

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
October 6, 2026

Solutions

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2022-0046-DNH & DOM-2022-0047-DNH **Update**

Process Stage: DNH Solution Update Meeting 10/06/2026

Project Driver: Do No Harm Analysis

Previously Presented: DNH Solution Meeting 04/30/2024 and 02/07/2023

Specific Assumption References:

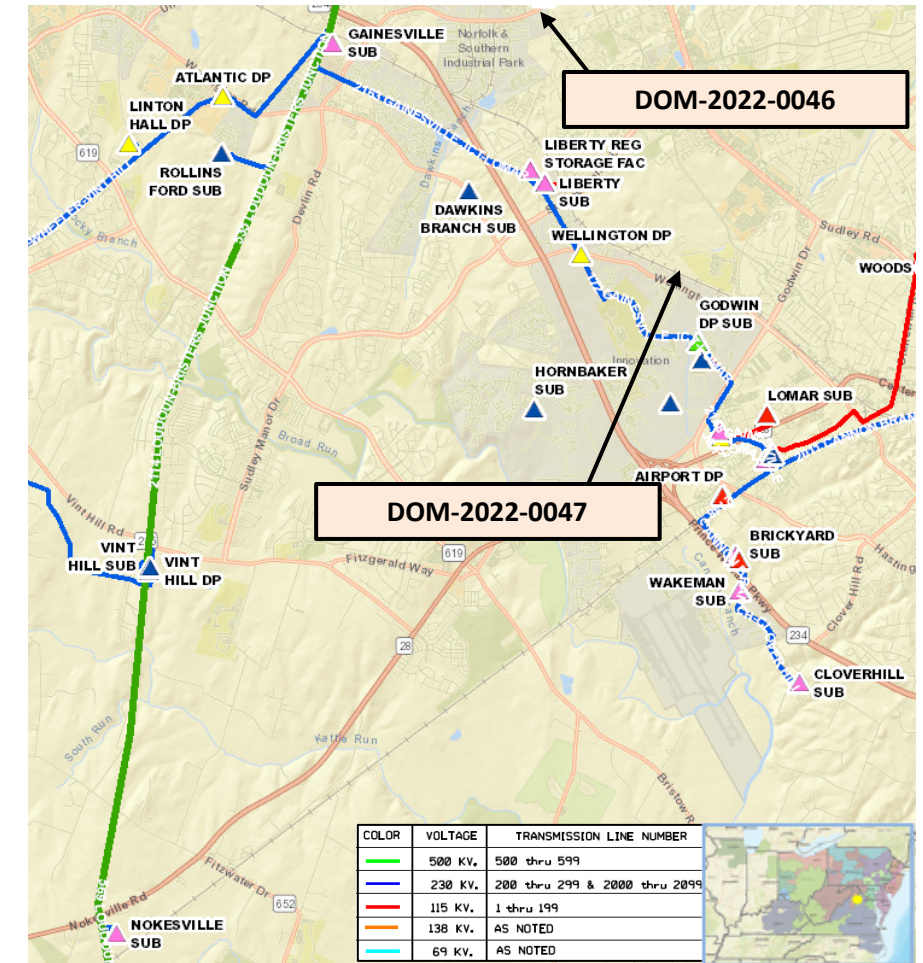
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

PJM has identified N-1-1 thermal violations on the following separate facilities in the 2022 Do-No-Harm analysis:

- Line #2101 (Nokesville to Bristers Segment)
- Bristers 500-230 kV TX#1
- Bristers 500-230 kV TX#2

The violations are caused by previously presented Supplemental Projects DOM-2022-0046 and DOM-2022-0047 in the Dominion Zone.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2022-0046-DNH & DOM-2022-0047-DNH **Update**

Process Stage: DNH Solution Update Meeting 10/06/2026

Project Driver: Do No Harm

Proposed Solution (Part 1 of 2):

To address: 230 kV Line Violation

- Reconductor approximately 9.2 miles of Line #2101 (Nokesville to **Bristers** Anderson Branch) using a higher capacity conductor as well as terminal equipment upgrades to achieve a minimum normal summer conductor rating of 1573 MVA.

Estimated Project Cost: ~~\$23~~-\$37.5M

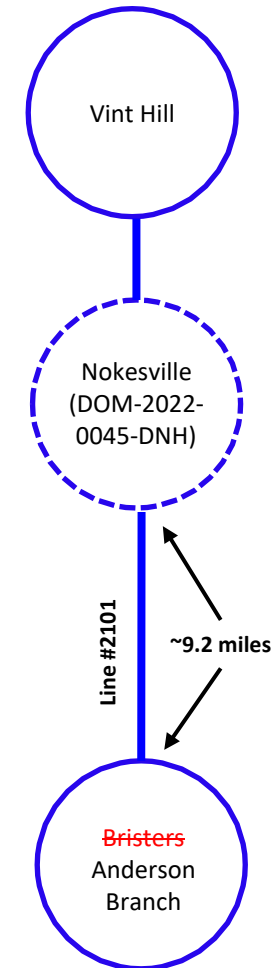
Alternatives Considered:

No feasible alternatives. **Project costs increased due to the need to raise 27 transmission structures to meet required conductor clearance standards.**

Projected In-service Date: 12/31/2027

Project Status: Conceptual

Model: 2029 RTEP



Need Number: DOM-2024-0036-DNH (Update)

Process Stage: Solution Update Meeting 10/06/2026

Previously Presented: DNH Solution Meeting 07/07/2026

Project Driver: Do No Harm Analysis – James Hill

Specific Assumption References:

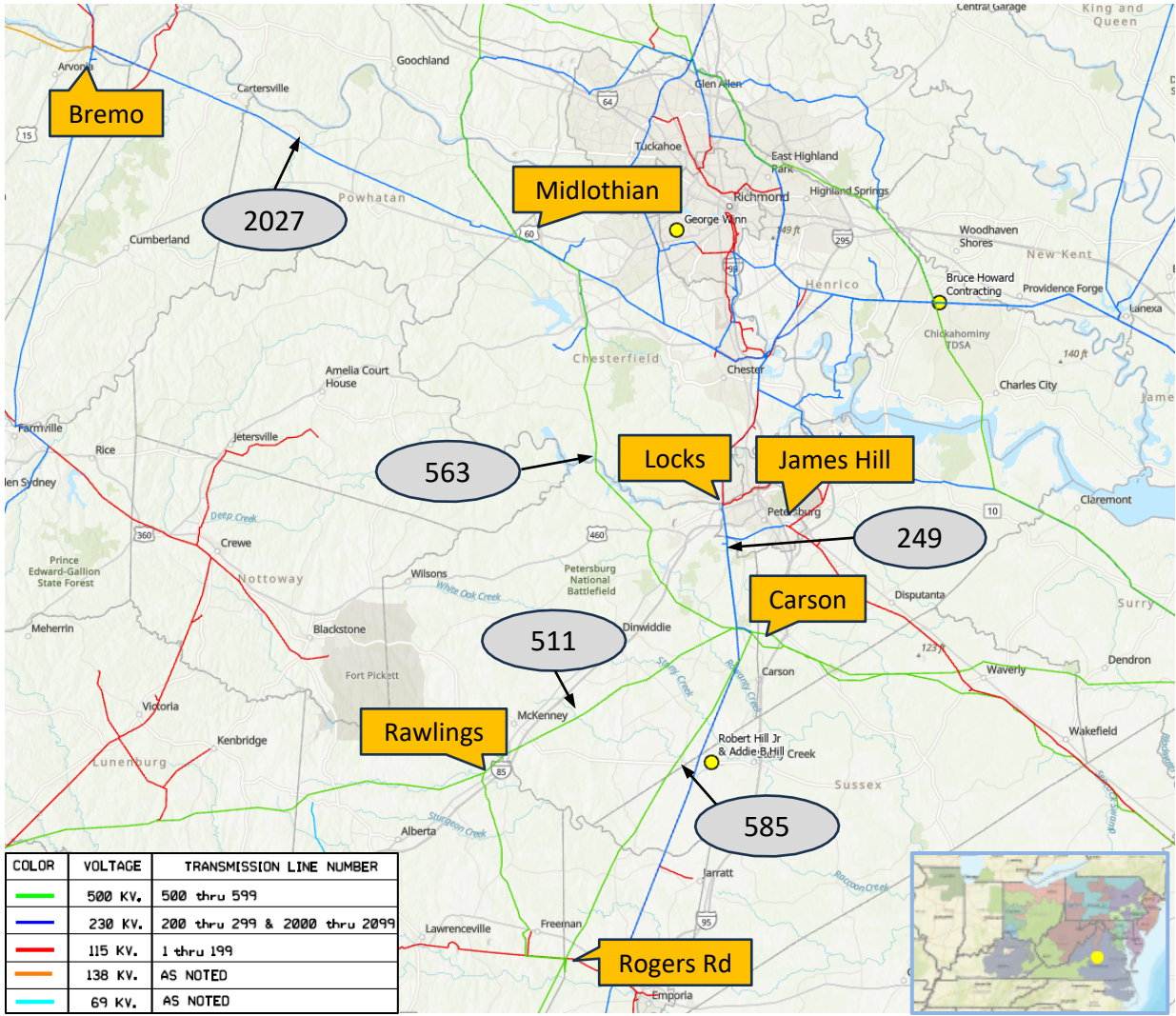
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

PJM has identified several violations with the addition of James Hill substation (DOM-2024-0036). Violations identified:

- Thermal violation on Carson TX #2 under N-1-1 SCD with faults on 500 kV Line #563 (Carson – Midlothian) and Carson 500/230 kV TX #1.
- Thermal violation on Line #2027 (Midlothian – Breomo) under N-1-1 SCD with outages of Lines #585 (Carson – Rogers Rd) and #511 (Carson - Rawlings).
- Thermal violations on Line #249 (Carson – Locks) under GD and N-1-1 SCRD with multiple contingencies
- Thermal violation of Carson TX#1 in GD with failed breaker 56372 at Carson (outage of Line #563 and Carson TX#2)
- Overdutied Circuit Breaker 24972-4 (at Carson 230kV) caused by new/uprated Carson 500-230 kV TXs

Dominion Transmission Zone: Supplemental Do No Harm Analysis



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0036-DNH (Update)

Process Stage: Solution Update Meeting 10/06/2026

Project Driver: Do No Harm Analysis – James Hill

Proposed Solution:

- Replace Carson 500/230 kV TX #2 with new 1440 MVA TX and replace low-side equipment limiting TX rating. **Replace OD 230kV CB 24972-4 (3000A 40kAIC) with 4000A 63kAIC.**
- Rebuild 230 kV Line #2027: Midlothian-Bremo to current 230 kV standards to achieve a minimum normal summer rating of 1573 MVA. Upgrade substation equipment to 4000 A. Double-circuit 230 kV structures will be used.
- Network Upgrade n9681.0 will rebuild 1-mile limiting portion of Line #249: Carson-Locks to current 230 kV standards to achieve a normal summer rating of 1573 MVA.
- Network Upgrade n9378.0 will replace Carson TX#1 with new 1440 MVA TX.

Estimated Project Cost:

Carson TX#2 **and CB 24972-4: \$17.5M \$18.6M** Substation

Line #2027 Rebuild: \$212M (\$210M Transmission, \$2M Substation)

Line #249 : \$0 (TC1 Network Upgrade n9681.0)

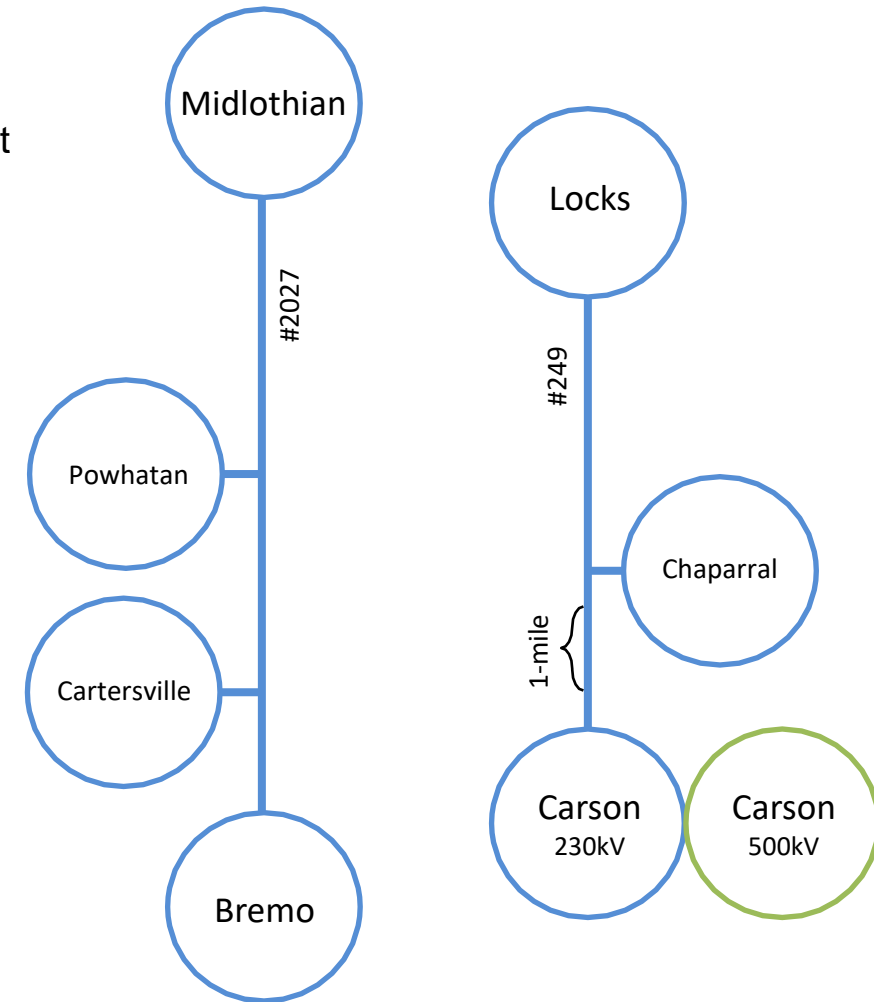
Carson TX#1: \$0 (TC1 Network Upgrade n9378.0)

Alternatives Considered: None – Existing Equipment

Projected In-service Date: Q4 2031

Project Status: Conceptual

Model: 2024 Series RTEP 2029



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2025-0020

Process Stage: Solution Meeting 10/06/2026

Previously Presented: Need Meeting 05/06/2025

Project Driver: Customer Service

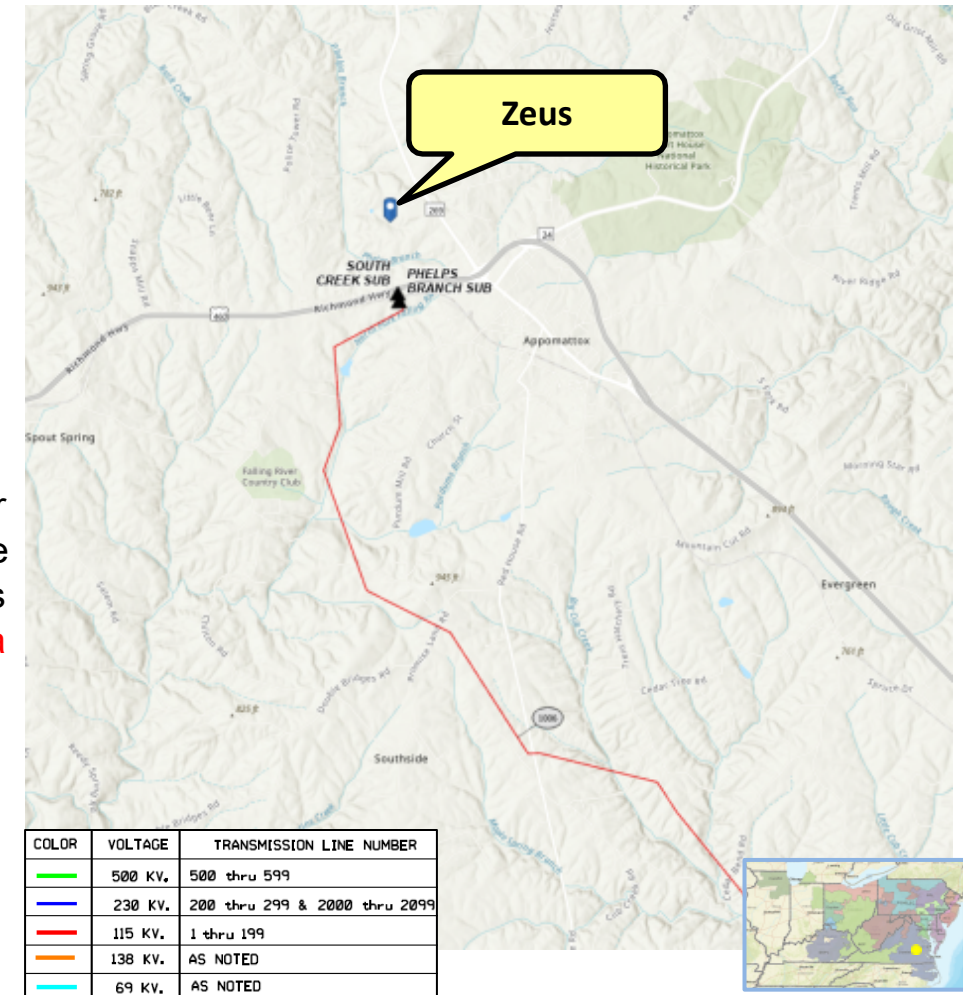
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

Central Virginia Electric Cooperative (CVEC) has submitted a delivery point request for a new delivery point to serve a 300 MW data center customer in Appomattox, VA. The site is located north of Dominion South Creek 115kV substation. Driver for the project is area data center load growth. Customer has requested service **delivery of 20MW via existing 115kV facilities**. The ultimate data center load will be 300 MW.

Initial In-Service Load	Projected 2031 Load
Summer: 50 MW Winter: 50 MW	Summer: 180 MW Winter: 180 MW



Dominion Transmission Zone: Supplemental Zeus 230kV Delivery - DEV

Need Number: DOM-2025-0020

Process Stage: Solution Meeting 10/06/2026

Project Driver: Customer Service

Proposed Solution:

Stage 1 – 115kV Tap

Tap existing Line #1006 (Pamplin – South Creek) and extend single circuit 115kV line to new Willow Brook DP. Add a 33.67 MVAR cap bank at Pamplin substation. Customer will be responsible for building the line from the tap point.

Stage 2 – 230kV permanent solution

Connect the new substation Zeus 230kV by extending a new double circuit 230kV feed from Farmville 230kV substation for about 35 miles. Lines to terminate in a 230kV six-breaker ring arrangement at Zeus with 4 installed initially. Farmville substation to be expanded and additional breakers to be added for the new lines.

Estimated Project Cost: \$256M (Substation - \$37M, Transmission - \$219M)

Alternatives Considered:

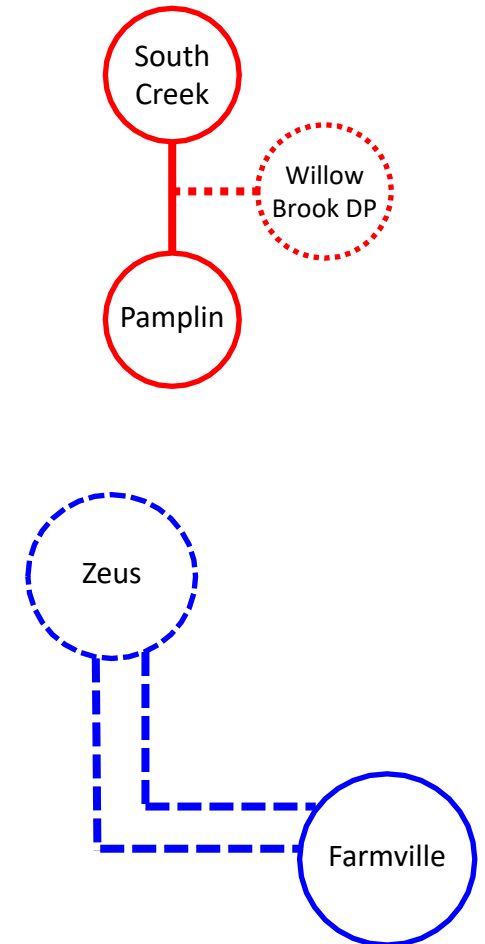
Convert existing 115kV facilities to support load – Wreck and rebuild lines #84, #1006, #154, #1012 (approximately 68 miles of 115kV single circuit) to 230kV double circuit. Expand Farmville, Pamplin, Twitty's creek and Chase City. Convert Drakes Branch DP, Madisonville DP, Redhouse DP to 230kV.

Estimated Project Cost: \$450M

Projected In-service Date: Stage 1 - Q3 2027, Stage 2 - Q4 2030

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Equipment Material Condition, Performance and Risk

Need Number: DOM-2026-0036

Process Stage: Solution Meeting 10/06/2026

Previously Presented: Need Meeting 09/08/2026

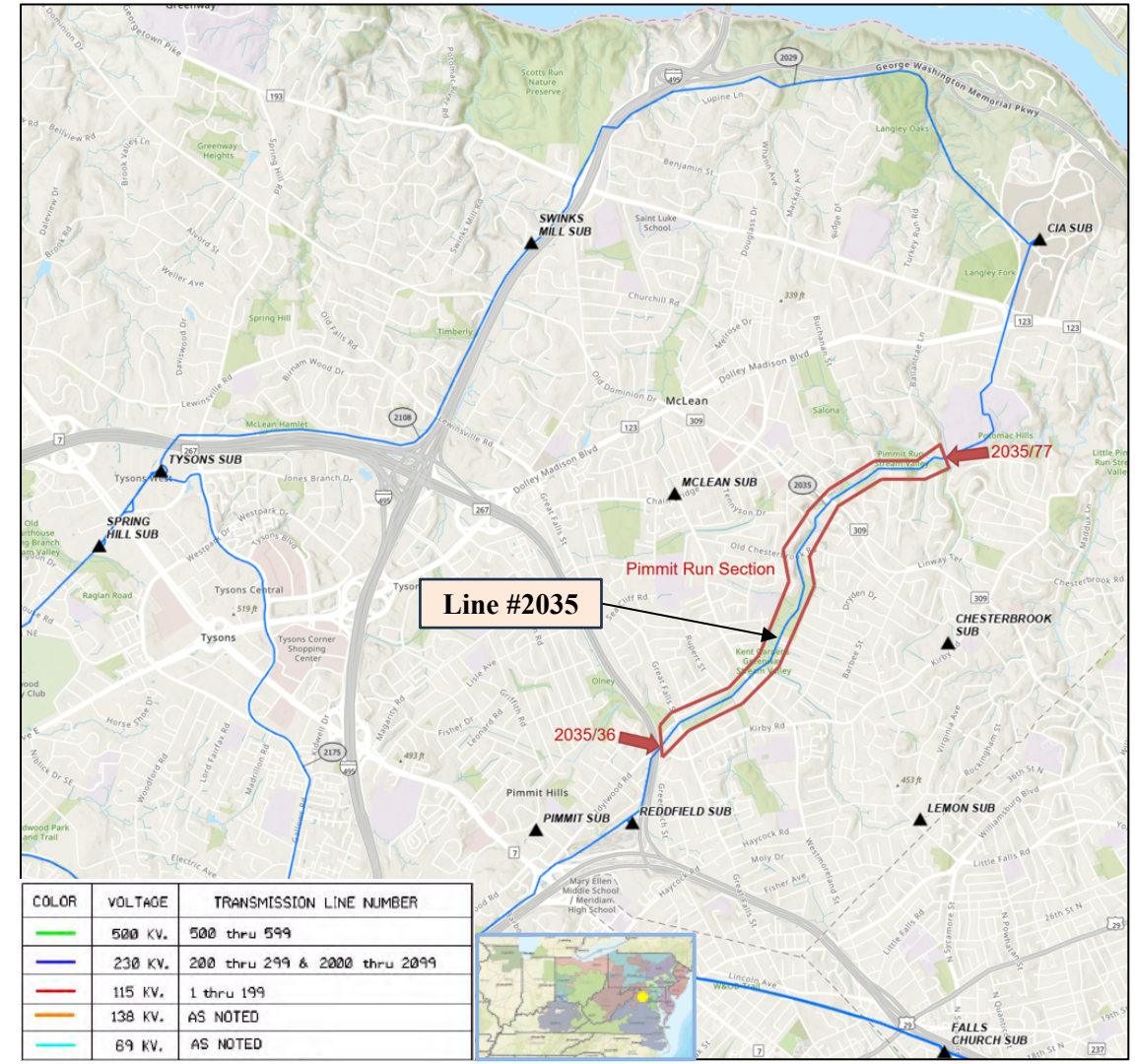
Project Driver: Equipment Material Condition, Performance and Risk

Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2025.

Problem Statement: Dominion Energy (DEV) has identified the need to rebuild a 2.5-mile segment of the 230kV single circuit Line #2035, which runs between CIA and Idylwood substations. This rebuild effort, covering structures 2035/36 to 2035/77, is being pursued in accordance with the Company's End-of-Life (EOL) criteria.

- The affected segment primarily consists of concrete towers that were originally constructed in 1978. These structures are now exhibiting signs of significant foundation deterioration, largely due to the presence of a creek that runs through the line corridor and contributes to ongoing erosion.
- While four structures in that corridor have been replaced with steel poles, the remaining original towers are at or nearing end of service life.
- The segment of Line #2035 supports the CIA and Reddfield Substations, serving a combined load of approximately 60MW.
- The existing conductor on this line, ACSS 45/7 (140°C rating), along with associated structures, connectors, and porcelain insulators, were also installed in 1978 and are now approaching or exceeding the typical service-life range of 40 to 60 years for transmission line assets.
- Given that most of the infrastructure in this segment is nearing or has surpassed these thresholds, the need for replacement is well justified. This project will enhance system reliability, improve operational performance, and support future load growth in the region.



Dominion Transmission Zone: Supplemental Line #2035 EOL Partial Rebuild

Need Number: DOM-2026-0036

Process Stage: Solution Meeting 10/06/2026

Project Driver: Equipment Material Condition, Performance and Risk

Proposed Solution:

Wreck and rebuild approximately 2.5-mile segment of the 230kV single circuit Line #2035 between existing structures 2035/36 to 2035/77, which runs between CIA and Idylwood.

Estimated Project Cost: \$44M

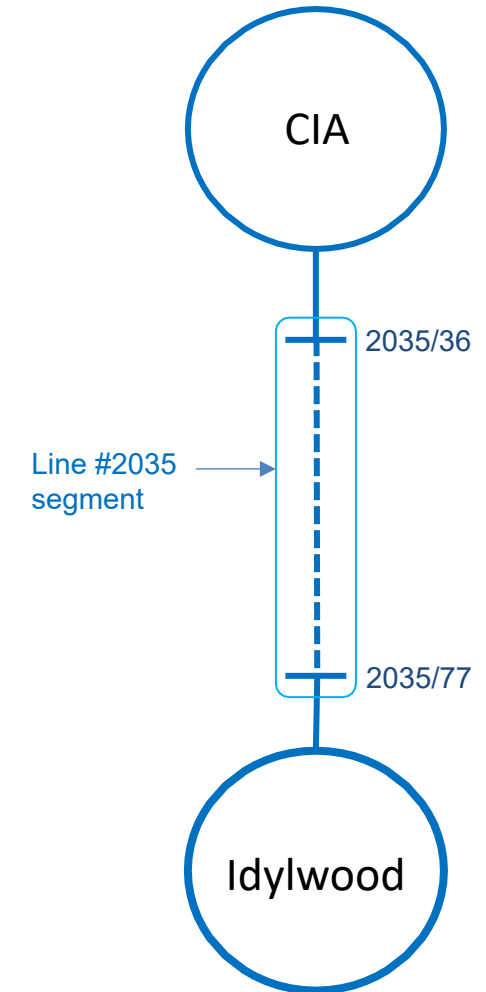
Alternatives Considered:

No feasible alternatives. Rebuilding the 230 kV single circuit lines uses the existing right of way.

Projected In-service Date: 03/15/2029

Project Status: Planning

Model: 2029 RTEP



Cancellations

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0051 (Cancelled)

Process Stage: Cancellation meeting 10/06/2026

Previously presented: Need Meeting 10/03/2023

Project Driver: Customer Service

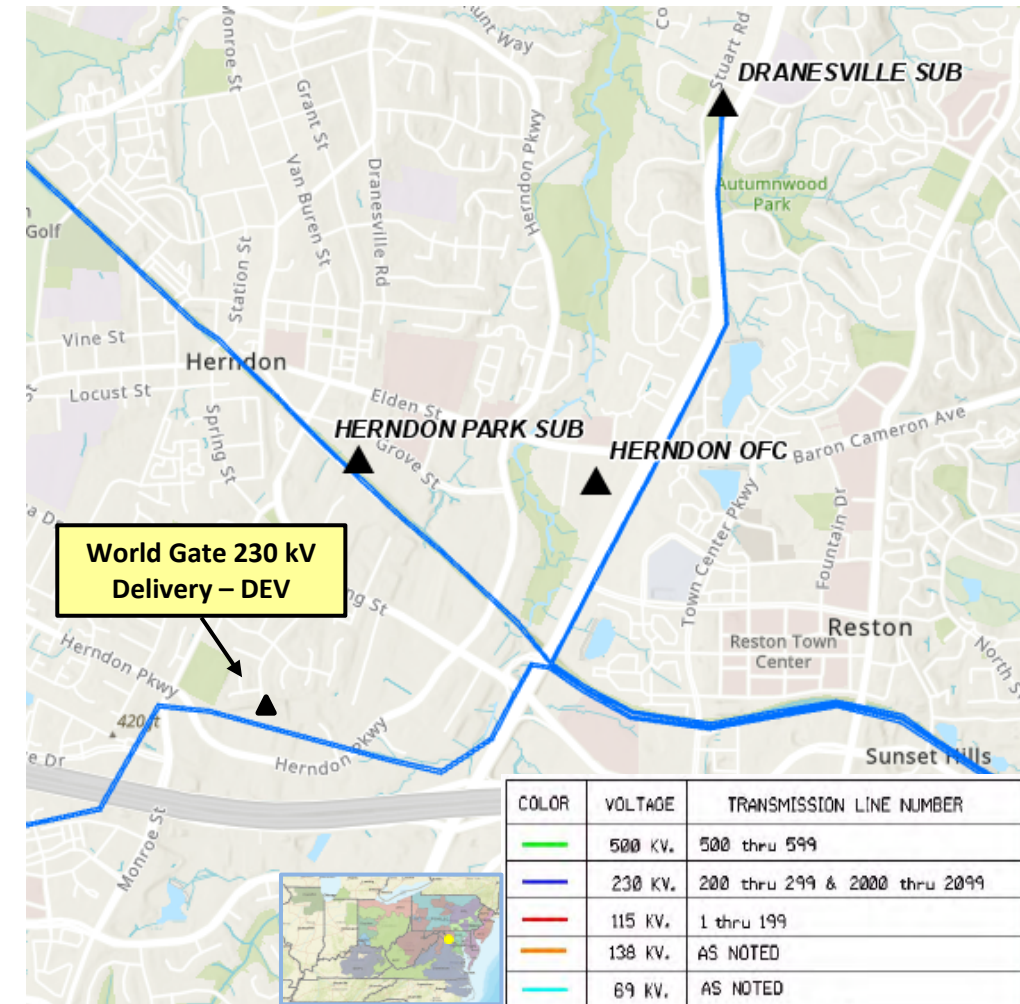
Specific Assumption References:

Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

DEV Distribution has previously submitted a DP request for a new substation (World Gate) to serve a data center complex in Fairfax County with a total load in excess of 100 MW. Requested in-service date is 07/01/2027. The DP request was withdrawn.

Initial In-Service Load	Projected 2028 Load
Summer: 61 MW	Summer: 85 MW
Winter: 0 MW	Winter: 73 MW



Dominion Transmission Zone: Supplemental Customer Load Request

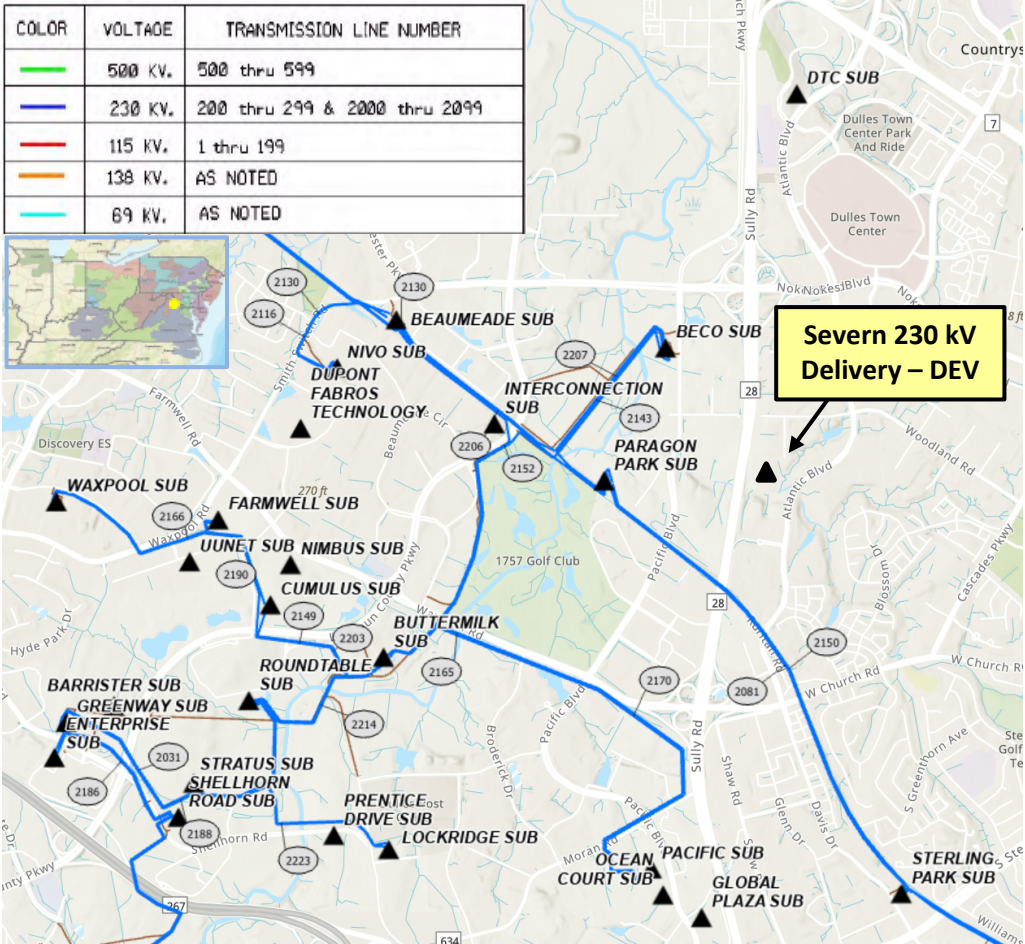
Need Number: DOM-2024-0017 (Cancelled)
Process Stage: Cancellation meeting 10/06/2026
Previously presented: Need Meeting 04/02/2024

Project Driver: Customer Service

Specific Assumption References:
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:
DEV Distribution has previously submitted a DP request for a new substation (Severn) to serve a data center complex in Loudoun County with a total load in excess of 100 MW. Requested in-service date is 10/01/2027. The DP request was withdrawn.

Initial In-Service Load	Projected 2028 Load
Summer: 45 MW Winter: 0 MW	Summer: 90 MW Winter: 90 MW



Appendix

High level M-3 Meeting Schedule

Assumptions

Activity	Timing
Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
Stakeholder comments	10 days after Assumptions Meeting

Needs

Activity	Timing
TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
Stakeholder comments	10 days after Needs Meeting

Solutions

Activity	Timing
TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
Stakeholder comments	10 days after Solutions Meeting

Submission of Supplemental Projects & Local Plan

Activity	Timing
Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
Post selected solution(s)	Following completion of DNH analysis
Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

09/25/2026 – V1 – Original version posted to pjm.com.