feasibility, methodology, cost, and schedule").

[72] *See* Tr. (Conroy) at 1454, 1512. *See also* Ex. 80 Rosenberg Rebuttal at 75 (explaining that "[t]he duct banks, rights-of-way, splice vaults, and workspaces of the [County Hybrid Proposals] would all intersect a number of [] utilities and result in widespread impacts related to service disruption and mass relocation").

[73] *See* Ex. 29 (Conroy Direct) at Exhibit BC-3; Tr. (Conroy) at 1474.

("Building B") currently under construction[74] and the Broad Run floodplain.[75] These constructability challenges—assuming they can be overcome—would almost certainly increase both the cost and construction timeline of the Project.[76]

Finally, we note the evolving nature of the County Hybrid Proposals, particularly regarding potential transition station sites[77] and the scope and specificity of costs and delays associated with the above-identified undergrounding challenges. As noted above, the price tag for one of the County Hybrid Proposals could reach well over $1 billion—a cost all Virginia ratepayers in Dominion's territory would bear. Setting aside other impediments to undergrounding the Golden-Mars Lines, the Commission will not burden Virginia's ratepayers with such costs based on proposals that remained fluid when the record closed in this case. In

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[74] *See, e.g.,* Tr. (Conroy) at 1472-79; Ex. 32 (AWS Site Photographs From 12/31/25); Ex. 33 (AWS Site Photographs From 1/8/26). Loudoun County witness Conroy, when shown pictures of the AWS Northwoods data center development, identified "a lot of concrete foundation poured." Tr. (Conroy) at 1478-79. When asked whether the referenced concrete foundation would change his opinion of whether the site is feasible for a transition station, Mr. Conroy replied, "I wish that fresh-poured concrete weren't already there, but, yeah, like I said earlier, the further along it is, the more impactful it is. So the subsurface work appears to be in place, and the pouring of concrete appears to be underway." *Id.* at 1479. The transition station for the County Hybrid Proposals would sit atop of Building B. *See, e.g., id.* at 1470.

[75] Subsequent to testimony at the hearing regarding the state of construction at the AWS development—particularly Building B—Loudoun County advanced another location on the AWS property for a transition station to accommodate the County Hybrid Proposals. This location, referred to in the record as "Transition Station 2" or "TS-2" is situated almost entirely within the Broad Run floodplain and faces permitting challenges. *See* Tr. (Young) at 2055 (explaining that "TS-2 may not even be permittable due to the surrounding land use and extensive natural resources at the proposed TS-2 location. . . . Even if permittable, it would take [a] considerable amount of time to get this permit approved or [the] project approved").

[76] For example, the County Hybrid Proposals do not include real estate acquisition costs, *see* Tr. (Conroy) at 1522-23; the estimated construction timeframe for the County Hybrid Options does not include all the time required to relocate utilities, *see id.* at 1513-14; and Loudoun County does not have site control over the AWS property and does not have authorization to site a transition station on the partially constructed Building B, *see id.* at 1484. Additionally, two of the County Hybrid Proposals traverse Loudoun Reserve Drive—the only access road to Rosa Lee Carter Elementary School and Rock Ridge High School—and underground construction along these routes would impact school access and take several months to complete. Ex. 78 (Anderson Rebuttal) at 17. Moreover, conductors for the County Hybrid Proposals are "not an everyday high-volume item" (*see* Tr. (Conroy) at 1515) and repair materials for these underground transmission lines are often custom designs and can take several months to procure. Ex. 78 (Anderson Rebuttal) at 10.

[77] *See* n.75 *supra*.

sum, timeliness, cost, and variables associated with constructability each independently lead us to conclude that the undergrounding options set forth in this case are infeasible.

Having found that undergrounding the Golden-Mars Lines is not feasible under the circumstances, we likewise conclude that no underground option would best serve the total public interest.[78] We recognize that the General Assembly recently passed SB 827 and HB 1487 that, if enacted, would provide additional avenues for undergrounding certain electric transmission lines and recovery of the associated costs. The increased cost of underground transmission lines versus conducting an overhead solution is a significant issue, and these pieces of legislation suggest a potential path forward in appropriate cases. As discussed above, the record evidence produced over the course of this case does not support a finding that undergrounding is technically feasible.

Routing

As explained by the Supreme Court of Virginia, in order to approve a route that satisfies the statute, the Commission must evaluate the evidence and balance a multitude of factors:

> The adverse impacts of a proposed project are not to be considered in a vacuum. When presented with an application for transmission line construction, the Commission must balance adverse impacts along with other factors and traditional considerations. Then the Commission, as a tribunal informed by experience, must decide within the parameters of the statute what best serves the total public interest. We conclude that the use of the word "reasonably" demonstrates the General Assembly's recognition of the multifactorial balancing that goes into such an investigation . . . .[79]

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[78] Our finding in this regard is consistent with conclusions reached by Staff. *See* Ex. 58 (Staff Report) at 64 (concluding that the higher cost of undergrounding the Golden-Mars Lines, the lack of existing right-of-way, and the timeline required for construction make undergrounding the Golden-Mars Lines infeasible). In accord with Code § 56-46.1 B, we have also considered the economic benefits of undergrounding a portion of the line, including the impacts on property values. *See infra* at 29-31.

[79] *BASF Corp. v. State Corp. Comm'n*, 289 Va. 375, 394-95, 770 S.E.2d 458, 468-69 (2015) (internal citations and quotation marks omitted).

That is what we have done here. The Commission is acutely aware that placing a project in a particular location involves impacts but also avoids impacts associated with a different location. After considering the alternatives and weighing the multitude of factors presented in this record, the Commission concludes that there is evidence in the record to support the route approved below, including but not limited to the finding that such route "reasonably minimize[s] adverse impact[s]" as required by statute. Again, as explained by the Court:

> . . . "*reasonably* minimiz[ing] adverse impact[s]" involves weighing a multitude of factors. Code § 56-46.1(B) (emphasis added). In this case, the record shows that the Commission considered, in light of these factors, numerous alternatives. . . . As the Commission observed, "[p]lacing a project in a particular location involves impacts but also avoids impacts associated with a different location."[80]

Moreover, the Court has explained that—under Code § 56-46.1 B—the Commission cannot approve a route "by default" but, rather, must affirmatively "'determine' that the [route] reasonably minimizes adverse impacts" as a result of "investigation or reasoning."[81] Again, that is what we have done here.

First, we address the largely uncontested aspects of the Project routes. Regarding the Prentice Loop and the Sojourner Loop, we note that Dominion proposed only one route each for these facilities.[82] Staff concluded that the Prentice Loop Proposed Route and Sojourner Loop Proposed Route are optimal and minimize impacts to the surrounding area and the environment.[83] No party challenged these routes or Staff's findings related thereto. The

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[80] *Id.* at 400-02, 770 S.E.2d at 472-73.

[81] *Id.* at 392-93, 770 S.E.2d at 467 (disagreeing with the appellant's claim that the Commission chose its route "by default" and explaining that, as required by statute, the Commission made its determination as a result of "investigation or reasoning").

[82] *See* Ex. 11 (Application) at 8. *See also* Dominion's Post-Hearing Brief at 6.

[83] *See* Ex. 58 (Staff Report) at 73, 78.

Commission concurs with Staff's findings and approves the Prentice Loop Proposed Route and the Sojourner Loop Proposed Route.[84]

Next, upon consideration of the extensive record developed in this proceeding, the Commission finds that Route 4 satisfies the applicable statutory criteria and best serves the total public interest. The maps included in Attachment A identify overhead routes set forth in the record in this proceeding.[85]

Several aspects of Route 4 underpin our conclusion that it is preferrable to other constructable routes[86] presented in this proceeding. Route 4—like Route 3 and its variants—is located predominately within the Broad Run floodplain in areas where residential uses are prohibited and electrical infrastructure is more consistent with the types of uses and design characteristics of the surrounding area.[87] Route 4 is also collocated, in part, with the data center campus in development to the east of Rock Ridge High School.[88]

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[84] The Company seeks to voluntarily acquire an additional 35 feet or 60 feet of new right-of-way along segments of the Sojourner Loop Route. *See* Ex. 11 (Application) at 5. *See also* Dominion's Post-Hearing Brief at 7; Ex. 58 (Staff Report) at 78. We recognize that Dominion may voluntarily acquire this additional right-of-way; however, the Company shall not exercise the right of condemnation to acquire it.

[85] Attachment A to this Order includes maps that were entered into the record as Ex. 85 (depicting proposed Golden-Mars Route 1, 2, 3, 3A, 4, and 5); Ex. 81 (depicting proposed variations of Golden-Mars Route 3, 3A, and 3B); and Ex. 19 (depicting proposed variations of Golden-Mars Route 5). Attachment A does not include a map of the Staff Alternative Route which incorporates portions of Routes 1, 2, and 3A. *See* Ex. 58 (Staff Report) at 55.

[86] The Commission does not consider participants' routing preferences or the potential for a public entity to withhold legal consent to cross public land easements as determinative of feasibility or constructability for purposes of identifying and selecting the route that best serves the total public interest, particularly given the dynamic nature of such representations as seen in the course of this proceeding.

[87] Ex. 11 (Appendix) at 113.

[88] *See, e.g.,* Tr. (Rosenberg) at 2328.

At 8.3 miles long, Routes 3 and 4 are tied as the shortest of the route alternatives and require the least amount of new right-of-way.[89] Route 4 provides the greatest opportunities for collocation, with 53% of the Golden-Mars Lines positioned to collocate with existing transmission lines.[90] It is also among the least costly of the routes presented in this case.[91]

While we are mindful that any adverse impact is significant to those who live near the proposed Project, we recognize that Route 4 impacts the fewest dwellings in the Project area. Specifically, Route 4 has zero dwellings located within 100 feet of the centerline (a metric it shares only with Route 3B)[92] and, in total, has fewer dwellings located within 250 feet and 500 feet of its centerline than other route alternatives, with 10 and 69 dwellings, respectively.[93] Thus, Route 4 has the least potential for visual impacts to adjacent homes and neighborhoods.[94] It also crosses the fewest parcels of privately-owned land.[95]

We conclude, based on the foregoing reasons and consideration of all the evidence in the record, that Route 4 is the least impactful of the route alternatives and that construction of the Project along Route 4 is in the public interest. Further, Dominion's compliance with various

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[89] *See, e.g.,* Ex. 11 (Routing Study) at 160. The Commission finds that existing rights-of-way are not adequate to accommodate the Project. *See* Ex. 11 (Appendix) at 74.

[90] *See, e.g.,* Ex. 11 (Routing Study) at 161.

[91] *See, e.g.,* Ex. 58 (Staff Report) at 37.

[92] *See* Ex. 82 (Key Features Table).

[93] *Id.* at 1.

[94] *See, e.g.,* Ex. 11 (Routing Study) at 163.

[95] Ex. 82 (Key Features Table) at 1. In reaching our conclusion that Route 4 is the preferable route for the Project, we have weighed the adverse impacts of this route along with its advantages. We recognize that Route 4 affects slightly more wetlands than all but Route 2, impacts the most acreage of forested areas, and is on the high end of the range of impacted floodplain. *Id.* However, we also note that Route 4 would entail the least number of waterbody crossings of the route alternatives. *Id.*

recommendations from the DEQ Report, as discussed below, will provide further assurance of minimal adverse impacts.

Although we conclude that the total public interest is best served by Route 4, we are mindful of the opposition expressed by members of the school communities to any overhead route proximate to school grounds. While we conclude that school grounds do not qualify as scenic assets or historic or cultural resources in the Commonwealth, we recognize that schools serve as important community centers. And the engagement of those—especially students—who advocated for their points of view was very much considered and taken into account.[96] Given the multiplicity of factors that must be addressed and weighed in a CPCN proceeding such as this, we have concluded that Route 4 best serves the public interest as a whole.[97]

Despite our conclusion that Route 4 is decidedly the path of those presented that is most in accord with the public interest,[98] we are cognizant that LCSB has the ability to block this route.[99] It is the Commission's sincere hope, however, that LCSB *not* choose to block the route that best serves the total public interest. If LCSB chooses to block Route 4, then a different route will need to be approved and implemented in order to meet the urgent reliability need that the Project is designed to remedy. The only proposed route that (i) cannot be threatened with

[96] We appreciate the thoughtfulness of the comments voiced by the student advocates and are hopeful that they will remain engaged in issues impacting their community and continue using their voices to shape public policy.

[97] Students and other members of the school communities may also be residents of the Loudoun County residential neighborhoods proximate to, and more directly impacted by, other proposed but unselected routes for the Project.

[98] We note that on January 22, 2025, the Loudoun County Board of Supervisors approved a motion to support Route 4 as the County's preferred route. *See, e.g.,* Ex. 11 (Appendix) at 98. Subsequently, Loudoun County determined, with respect to potential overhead routes, that Route 4 is less preferable than Routes 3, 3A, and 3B, but more preferable than Routes 1, 2, and 5, which Loudoun County does not support. *See* Loudoun County's Post-Hearing Brief at 34-35.

[99] *See* LCSB Post-Hearing Brief at 4. *See also* Code § 56-49.

blockage by the LCSB (given its unwillingness to support any overhead route prior to or during the pendency of the proceeding) and (ii) could serve the total public interest is Route 3A.[100]

And that is regrettable. By almost every objective measure, Route 3A is clearly inferior to Route 4.[101] Route 3A is longer—and therefore costlier—and requires more new right-of-way.[102] Less of Route 3A is collocated and/or parallel to existing and future transmission infrastructure.[103] Nearly four times as many dwellings are within 250 feet of the centerline of Route 3A as compared to Route 4; 113 more homes are within 500 feet.[104] And more dwellings are within 100 feet of the edge of the right-of-way.[105] Route 3A removes mileage from the Suburban Industrial/Mineral Extraction place type and replaces it instead with Suburban Neighborhood.[106]

Route 3A is also less preferable from an environmental standpoint. Although 3% more forest cover and 1% more wetlands are impacted by Route 4, Route 3A has a markedly greater impact on the floodplain and more than 20% more waterbody crossings.[107] Most notably, Route

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[100] *See* Dominion's Post-Hearing Brief at 47-55. *See also* Tr. (Lillestolen) at 1902-03. We note that while Route 3A crosses open space easements held by Loudoun County, the County has stated that it would not block Route 3 or any of its variations in the event the Commission found that no underground route is feasible. Tr. (Rogers) at 1557.

[101] Route 3A, while more impactful and expensive than Route 4 or any of the other Route 3 variations, was designed specifically to avoid LCSB property after LCSB stated it would oppose all overhead routes. Staff's Post-Hearing Brief at 6.

[102] *See* Ex. 82 (Key Features Table).

[103] *See id.*

[104] *See id.*

[105] *See id.*

[106] *See id.*

[107] *See id.*

3A disturbs 150% more acres of Loudoun County open space easements and has a decidedly greater impact on Broad Run Stream Valley Park.[108]

Even if LCSB were disinterested in homeowner and environmental impacts generally, Route 3A would appear to be objectively worse for LCSB in certain respects than Route 4.[109] Route 4 would abut data center property and run behind the visitor stands of Rock Ridge High School's football field and the outfields of its baseball and softball diamonds. Notably, transmission-scale infrastructure already exists along this portion of the route.[110] Route 3A, by contrast, would disturb that portion of Broad Run Stream Valley Park that forms the border of the school property. There is testimony in the record that the schools use that area for academic and extracurricular activities.[111] And while Route 4 would be separated from the schools by acres of asphalt parking lots and a retention pond before turning south, away from the schools, Route 3A would be closer to the Rosa Lee Carter Elementary School play areas and would bisect Loudoun Reserve Drive at the entrance to the campuses.[112]

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[108] *See id. See also, e.g.,* Ex. 54 (Lillestolen Direct) at 19.

[109] The position of the LCSB as between Routes 3A and 4 is unclear because, in disregard of the Commission's request for an order of preference of proposed routes, LCSB refused to express its order of preference with respect to Routes 2, 3, 3A, 3B, 4, and 5. *See* Tr. at 2530; LCSB Post-Hearing Brief at Appendix 1.

[110] Tr. (Lewis) at 1875-76.

[111] *Id.* at 1877, 1885.

[112] *See, e.g.,* Tr. (Rosenberg) at 1203; Ex. 11 (Appendix) at 355. *See also* Ex. 52 (Lewis Direct) at 4 (concerning the experience "entering" and "leaving" campus). In addition to the impacts discussed above, we have considered the Project's impact on scenic assets and historic and cultural resources in the Commonwealth. Dominion's routing consultant analyzed such impacts in accordance with applicable Virginia Department of Historic Resources guidelines. *See* Ex. 11 (Routing Study) at 136-46. The analysis identified five resources along a common segment of the studied route alternatives and assessed the Project's impacts to those resources as "minimal." *See id.* at 144. Additionally, the analysis identified "no impact" to the two historic resources identified within the study area of the Project's other components. *See id.* at 145-46. As discussed below, we have also considered the DEQ Report made part of the record in this case and its findings and recommendations with regard to historic and cultural resources. Ex. 59 (DEQ Report). No party to this proceeding raised concerns about impacts the Project may have on resources identified by federally recognized Tribal Nations in the Commonwealth. We note that the Company solicited comments on the Project from several federally recognized Native American tribes.

Comprehensive Plan

Our conclusions with regard to routing of the Golden-Mars Lines take into consideration the 2019 Loudoun County General Plan ("Loudoun Comprehensive Plan"). Loudoun County takes the position that construction of the Golden-Mars Lines entirely overhead does not conform with the Loudoun Comprehensive Plan.[113] As discussed above, undergrounding is not feasible. We are thus left to determine the best overhead route for the Project by weighing the statutorily-prescribed factors and considering the total public interest. In so doing, we recognized that Route 4 is most advantageous for collocating the Project with existing transmission lines. The Loudoun Comprehensive Plan encourages the collocation of new transmission lines within existing transmission corridors.[114] We also recognized that Route 4 impacts the least number of dwellings in the Project area. The Loudoun Comprehensive Plan encourages minimizing the impact of high-voltage electric facilities on residential communities.[115] In sum, the Commission has received and given consideration to the Loudoun Comprehensive Plan in making our findings herein.

Property Values

A common theme of the extensive public witness testimony and written comments received in this docket is the potential diminution of property values should the Golden-Mars Lines not be constructed, in part, underground. Also, Loudoun County presented the expert testimony of witness Olsen purporting to show, based on sales analyses of residential property sales located along existing 500 kV and 230 kV transmission facilities in Loudoun County, an

[113] Ex. 21 (Giglio Direct) at 12.

[114] *See id.* at 5.

[115] *See id.* at 3.

average diminution of value to such properties of -8.3% and -4.8% within one-quarter mile and one-half mile from the centerline of the transmission lines, respectively.[116]

The testimony of Dominion witnesses Colorito and Seiler exposed significant shortcomings of the analyses offered by Loudoun County witness Olsen. For example, Dominion witness Colorito testified that some properties used in Loudoun County's analyses appear to have no view of existing transmission facilities and, therefore, were inappropriately used in case studies assessing impacts due to the visibility of transmission lines and towers from a residential property.[117] Further, Dr. Seiler and Mr. Colorito pointed out flaws in Mr. Olsen's model that, among other things, included adjustments that assumed unrealistically low values of $5,000 per additional bedroom[118] and $45 per square foot of above-grade gross living area.[119] Ultimately, we find the credibility of Loudoun County's studies to be lacking, and we give them little weight.

But at a more fundamental level, the use of calculated diminution of private property value as a component of transmission route design must be approached carefully. A reduction of 5% to 20 affluent properties may outstrip—in absolute terms—the diminution in value to 50 more modest dwellings. Yet those 50 residences would likely represent more total Virginians.

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[116] *See* Ex. 41 (Olsen Direct) at 15-16.

[117] *See, e.g.,* Tr. (Colorito) at 2215-17; Tr. (Seiler) at 2107-08. *See also* Tr. (Colorito) at 2217 ("as Mr. Olsen himself testified, the power lines would need to be visible in order for there to be a diminution in value. And so since they were not visible from these properties, using these properties in the analysis is completely inappropriate").

[118] Dr. Seiler offered the following example: Assume a three-bedroom, three-bathroom home is valued at $970,000. Applying a $5,000 per additional bedroom adjustment, a six-bedroom, three-bathroom home would be assigned a value of $985,000. Dr. Seiler testified "[a]re we to believe your home goes from [$]970,000 to [$]985,000? I think everyone of us would opt to have three more rooms in our house." Tr. (Seiler) at 2133.

[119] *See, e.g.,* Tr. (Colorito) at 2200-02. *See also* Ex. 71 (Colorito Rebuttal) at 14. Mr. Colorito testified that most properties in Loudoun County are selling for $300 or more per square foot of living area. *Id.*

And it could well be imagined that those more modest dwellings may represent a far larger portion of those families' net assets than do the higher-valued residences compared to their owners' portfolios. Accordingly, we will continue to eschew a mechanistic property value impact calculation in favor of a more holistic public interest evaluation.

Economic Development

The Commission has considered the effect of the Golden-Mars Project on economic development in the Commonwealth. Timely construction of the Project is necessary to address significant reliability risks in the Eastern Loudoun Load Area, whose residents and customers include citizens, schools, local governments, and businesses that depend on reliable power for a variety of needs. We find the evidence in this case demonstrates that the Project, designated as a baseload project by PJM, would support economic growth in the Commonwealth by improving the transmission system in the Eastern Loudoun Load Area that will serve the area's existing and growing load.

Beyond the immediate vicinity of the Project, we recognize that Dominion is part of the Eastern Interconnection transmission grid that is interconnected (directly or indirectly) to the transmission system that extends through much of the United States.[120] The transmission systems that comprise the electric grid are codependent.[121] Thus, service reliability throughout the Commonwealth—and beyond—depends on the integrity of the transmission system as a whole.[122] Simply put, reliability concerns in the Eastern Loudoun Load Area and the consequences of a contingency event are not isolated to Northern Virginia. The economic

[120] *See* Ex. 11 (Appendix) at 2. *See also* Tr. (Gardner) at 2474-78.

[121] *See id*.

[122] *See id*.

benefits of a robust and reliable transmission system are far-reaching and inure to the benefit of all Virginians.

Environmental Impact

Pursuant to § 56-46.1 A and B of the Code, the Commission is required to consider the Project's impact on the environment and to establish such conditions as may be desirable or necessary to minimize adverse environmental impacts. The statute further provides, among other things, that the Commission shall receive and consider all reports that relate to the Project by state agencies concerned with environmental protection.[123]

The DEQ Report contains a summary of findings and recommendations intended to minimize environmental impacts of the Project[124] as well as other agency comments offered as part of the DEQ-coordinated review.[125] As a condition of our approval herein, the Commission directs Dominion to comply with the uncontested recommendations and agency comments contained in the DEQ Report. We have considered each of the following Company-contested recommendations and agency comments offered in the DEQ Report and, consistent with our decisions in prior proceedings, reject them as unnecessary, redundant, or unreasonably costly:[126]

- The recommendation of the Virginia Department of Conservation and Recreation's ("DCR") Division of Natural Heritage ("DNH") to avoid or minimize impacts to ecological cores;
- The recommendation of DCR-DNH related to the development of an invasive species management plan;
- The comment from DCR-DNH that the Company should utilize botanists to identify rare species;

[123] Code § 56-46.1 A.

[124] Ex. 59 (DEQ Report) at 6-7.

[125] *Id.* at 7-32.

[126] *See* Ex. 62 (Young Rebuttal) at 4-5.

- Comments by DCR-DNH regarding: (i) minimizing adverse impacts to the aquatic ecosystem, and (ii) establishing/enhancing riparian buffers with native plant species and maintaining natural stream flow; and

- Comments by DCR-DNH regarding enhanced planned right-of-way restoration and maintenance practices, to the extent they require the Company to do more than provided for in the Company's existing Integrated Vegetation Management Plan.

Further, via email submitted directly to the Company, the Virginia Department of Health ("VDH") Office of Drinking Water recommended that wells within a 1,000-foot radius from the Project site be field marked and protected from accidental damage during construction.[127] Dominion asserts that this recommendation is unnecessarily duplicative and would require unnecessary encroachment onto adjacent properties. The Company also offers an alternative method of well protection, including plotting and calling out wells on the Erosion and Sediment Control Plans, which VDH has indicated is reasonable.[128] Consistent with our decisions in prior proceedings, the Commission finds the Company's proposed alternative method of well protection is reasonable.

The Commission recognizes that Dominion must obtain all necessary environmental permits and approvals that are needed to construct and operate the Project, and we find that there are no adverse environmental impacts that would prevent the Project's construction or operation.

Public Health and Safety

Our inquiry into any environmental impacts associated with the Project includes "consideration of the probable effects of the [Project] on the health and safety of the persons in

[127] *See id.* at Schedule 2.

[128] *Id.* at 15-16.

the area concerned."[129] In both public testimony and written comments, area residents expressed grave concerns regarding potential health impacts of living in close proximity to high-voltage transmission lines. Some of the most heartfelt testimony came from parents seeking—understandably—to protect their children from any risks that might be posed by such a facility. As one parent averred, "there is no conclusive study that proves high-voltage power lines are completely safe."[130] However, as a tribunal constrained by the law and the evidence, that is not the standard we are called upon to apply in this case. The burden is not on the applicant to conclusively prove a negative, only to be within the guidelines designed to protect human health. Using this lens, we therefore consider the electromagnetic field ("EMF")-related health research referenced in this case and its applicability to the Golden-Mars Project.[131]

The record evidence supports the following conclusion:

> [t]he general scientific consensus of the agencies that have reviewed this research, relying on generally accepted scientific methods, is that the scientific evidence does not confirm that common sources of EMF in the environment, including transmission lines and other parts of the electric system, appliances, etc., are a cause of any adverse health effects.[132]

Regarding the Golden-Mars Project specifically, Dominion witness Mezei—a medical doctor and trained epidemiologist with expertise in human studies on EMF[133]—testified as follows:

> The [extremely low frequency] EMF associated with the operation of the proposed Golden-Mars Lines, at the edges of the rights-of-way and beyond, as calculated and provided by the Company and by third-party consultants, are expected to be within the range

[129] Code § 56-46.1 D.

[130] Tr. (Pak) at 98.

[131] *See* Ex. 11 (Appendix) at 369-92. *See also, e.g.,* Ex. 76 (Mezei Rebuttal) at 5-15.

[132] Ex. 11 (Appendix) at 369.

[133] Ex. 76 (Mezei Rebuttal) at 1.

> commonly encountered from other sources, and well below applicable limits in guidelines designed to protect public health.[134]

We find that the public health and safety will not be harmed by the construction and operation of the Golden-Mars Project.

Environmental Justice

The Virginia Environmental Justice Act ("VEJA") sets forth that "[i]t is the policy of the Commonwealth to promote environmental justice and ensure that it is carried out throughout the Commonwealth, with a focus on environmental justice communities and fenceline communities."[135] As previously recognized by the Commission, the Commonwealth's policy on environmental justice ("EJ") is broad, including "the fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability, regarding the development, implementation, or enforcement of any environmental law, regulation, or policy."[136]

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[134] *Id.* at 21. Extremely low frequency EMF, also referred to as "power-frequency," is 50/60 Hertz ("Hz"). *See* Ex. 11 (Appendix) at 369. According to Dr. Mezei, there are no federal or Virginia-specific standards for 60-Hz EMF exposure. However, two organizations have developed scientific exposure guidelines. Ex. 76 (Mezei Rebuttal) at 13-14. The International Commission on Non-Ionizing Radiation Protection updated its limits in 2010, determining that for the general population, the reference level at 60 Hz is 4.2 kilovolts per meter ("kV/m") for electric fields and 2,000 milligauss ("mG") for magnetic fields. *Id*. at 14. The International Committee of Electromagnetic Safety updated its limits in 2019 to 5 kV/m for electric fields and 9,040 mG for magnetic fields. *Id.* Based on the Company's estimates, at the edge of the rights-of-way for the Golden-Mars Lines, 114.574 mG is the highest magnetic-field level at projected average loading, and 153.780 mG is the highest magnetic-field level at projected peak loading. *Id.* at 15. The Company's estimated magnetic and electric field levels at the edge of the rights-of-way of the Golden-Mars Lines do not exceed 153.780 mG and 3.054 kV/m, respectively. *See* Ex. 11 (Appendix) at 367-68.

[135] Code § 2.2-235.

[136] Code § 2.2-234; *see, e.g., Application of Appalachian Power Company, For approval and certification of the Central Virginia Transmission Reliability Project under Title 56 of the Code of Virginia*, Case No. PUR-2021-00001, 2021 S.C.C. Ann. Rept. 368, 372, Final Order (Sept. 9, 2021); *Commonwealth of Virginia, ex rel. State Corporation Commission, Ex Parte: Establishing 2020 EPS Proceeding for Virginia Electric and Power Company*, Case No. PUR-2020-00134, 2021 S.C.C. Ann. Rept. 242, 252, Final Order (Apr. 30, 2021); *Commonwealth of Virginia, ex rel. State Corporation Commission, In re: Virginia Electric and Power Company's Integrated Resource Plan filing pursuant to Va. Code § 56-597 et seq.*, Case No. PUR-2020-00035, 2021 S.C.C. Ann. Rept. 190, 195, Final Order (Feb. 1, 2021).

Dominion's EJ analysis consists of three steps: (i) identify whether an environmental justice community is present, and if so; (ii) provide enhanced public participation to ensure EJ communities have meaningful involvement (or a meaningful voice); and (iii) ensure no negative disproportionate impacts on any EJ community, taking into account mitigation and enhancement measures.[137] An EJ screening was conducted for the study area, which included 32 census block groups ("CBG").[138] Twenty-nine of the 32 CBGs contain EJ communities based on ethnicity/race.[139] As a result of this analysis, the Company developed and implemented a robust outreach plan.[140]

The Company does not anticipate disproportionately high or adverse impacts to any communities, including EJ communities.[141] Staff reviewed the Company's EJ efforts and "agrees with the Company's assessment that the Project reasonably minimizes potential impacts to EJ Communities and other populations, and is not expected to result in disproportionate impacts on EJ Communities."[142]

The Commission finds that the Company reasonably considered the requirements of the VEJA in its Application.

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[137] Ex. 65 (MacCormick Rebuttal) at 6.

[138] *Id.* at 7.

[139] *Id.*

[140] *Id.* at 7-9. The Company's outreach efforts included a public facing information website, virtual and in-person meetings with the community prior to filing the Application, discussions with community stakeholder groups, and meetings with specific neighborhoods in the Project area at which attendees were encouraged to ask questions and offer comments regarding the Project and its impacts. *Id.*

[141] *Id.* at 10. *See* Ex. 11 (Routing Study) at Section 5.5. *See also* Ex. 18 (Rosenberg First Supplemental Direct) at 14 (concluding that the EJ analysis with respect to Route 3A is the same as Route 3).

[142] Ex. 58 (Staff Report) at 75.

Motions

On January 22, 2026, Ms. Ghiorzi filed a Motion to Dismiss and Memorandum in Support Thereof ("Ghiorzi Motion to Dismiss"). The Commission finds that the Ghiorzi Motion to Dismiss should be denied.

On February 19, 2026, Theodora A. Stringham, Esq. filed a Motion to Withdraw as Counsel for Respondent LVE III Homeowners Association, Inc. ("Stringham Motion to Withdraw"). The Commission finds that the Stringham Motion to Withdraw should be granted.

On March 31, 2026, Dominion filed a Motion of Virginia Electric and Power Company to Strike Letter Filings by Coalition to Protect the Broad Run Stream Valley and Loudoun Valley Estates Homeowners Association ("Motion to Strike") requesting that the Commission strike letters filed in this docket by the Coalition and LVE I after the close of the record in this case or, in the alternative, clarify that such documents were not considered by the Commission in rendering its decision in this matter. For purposes of its findings herein, the Commission has not considered any documents filed in this docket after the close of the record and the filing of post-hearing briefs. Accordingly, the Motion to Strike is moot.

Accordingly, IT IS ORDERED THAT:

(1) Dominion is authorized to construct and operate the Project as proposed in its Application, subject to the findings and conditions imposed herein.

(2) Pursuant to §§ 56-46.1, 56-265.2, and related provisions of Title 56 of the Code, the Company's request for approval of the necessary CPCN to construct and operate the Project is granted as provided for herein, subject to the requirements set forth herein.

(3) Pursuant to the Utility Facilities Act, § 56-265.1 *et seq.* of the Code, the Commission issues the following CPCN to Dominion:

> Certificate No. ET-DEV-LDN-2026-A, which authorizes Virginia Electric and Power Company under the Utility Facilities Act to operate certificated transmission lines and facilities in Loudoun County, all as shown on the map attached to the certificate, and to construct and operate facilities as authorized in Case No. PUR-2025-00056, cancels Certificate No. ET-DEV-LDN-2025-C, issued to Virginia Electric and Power Company in Case No. PUR-2024-00225 on October 17, 2025.

(4) Within fourteen (14) days from the date of this Order, the Company shall provide to the Commission an update on the status of the Project.

(5) Within thirty (30) days from the date of this Order, the Company shall provide to the Commission's Division of Public Utility Regulation an electronic map for the Certificate Number that shows the routing of the transmission line approved herein. The map shall be submitted to Michael Cizenski, Deputy Director, Division of Public Utility Regulation, mike.cizenski@scc.virginia.gov.

(6) Upon receiving the map directed in Ordering Paragraph (5), the Commission's Division of Public Utility Regulation forthwith shall provide the Company copies of the CPCN issued in Ordering Paragraph (3) with the map attached.

(7) The Golden-Mars Project approved herein must be in service by June 1, 2028. The Commission approves a CPCN sunset date of June 1, 2029, for energization of the Golden-Mars Project. No later than 90 days before the CPCN sunset date approved herein, for good cause shown, the Company is granted leave to apply and to provide the basis for any extension requested.

(8) The Ghiorzi Motion to Dismiss is DENIED.

(9) The Stringham Motion to Withdraw is GRANTED.

(10) The Motion to Strike is DENIED.

(11) This matter is continued.

A COPY hereof shall be sent electronically by the Clerk of the Commission to all persons on the official Service List in this matter. The Service List is available from the Clerk of the Commission.