Dominion Supplemental Projects

Transmission Expansion Advisory Committee
June 2, 2026

Needs

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2026-0025

Process Stage: Need Meeting 06/02/2026

Project Driver: Customer Service

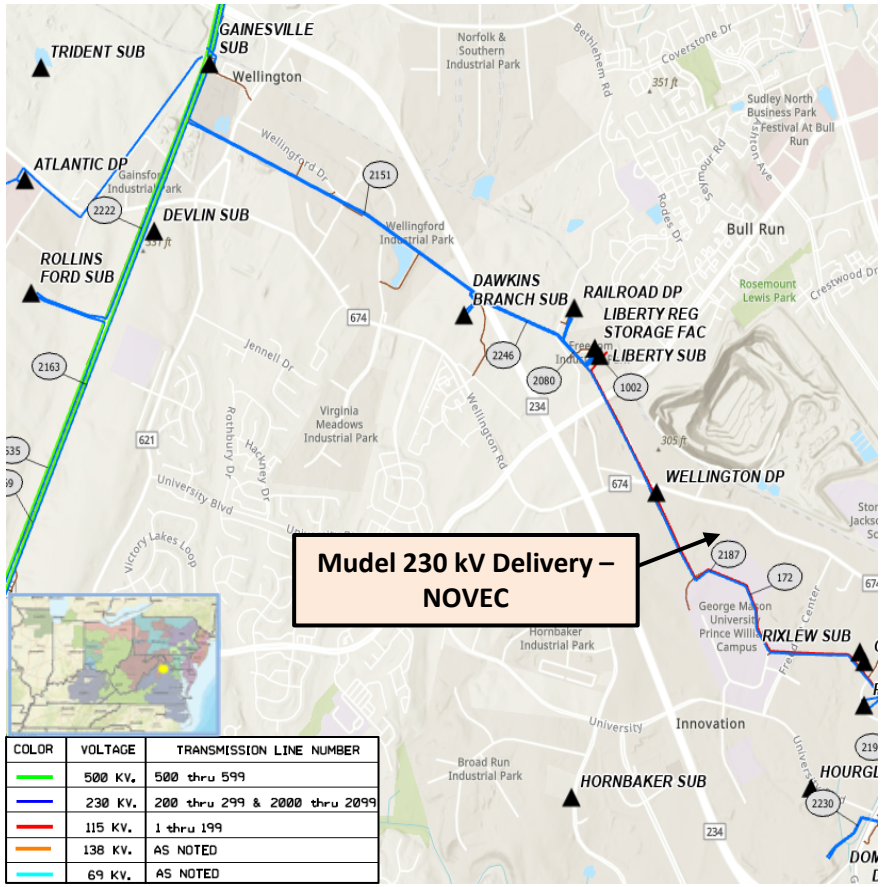
Specific Assumption References:

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

Problem Statement:

NOVEC has submitted a DP Request for a new substation (Mudel) for split-use service of residential, commercial, and a new data center complex in Prince William County, VA with a total expected capacity of 300 MW.

Expected in-service date is 12/30/2029.



Solutions

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2025-0070-DNH

Process Stage: Solution Meeting 06/02/2026

Previously Presented: N/A

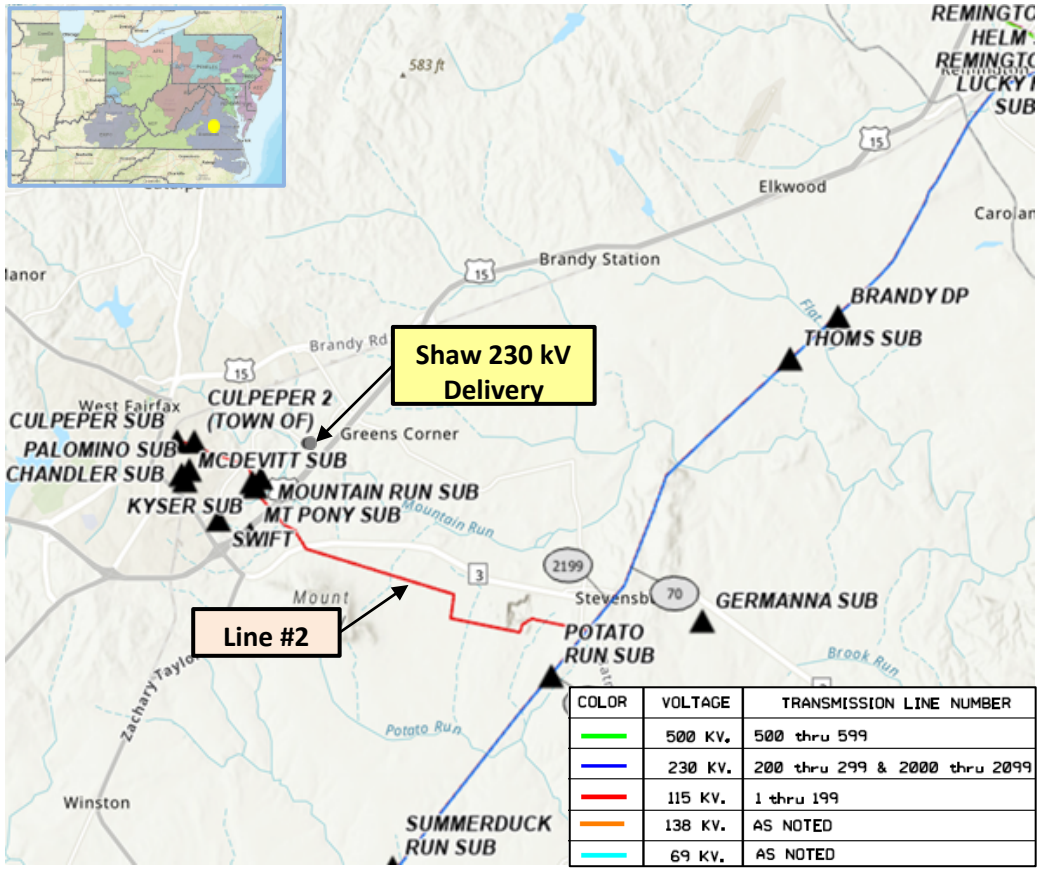
Project Driver: Do No Harm Analysis

Specific Assumption References:

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

Problem Statement:

Interconnecting the new Shaw delivery point in Culpeper County, presented as DOM-2025-0070 at the 01/06/2026 TEAC Meeting, introduces low voltage violations as identified in the RTEP 2029 DNH case for the N-1-1 loss of lines #2276 (Shaw - Remmington) and #2439 (Remington- McDevitt). This is a violation of Dominion's Transmission Planning Criteria.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

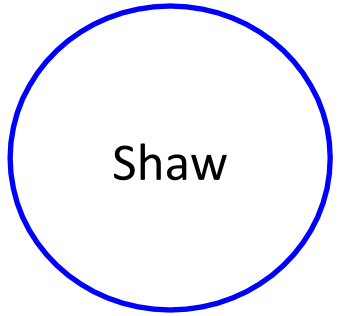
Need Number: DOM-2025-0070-DNH
Process Stage: Solution Meeting 06/02/2026
Project Driver: Do No Harm Analysis

Proposed Solution:
Install a 150 MVAr Capacitor Bank at Shaw substation

Estimated Project Cost: $4M

Alternatives Considered:
No feasible alternatives

Projected In-service Date: 5/1/2028
Project Status: Planning
Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2026-0022
Process Stage: Solution Meeting 06/02/2026
Previously Presented: Need Meeting 05/08/2026
Project Driver: Operational Flexibility and Efficiency

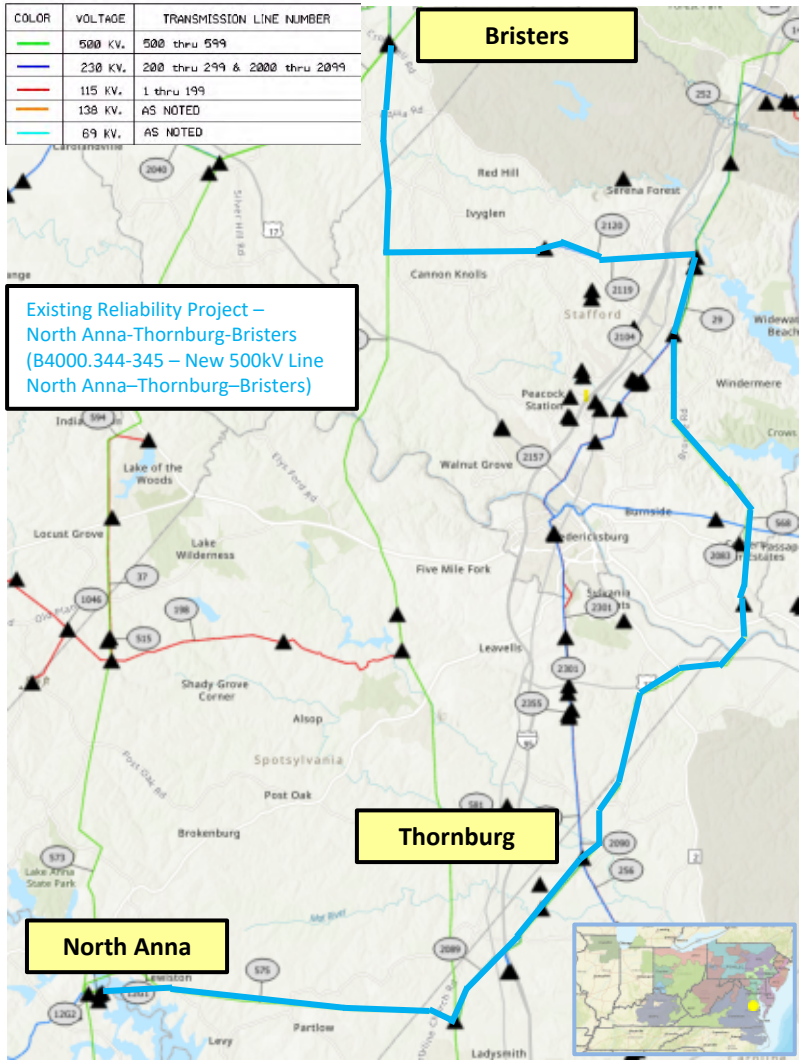
Specific Assumption References:

See details on Operational Flexibility and Efficiency in Dominion's Planning Assumptions presented in December 2025.

Problem Statement:

The North Anna to Thornburg to Bristers (formerly Kraken Loop) corridor is experiencing significant growth driven by large scale data center development. To date, at least ten new Delivery Point ("DP") requests to serve data center load in the corridor have been submitted, in addition to existing data center load in the vicinity from Elmont to Fredericksburg. These new DPs are currently in various stages of evaluation and development, with a total requested load approaching 3000 MW.

On the Dominion system, 500 kV transmission lines are reserved for bulk power transfers while 230 kV facilities (and below) are used to directly serve load. Additional facilities to accommodate load-serving needs and future reinforcements associated with the significant data center growth in the corridor will be required.



Dominion Transmission Zone: Supplemental
Install 230 kV Conductor on North Anna to Bristers Structures

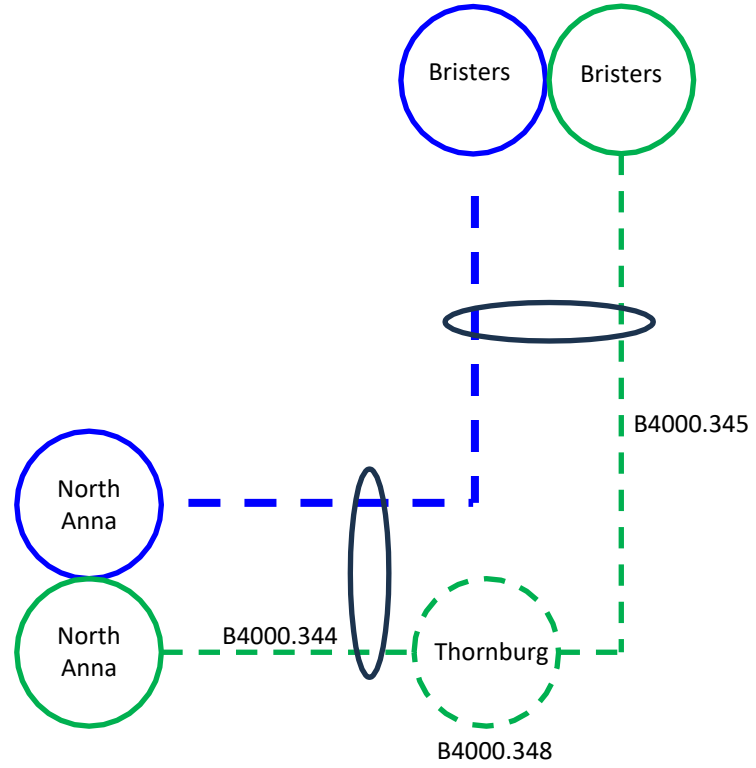
Need Number: DOM-2026-0022

Process Stage: Solution Meeting 06/02/2026

Project Driver: Operational Flexibility and Efficiency

Proposed Solution

- Approved baseline projects **PJM b4000.344 and b4000.345** will build a 500kV line from North Anna - Thornburg and Thornburg - Bristers. The new 500kV line will be constructed using 5/2 monopoles.
- Install 230kV conductor rated at 1573 MVA from North Anna to Bristers, bypassing Thornburg.
- The 230 kV line will be utilized to serve approximately 3 GW of requested load in the immediate transmission corridor, and the termination points will be presented with the associated requests.



Alternatives Considered: None, in existing ROW

Estimated Cost: Transmission: $33.75 M

Projected In-Service Date: Q4 2030

Project Status: Engineering

Model: 2029 RTEP

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0016, 0053, 0055, 2024-0012 - DNH
Process Stage: Solution Meeting 06/02/2026 - Update
Previously Presented: Solution Meeting 04/01/2025
Supplemental Project Driver: Do No Harm Analysis

Specific Assumption Reference:

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

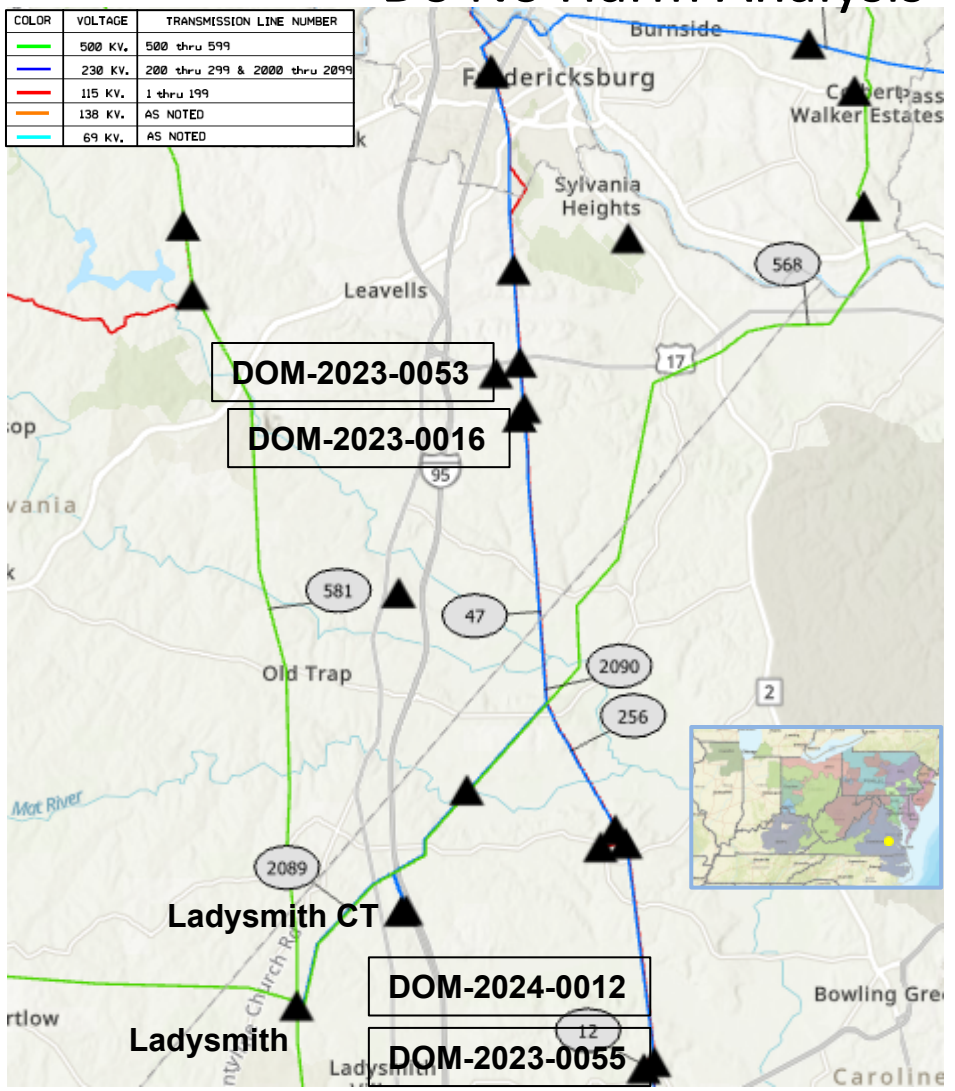
Problem Statement:

Problem Statement:

DEV has identified multiple violations on 230 kV Line #2090 (Ladysmith CT - Fredericksburg) and #256 (Ladysmith CT – Four Rivers) via the 2025 Do-No-Harm analysis:

- 300 MW Load Drop Violation
  - Contingency Scenario: Loss of 230 kV Line #2301 (Fredericksburg – Lee's Hill) and 230 kV Line #2090 (Ladysmith CT – New Post)
  - Contingency Scenario: Loss of 230 kV Line #256 (Ladysmith CT – Ruther Glen) and 230 kV Line #2032 (Elmont – Four Rivers)
- N-1 Thermal Violation (Generator Deliverability)
  - Contingency Scenario: Loss of Line #568 (Possum Point – Ladysmith)
  - Contingency Scenario: Loss of Line #581 (Chancellor – Ladysmith)

- PJM identified over duty breakers at existing Fredericksburg, Ladysmith, and Possum Point substations associated with Dominion's initial DNH solution.



Dominion Energy

Need Number: DOM-2023-0016, 0053, 0055, 2024-0012 - DNH
Process Stage: Solution Meeting 06/02/2026 - Update
Supplemental Project Driver: Do No Harm Analysis

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Proposed Solution - Phase1 (01/2028):

1. Rebuild approximately 6.5 miles of the existing 230kV Line #2090 between Summit DP and Fredericksburg Sub with double-circuit structures using a higher capacity conductor and associated substation equipment to achieve a minimum normal summer rating of 1573 MVA.
2. Reconductor the first circuit of the Line #2089 from Ladysmith to Ladysmith CT for approximately 4 miles to achieve a minimum normal summer rating of 1573 MVA. Reconductor the second circuit of the Line #2089 from Ladysmith to Structure #2089/19 for approximately 3.3 miles to achieve a minimum normal summer rating of 1573 MVA. The rest of the Line #2089 on one side of the structures remains idle from Structure #2089/19 to Ladysmith CT Station.
3. Construct a new 230kV Line from Structure #2089/19 to Structure #2090/106 for approx. 4.5 miles using double-circuit structures.
   Install the second circuit between existing Structure #2090/107, New Post Sub, Lee's Hill Sub, and Fredericksburg Sub by utilizing the vacant arms positions on the double-circuit structures in the corridor. The termination points of the new line will be Ladysmith, New Post, Lee's Hill, and Allman.
4. Install two 500kV, 150 MVAr Capacitor Banks At Ladysmith Sub.

Proposed Solution – Phase2 (07/2029):

1. Expand Thornburg (fka Kraken) 500kV Switching Station by cutting the existing 230kV Lines #2090 and #256, and future 230kV Line from Ladysmith to Allman constructed in Phase1.
2. Rebuild Line #256 from St. Johns to Four Rivers for approx. 14.9 miles using double circuit monopoles. One circuit will be installed initially.
3. Rebuild Line #2032 from Four Rivers to Elmont for approx. 9 miles using double circuit monopoles. One circuit will be installed initially.
4. Wreck the 115kV Lines #47 (Fredericksburg-Four Rivers), #1008 (Pinewood-Four Rivers), #73 (Four Rivers-Elmont), 1013 (Pinewood-N. Doswell)
   Construct a new double circuit 230kV from Kraken to Allman.
   ~~Construct a new 230kV circuit from Kraken to Elmont for approx. 31mi using double circuit monopoles. One circuit will be installed initially.~~
   Pinewood station should be converted to 230kV four-breaker ring station. From Thornburg to Elmont a 5/2 structure configuration was awarded in the 2025 Open Window b.4053.8, b4053.10).
5. Cut the Converted 230kV line near St. Johns and extend a double-circuit 230kV to Ruther Glen Sub.
6. Necessary changes to the customer delivery points will be considered.
7. Upgrade breakers at Fredericksburg from 40 to 63kA, upgrade breakers at Ladysmith from 40 to 63kA, split bus configuration at Possum Point

TO Alternatives Considered :

No feasible alternatives

Estimated cost: $450.0M ~~($300M T-Line; $150.0M Substation)~~ ($250M T-Line; $200.0M Substation)

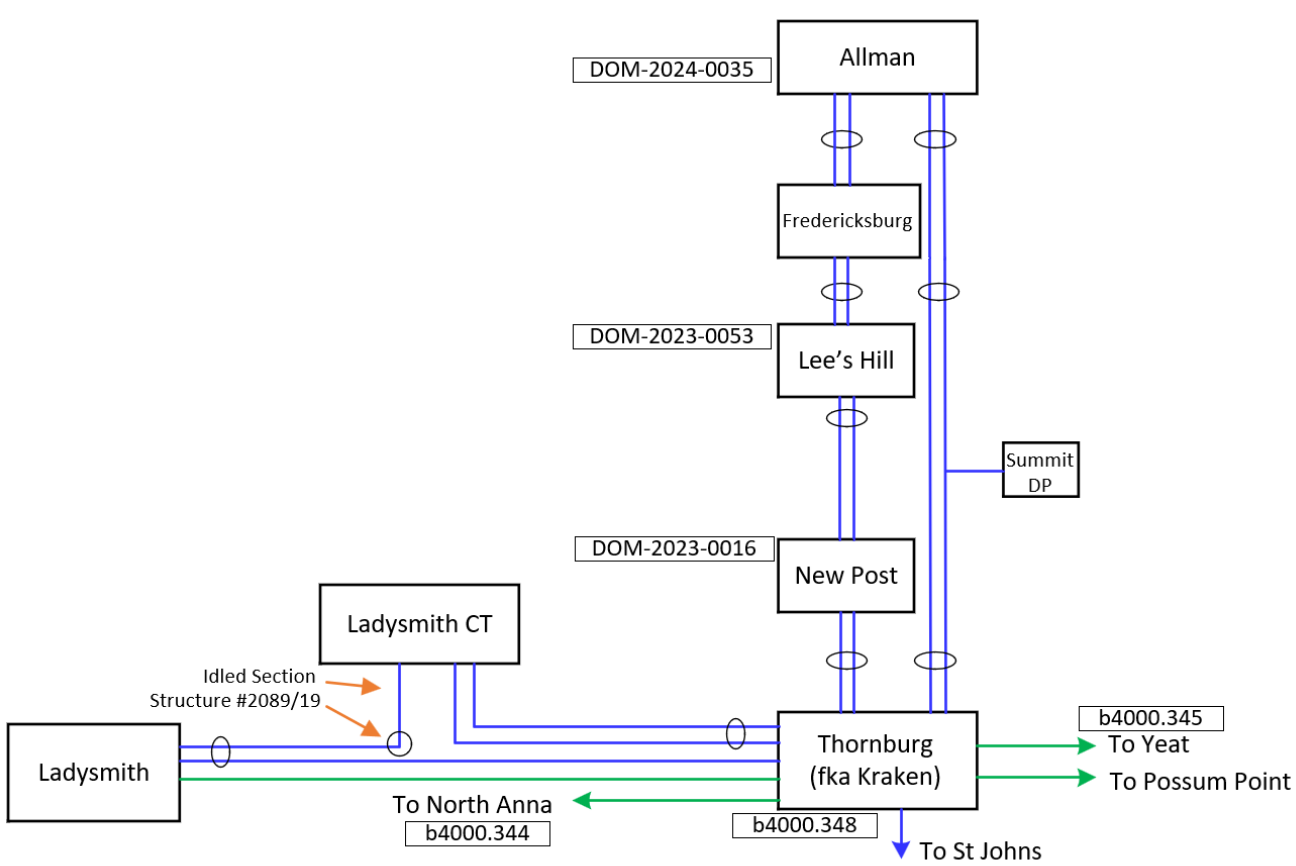
Projected In-service Date: 07/01/2029

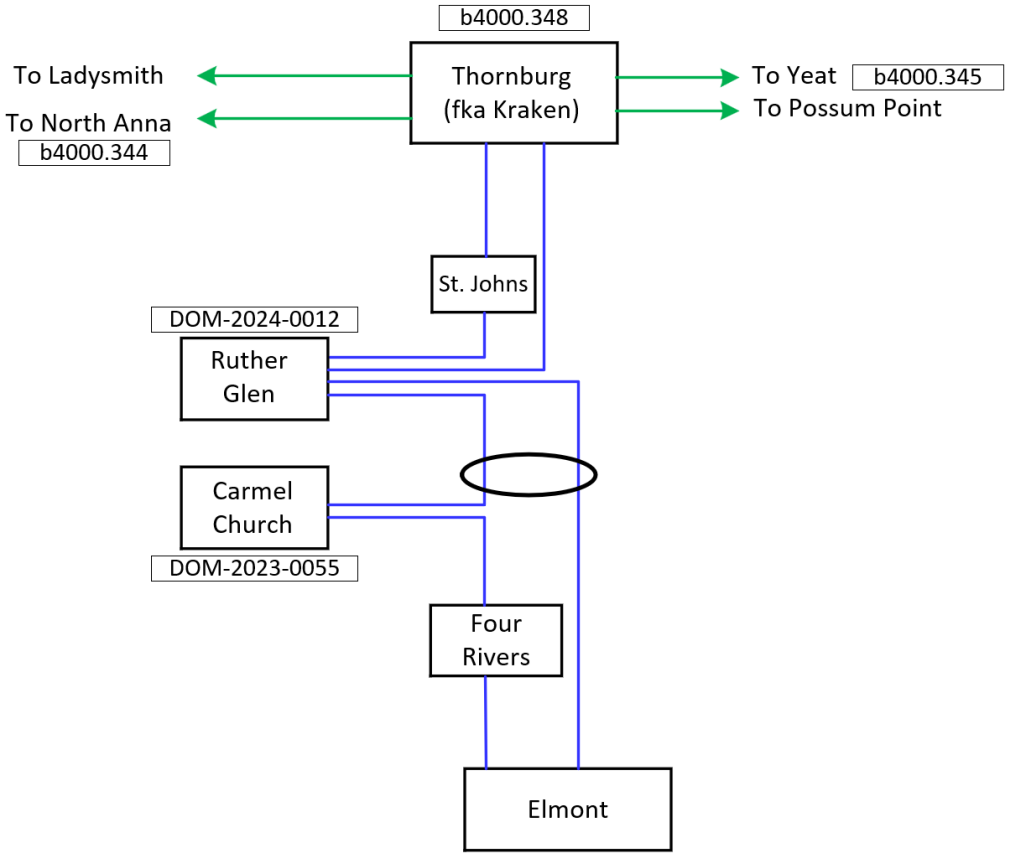
Project Status: Engineering

Model: 2029 RTEP

Dominion Transmission Zone: Supplemental Do No Harm Analysis

One-line Diagram:





Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2024-0051
Process Stage: Solution Meeting 06/02/2026 - Update
Previously Presented: Solution Meeting 06/05/2025
Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

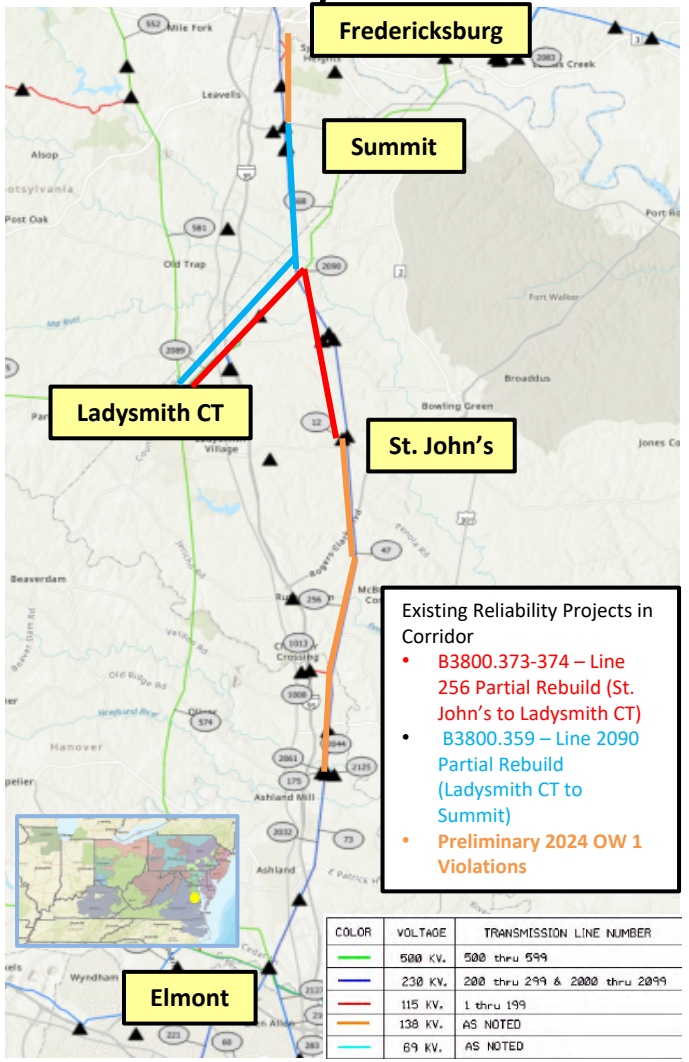
See details on Operational Flexibility and Efficiency in Dominion's Planning Assumptions presented in December 2023.

Problem Statement (page 1 of 2):

The Elmont to Fredericksburg corridor and points north have experienced significant growth, resulting in existing projects to address reliability violations on portions of Lines #256 (Ladysmith CT-Four Rivers) and #2090 (Ladysmith CT-Fredericksburg) as shown on the map. Further, it is anticipated that near-term End-of-Life upgrade projects, coupled with future reliability upgrades will impact most of the remaining corridor.

Additionally, Delivery Point Requests for nine new substations to serve data center load in the Elmont to Fredericksburg corridor have been submitted, as well as ten new substations to serve data center load in the Elmont to Chickahominy corridor. These are in various stages of evaluation/development. Load projections for the DP's currently indicate over 4900 MW of new load by year 2029, growing to over 6,800 MW by year 2032.

There is currently only one 230kV transmission source in the corridor from Elmont to Fredericksburg, along with one 115kV source that was recently rebuilt. Without diverse transmission sources to serve the new substations, it is anticipated that initial facility interconnections with the one 230kV transmission line will have to be reworked as additional transmission lines are required in the corridor to address new reliability violations.



Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2024-0051
Process Stage: Solution Meeting 06/02/2026 - Update
Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

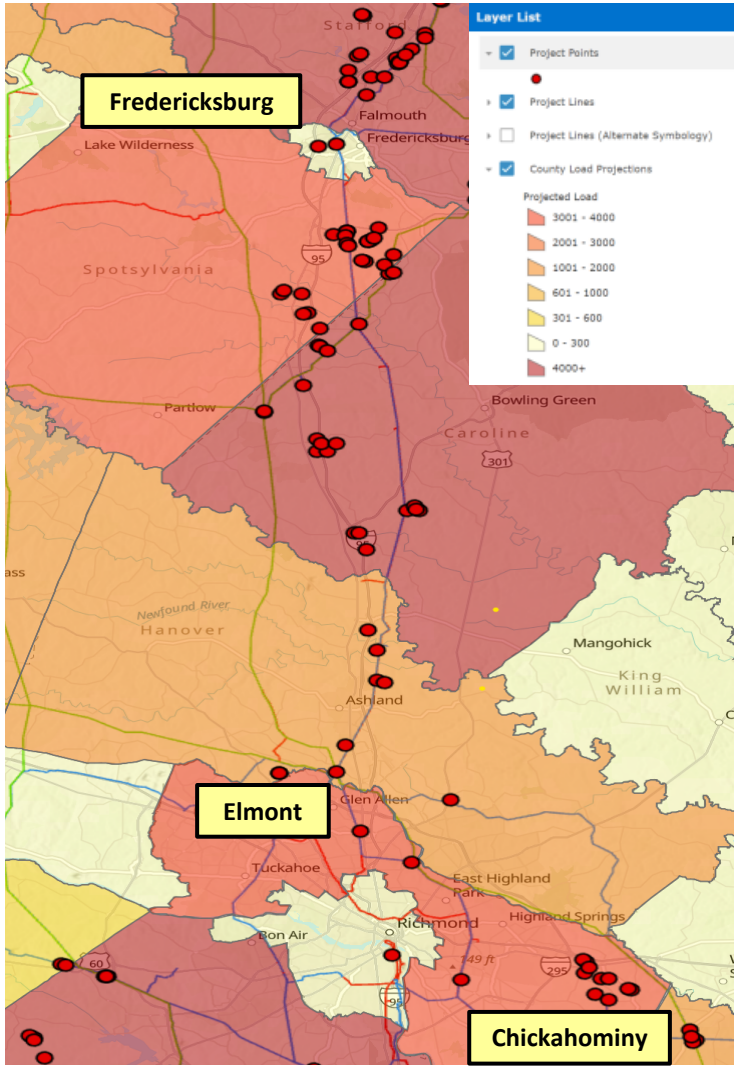
See details on Operational Flexibility and Efficiency in Dominion's Planning Assumptions presented in December 2023.

Problem Statement (page 2 of 2):

Project name	Initial Connect Date	Capacity Requested (MW)
ELMONT TO FREDERICKSBURG CORRIDOR		
Tributary (fmr River View)	4/15/2017	295
New Post Sub	12/1/2025	237
Lee's Hill (fmr Hunters Ridge)	10/1/2025	300
Slayden Creek Sub	12/1/2029	300
Orrock (fmr Matta)	11/15/2026	300
Ruther Glen Sub (fmr Ladysmith)	4/15/2027	300
Carmel Church Sub	4/15/2027	300
Falling Creek Sub	12/1/2032	300
Mudd Tavern	12/31/2030	300
Emy Sub	12/31/2030	300
		2,932

ELMONT TO CHICKAHOMINY CORRIDOR		
Thicket Sub	12/1/2030	300
Saltwood Sub	12/1/2027	300
Bunker Sub	11/1/2027	300
Letterkenny Sub	12/31/2031	300
Stockholm Sub	12/31/2028	300
Oslo	Queue	300
Lisbon	Queue	300
Sunfield (fmr Summerfield)	Queue	300
Winterfield	Queue	300
Gray Bark Sub	Queue	300
		3,000

ADDITIONAL QUEUED CAPACITY ELMONT - FREDERICKSBURG		
	37 DPs	10,536



Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2024-0051
Process Stage: Solution Meeting 06/02/2026 - Update
Project Driver: Operational Flexibility and Efficiency

Proposed Solution

1 – Previously presented Do No Harm supplemental project DOM-2023-0016, 0053, 0055, 2024-0012 will wreck and rebuild 230kV line 256/2032 (Thornburg-Elmont) with double circuit structures and 115kV line #47 (Fredericksburg-Four Rivers) and line #73 (Four Rivers-Elmont) with double circuit structures. Update – 115kV Line 47/73 from Thornburg to Elmont will be constructed as 5/2 structures instead of 2/2 structures per approved 2025 Open Window project b4053.8, 9, 10. The 500kV cost will be allocated to the PJM Zone while the 230kV cost will be allocated to the DOM Zone.

2 – Install ~~second~~ one 230kV conductor rated at 1573 MVA on the ~~both~~ 5/2 double circuit structures from Thornburg to Elmont.

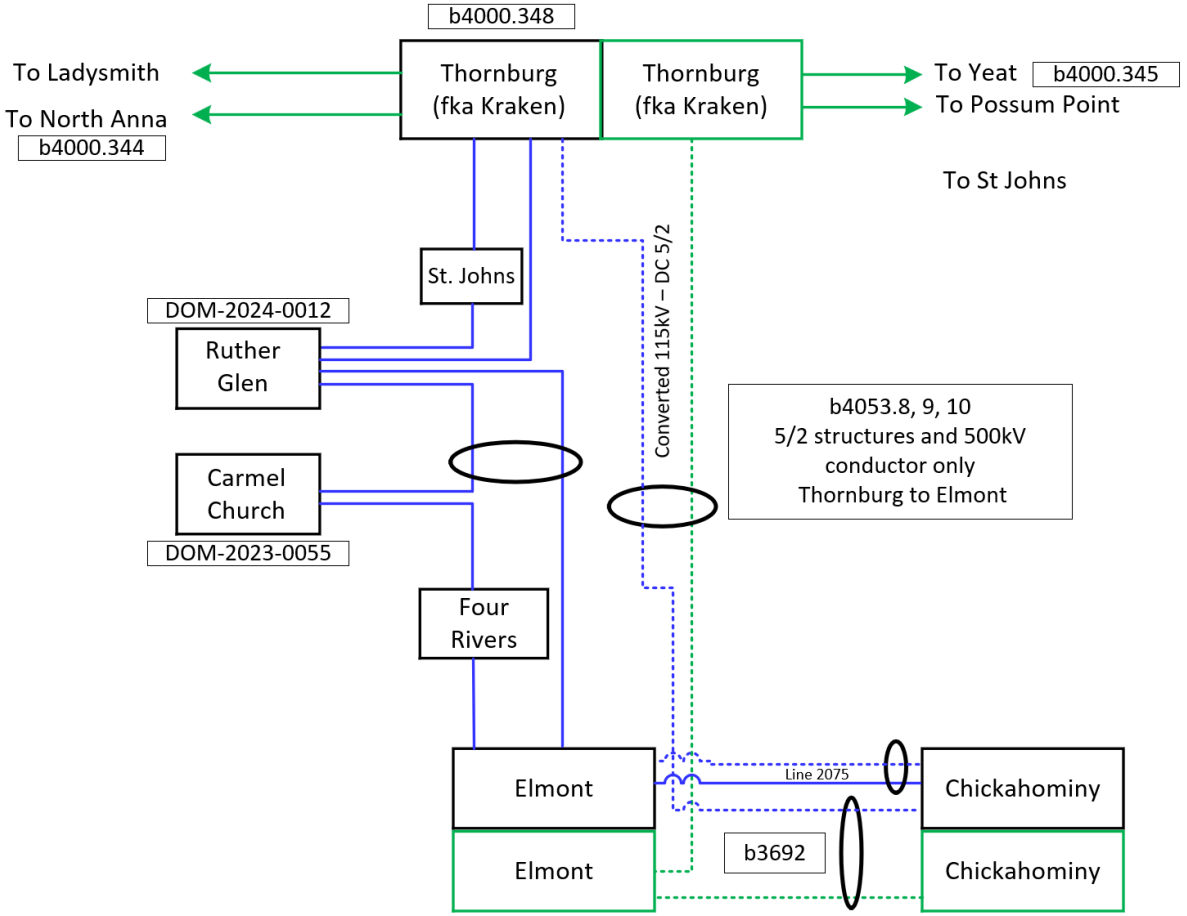
3 – Install one 230kV conductor rated at 1573 MVA on open arms of existing 230kV Line #2075 from Elmont to Chickahominy.

4 – ~~Install~~ Terminate one 230kV conductor rated at 1573 MVA at Thornburg and Chickahominy. Conductor is being installed on 500kV Line #557 5/2 structures being rebuild under 2021 Open Window End of Life project b3692.

5 – Final configuration will be one new 5/2 circuit from Thornburg to Elmont and two 230kV circuits from Elmont to Chickahominy.

6 – Install substation terminal equipment

Alternatives Considered: None, in existing ROW
Estimated Cost: Transmission: ~~$108M~~ $165M; **Substation**: $20M
Projected In-Service Date: 12/31/2030
Project Status: Engineering
Model: 2029 RTEP



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

05/22/2026 – V1 – Original version posted to pjm.com