Dominion 2025
Submission of Supplemental Projects for Inclusion in the Local Plan

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0013

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented:

Need Meeting 03/07/2023, Solution Meeting 07/09/2024

Project Driver: Customer Service

Specific Assumption References:

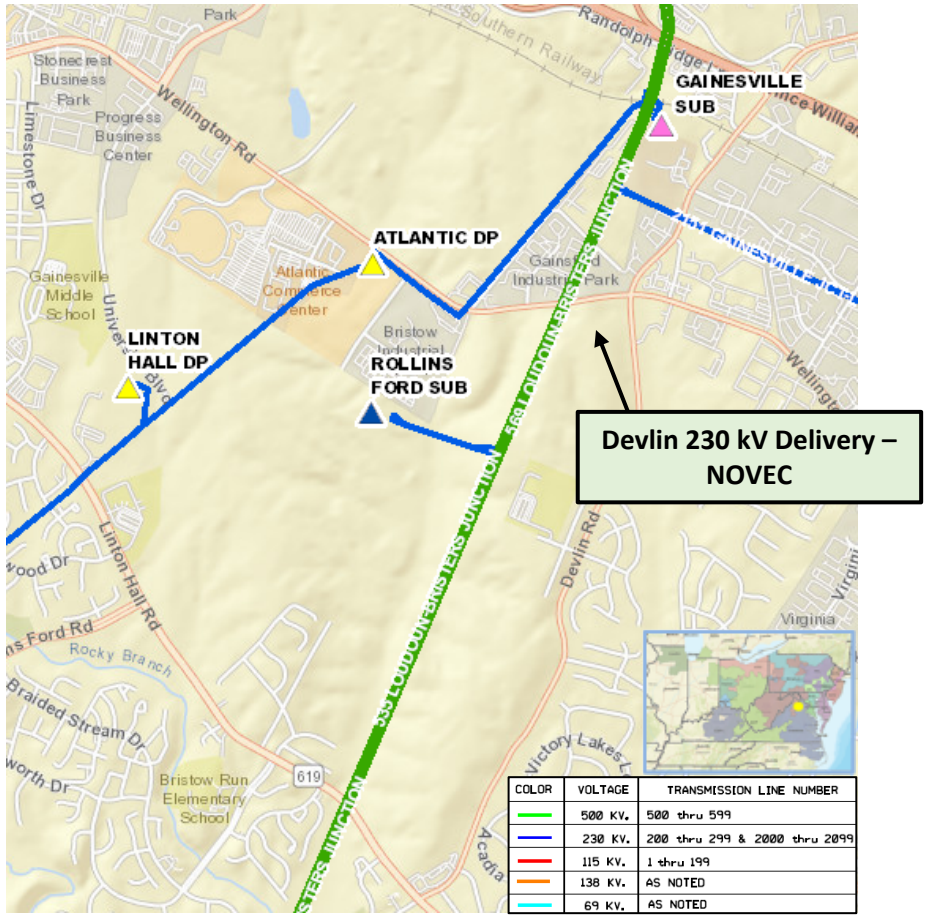
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

NOVEC has submitted a DP Request for a new substation (Devlin) to serve a data center complex in Bristow with a total load in excess of 100 MW.

Requested in-service date is 05/01/2026.

Initial In-Service Load	Projected 2029 Load
Summer: 0.7 MW Winter: 0.7 MW	Summer: 111.0 MW Winter: 111.0 MW



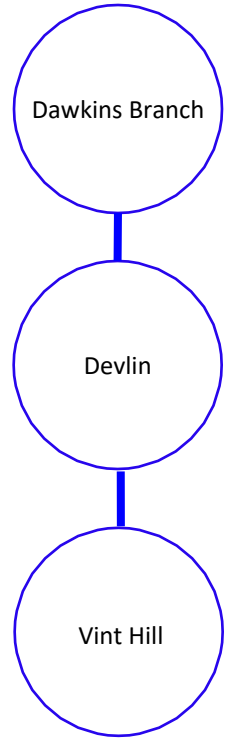
Dominion Transmission Zone: Supplemental Devlin 230kV Delivery – NOVEC

Need Number: DOM-2023-0013

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Interconnect the new substation by cutting and extending Line #2163 (Vint Hill – Dawkins Branch) to the proposed Devlin Substation. Terminate both ends into a GIS 230 kV four-breaker arrangement expandable to an ultimate of nine 230 kV GIS breakers in a breaker-and-a-half scheme.



Estimated Project Cost: $42.0 M

Projected In-service Date: 05/01/2026

Supplemental Project ID: s3693.1

Project Status: Engineering

Model: 2028 RTEP

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0052

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 10/31/2023

Solution Meeting 07/09/2024

Project Driver: Customer Service

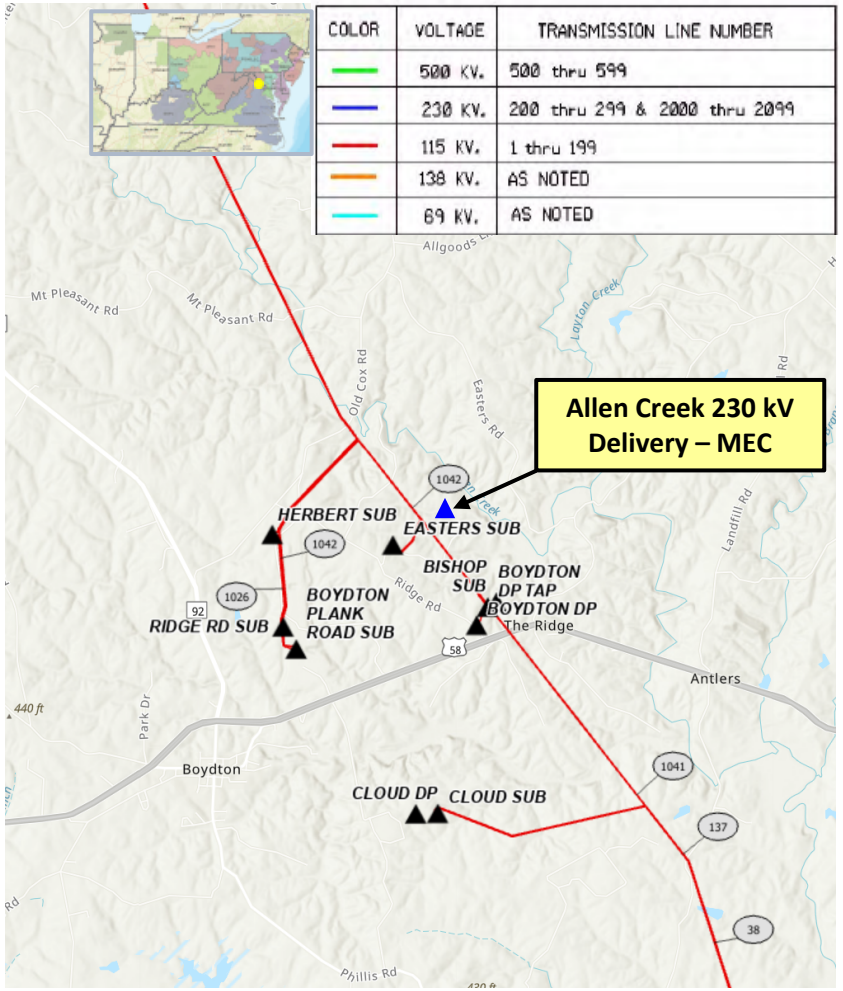
Specific Assumption References:

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

Problem Statement:

ODEC on behalf of Mecklenburg Electric Coop (MEC) has submitted a DP request for a new 230 kV delivery point (Allen Creek Sub) to serve a data center customer in Mecklenburg County with a total load in excess of 100 MW. Requested in-service date is ~~12/01/2025~~ 12/30/2025.

Initial In-Service Load	Projected 2028 Load
Summer: 0 MW Winter: 12 MW	Summer: 80 MW Winter: 110 MW



Dominion Transmission Zone: Supplemental Butler Farm 230kV Delivery - DEV

Need Number: DOM-2023-0052

Process Stage: Solution Meeting 07/09/2024

Selected Solution:

- Construct Allen Creek 230 kV switching station with 4-breaker ring bus configuration. Customer will pay excess facility charges to install 6 more breakers.
- Cut Line #2258 (Finneywood – Cloud) and extend two 230kV lines to Allen Creek switching station.

Estimated Project Cost: $30.0 M (Total)

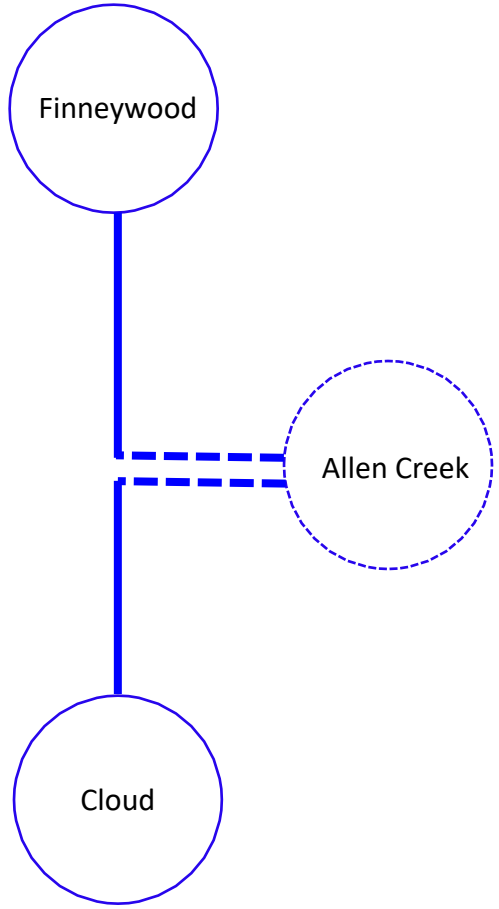
Transmission Line	$8M
230kV Substation	$22M

Projected In-service Date: 12/30/2025

Supplemental Project ID: s3694.1

Project Status: Conceptual

Model: 2028 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0005
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 02/06/2024

Solution Meeting 8/6/2024

Project Driver: Customer Service

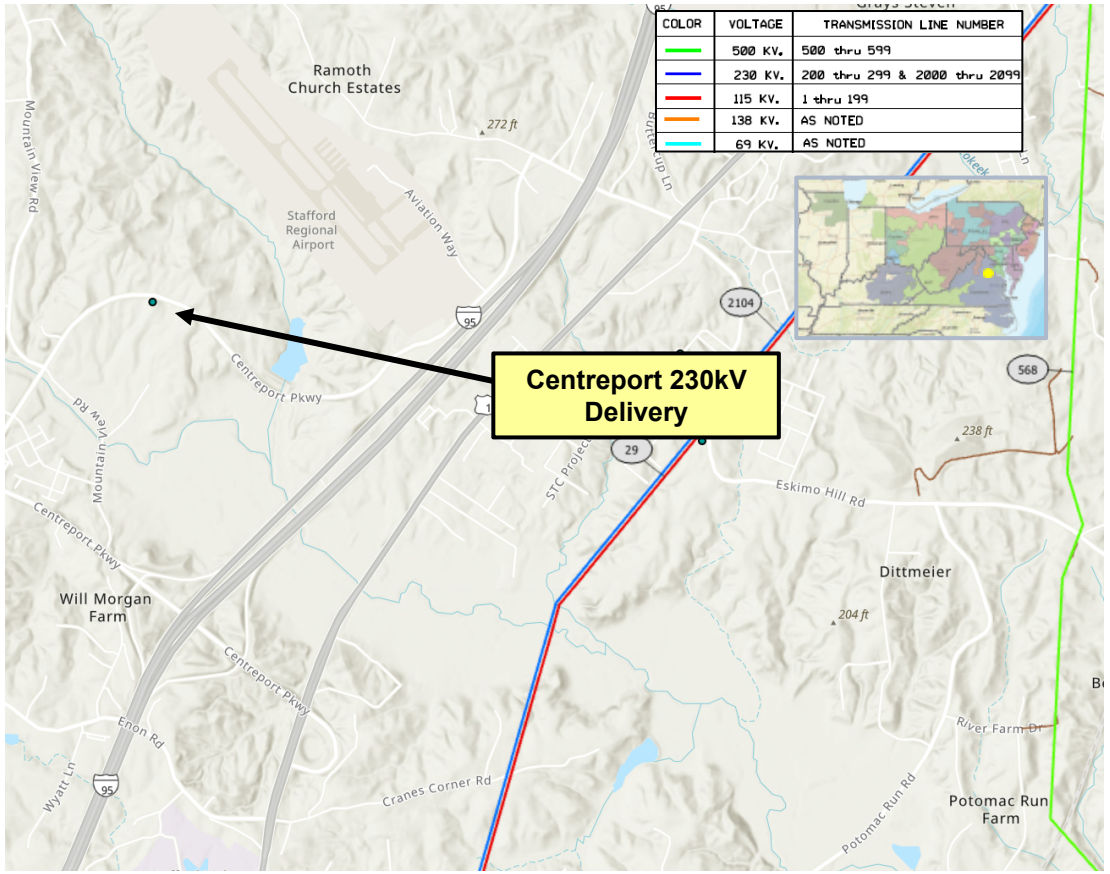
Specific Assumption References:

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

Problem Statement:

DEV has submitted a DP request for a new 230 kV delivery point (Centreport) to serve a data center customer in Stafford VA with a total load in excess of 100 MW. Requested in-service date is 07/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 4 MW Winter: 0 MW	Summer: 136 MW Winter: 88 MW



Dominion Transmission Zone: Supplemental Centreport 230kV Delivery - DEV

Need Number: DOM-2024-0005

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- Construct Centreport 230 kV switching station with 4-breaker ring bus configuration.
- Cut Line #2104 (Spartan – Cranes Corner) and extend double-circuit 230kV lines for approx. 2.5 miles to Centreport Switching Station.

Estimated Project Cost: $30.0 M (Total)

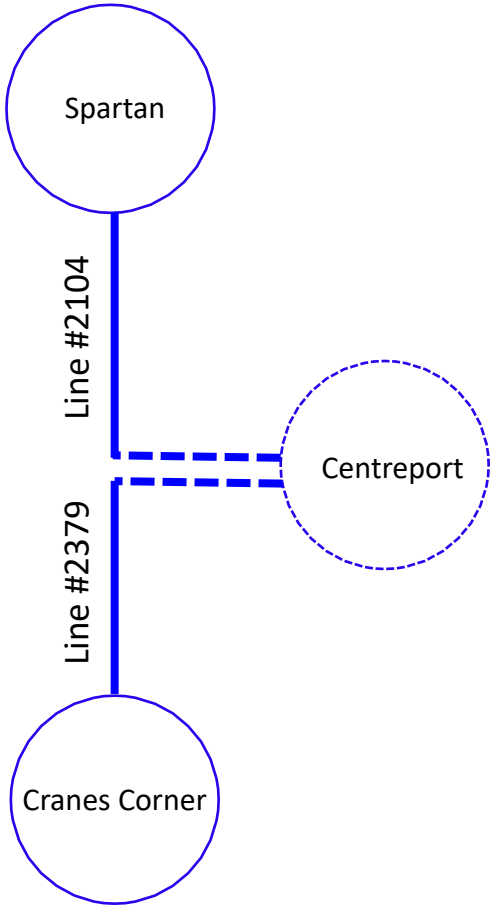
Transmission Line	$12M
230kV Substation	$18M

Projected In-service Date: 07/01/2027

Supplemental Project ID: s3695.1

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2024-0035

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 04/30/2024

Solution Meeting 08/06/2024

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.

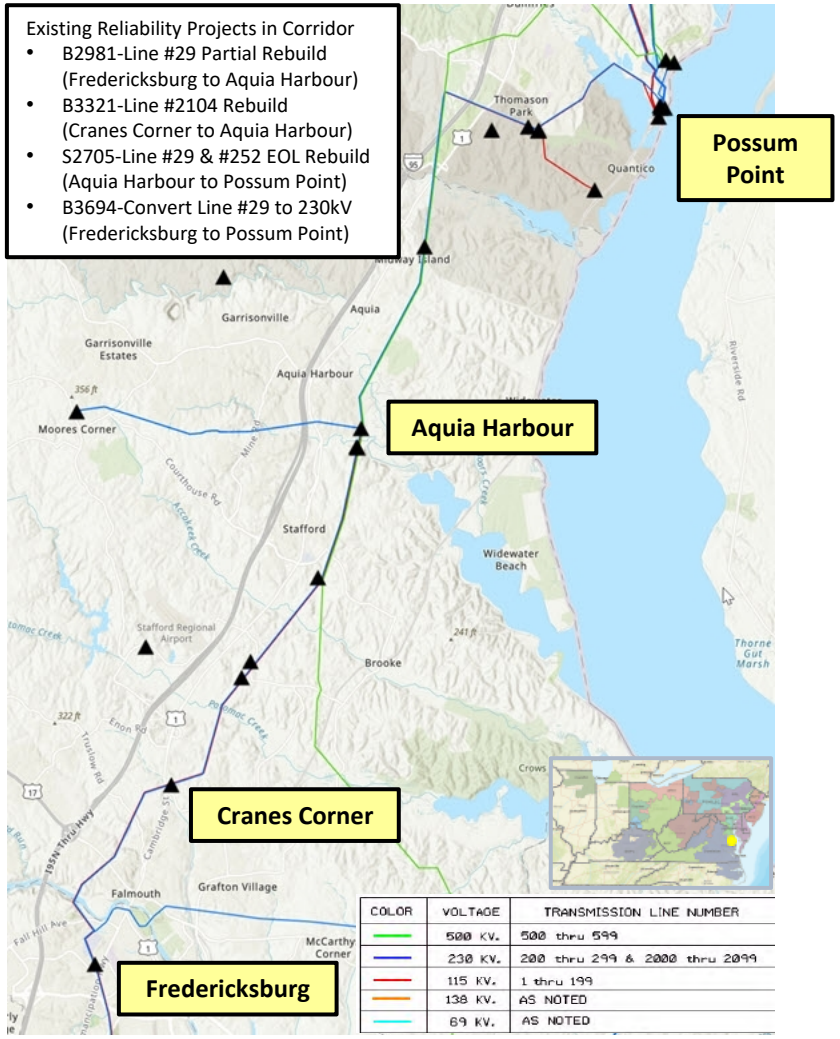
Problem Statement:

Multiple projects have been developed to address reliability violations in the Fredericksburg to Possum Point corridor, resulting in a majority of the corridor being rebuilt over the next 3-4 years so that two, 230kV transmission lines will be available to support existing network flows and to interconnect new customer load.

Delivery Point (DP) Requests for thirteen new substations to serve data center load in the corridor have been submitted by DEV Distribution and are in various stages of evaluation/development. Load projections for the DP's currently indicate over 1700 MW of new load by year 2029, growing to over 3000 MW by year 2032.

Additionally, in the corridor south of Fredericksburg Substation, DP Requests for fourteen new substations have been received with projected loads exceeding 2000 MW by year 2029 and 3000 MW by year 2032.

Without diverse transmission sources to serve the new substations, it is anticipated that initial facility interconnections with the two, 230kV transmission lines will have to be reworked as additional transmission lines are required in the corridor to address new reliability violations. This is expected to result in customer interconnection delays, increased outage durations, and increased overall cost.



Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2024-0035

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

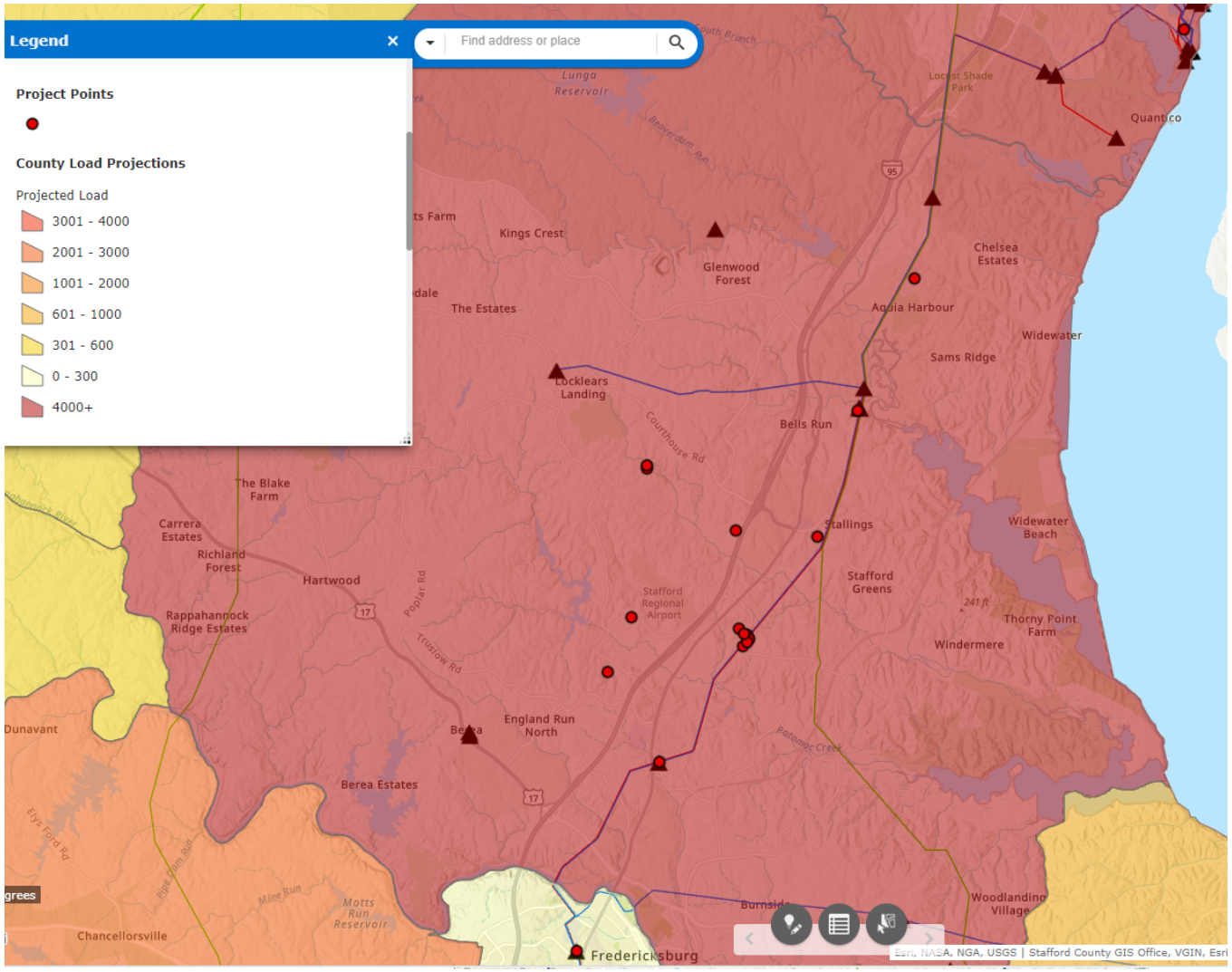
Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

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

Problem Statement (continued):

	A	B	E	G	R	X
5	Need Presented 04/30/2024 TEAC					
6	Need Previously Presented				MW	MW
7	DOM#	Project Name	Connect	Type	2029	2032
8	2023-18	Spartan Sub	5/2/2025	DP	110	110
9	2023-35	Caboose Sub	6/1/2026	DP	84	140
10	n/a	Widewater Sub	1/1/2027	EO	0	77
11	2024-28	Shady Hill	4/4/2027	DP	175	175
12	2024-05	Centreport Sub	7/1/2027	DP	136	136
13	2023-56	Alto Sub	7/1/2027	DP	213	213
14	2024-06	Woodcutters Sub	1/1/2028	DP	250	1000
15	2024-07	Surveyors	1/1/2028	DP	300	300
16	2024-29	Soprano Sub	4/1/2028	DP	116	255
17	2023-34	Freight Sub	8/5/2028	DP	40	140
18	2024-08	Baritone Sub	10/1/2028	DP	32	183
19	2024-34	Opera Sub	10/1/2029	DP	0	242
20	n/a	Classical Sub	7/1/2030	EO	0	155
21	2023-24	Locomotive Sub	11/4/2031	DP	116	255
22	n/a	Tenor Sub	7/1/2032	EO	0	6
23	2024-30	Mountain View Sub	4/1/2026	DP	181	181
24						
25				TOTAL	1753	3568



Dominion Transmission Zone: Supplemental

Fredericksburg to Possum Corridor – Add 3rd and 4th 230kV Lines

Need Number: DOM-2024-0035

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- Construct Allman Switching Station north of existing Fredericksburg Substation, to accommodate ten, 230kV line terminals (six north, four south) in five strings of a breaker-and-a-half arrangement. GIS equipment will be utilized due to limited space.
- Rebuild Line #2157 approx. 4.5 miles, Allman to Cranes Corner, with double-circuit structures and a minimum summer conductor rating of 1573 MVA.
- Rebuild Line #2083 approx. 0.7 miles, Allman to Hospital Jct, with double-circuit structures and a minimum summer conductor rating of 1573 MVA.
- Expand Cranes Corner Sub to accommodate a new backbone for line re-alignment.
- Construct a 2nd 230kV double-circuit pole line approx. 12 miles, Aquia Harbour to Possum Point. Approximately 41 lattice structures (~7.1 miles) of adjacent 500kV Line #568 will be replaced with monopole structures to accommodate the new 230kV double-circuit structures in the corridor.
- Install two additional 230kV lines in the corridor, with a minimum summer rating of 1573 MVA, by utilizing the vacant arm positions on the double-circuit structures that will be created by rebuilding the existing single-circuit structures from Fredericksburg to Aquia Harbour and the new double-circuit structures from Aquia Harbour to Possum Point.
- Reconfigure the 230kV terminals at Possum Point to accommodate the two new line terminations.

Estimated Project Cost: $180.0M ($120.0M T-Line; $60.0M Substation)

Projected In-service Date: 06/01/2029

Supplemental Project ID: s3701

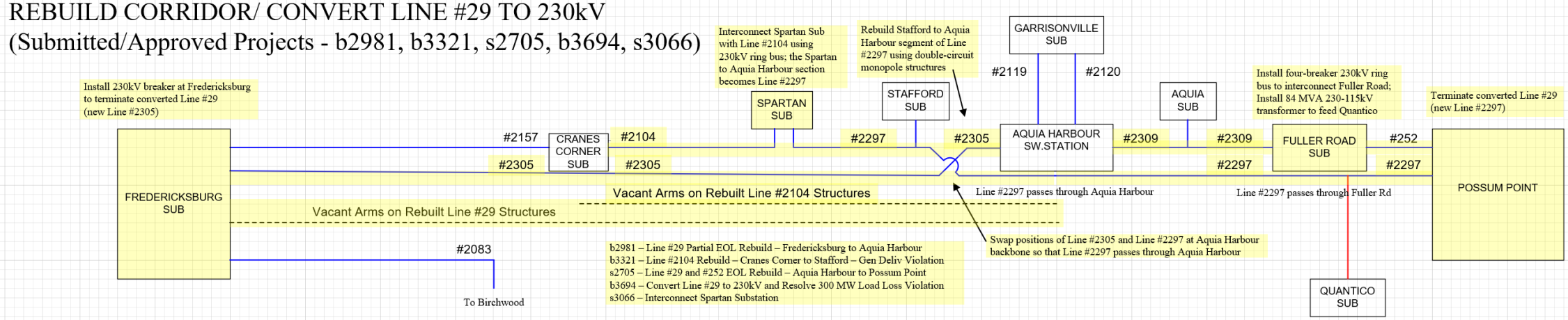
Project Status: Conceptual

Model: 2029 RTEP

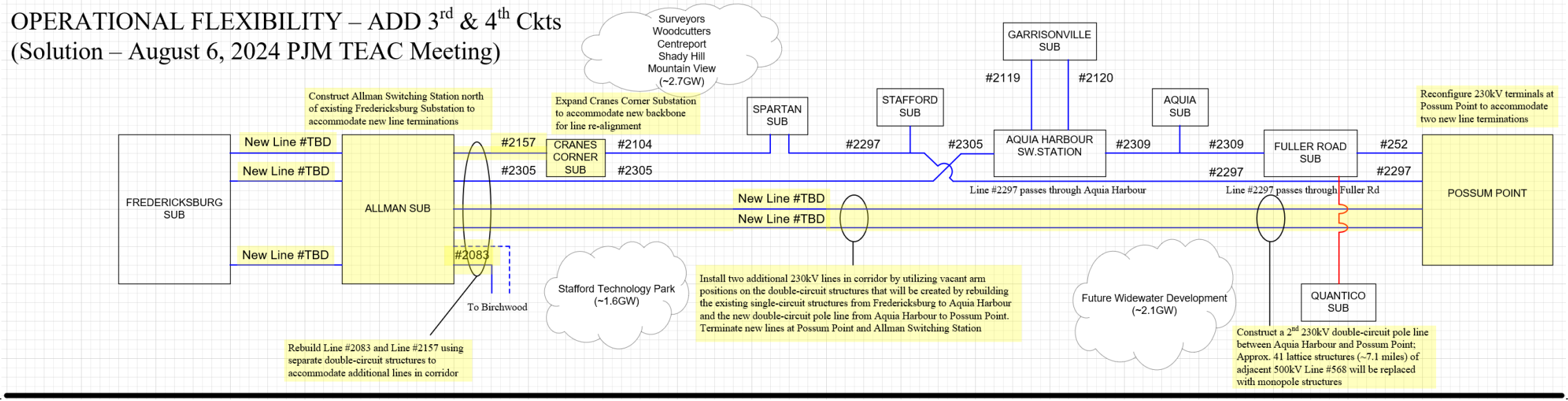
Bubble Diagrams on Next Page

Dominion Transmission Zone: Supplemental
Fredericksburg to Possum Corridor – Add 3rd and 4th 230kV Lines

REBUILD CORRIDOR/ CONVERT LINE #29 TO 230kV
(Submitted/Approved Projects - b2981, b3321, s2705, b3694, s3066)



OPERATIONAL FLEXIBILITY – ADD 3rd & 4th Ckts
(Solution – August 6, 2024 PJM TEAC Meeting)



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0013-DNH

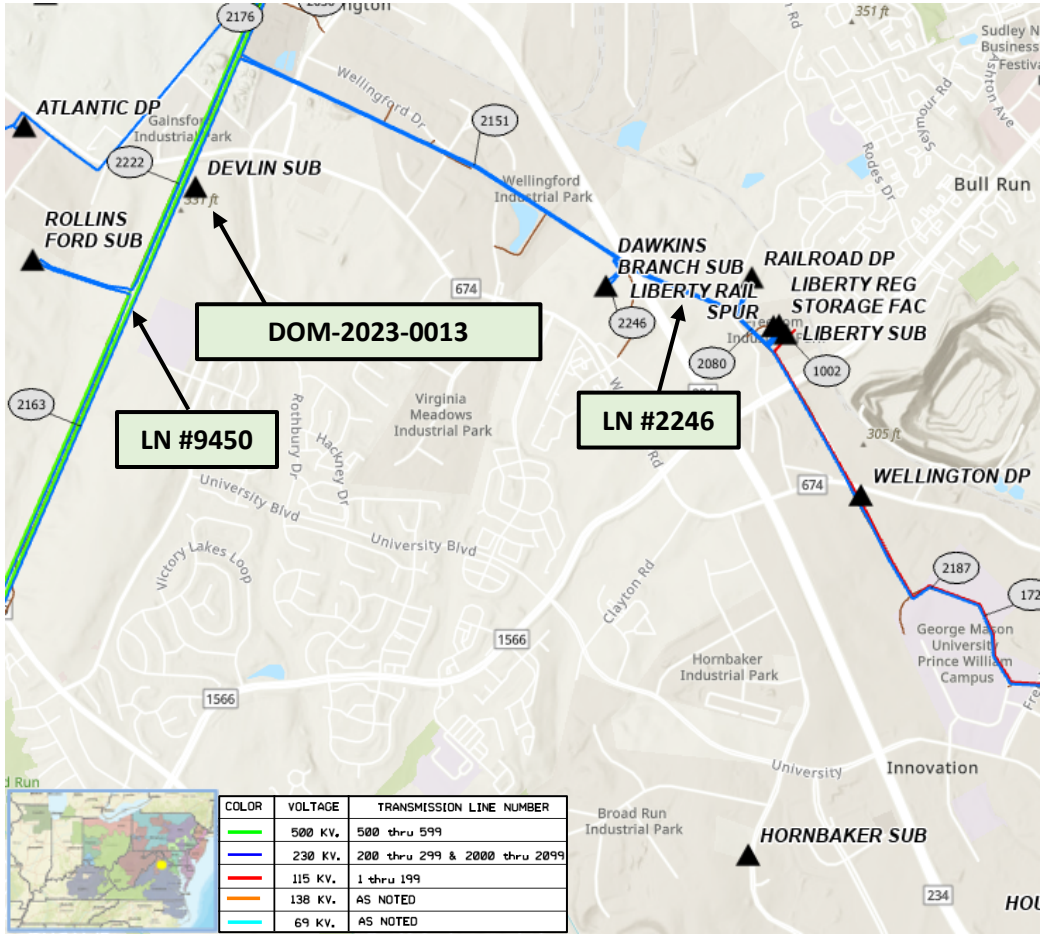
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Previously Presented: Solution Meeting 12/03/2024
Project Driver: Do No Harm Analysis

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

Problem Statement:
PJM has identified a 300 MW load drop violation due to the loss of the following separate facilities in the 2024 Do-No-Harm analysis:

- Dawkins Branch and Devlin
  - N-1-1 Contingency Scenario: L/O DVP_P:1-2: LN 9450 (Vint Hill – Devlin 230 kV) and DVP_P:1-2: LN 2246 (Dawkins Branch – Liberty 230 kV)
  - The combined loading of the two Substations is projected to exceed 300 MW by Summer 2029.

The violations are caused by previously presented Supplemental Project DOM-2023-0013 in the Dominion Zone.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2023-0013-DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- Construct (2) 230 kV transmission lines on a shared tower structure for approximately 2.9 miles from Devlin to Pegasus Substation with a minimum summer normal conductor rating of 1572 MVA. Acquisition of new right-of-way will be required.
- Install 230 kV breakers and associated equipment (ie. switches, leads) at both Devlin and Pegasus Substations to accommodate the termination of the lines.

Estimated Project Cost: $88.0M (Total)

Transmission Line Cost: $33.0M

Real Estate Cost: $40.0M

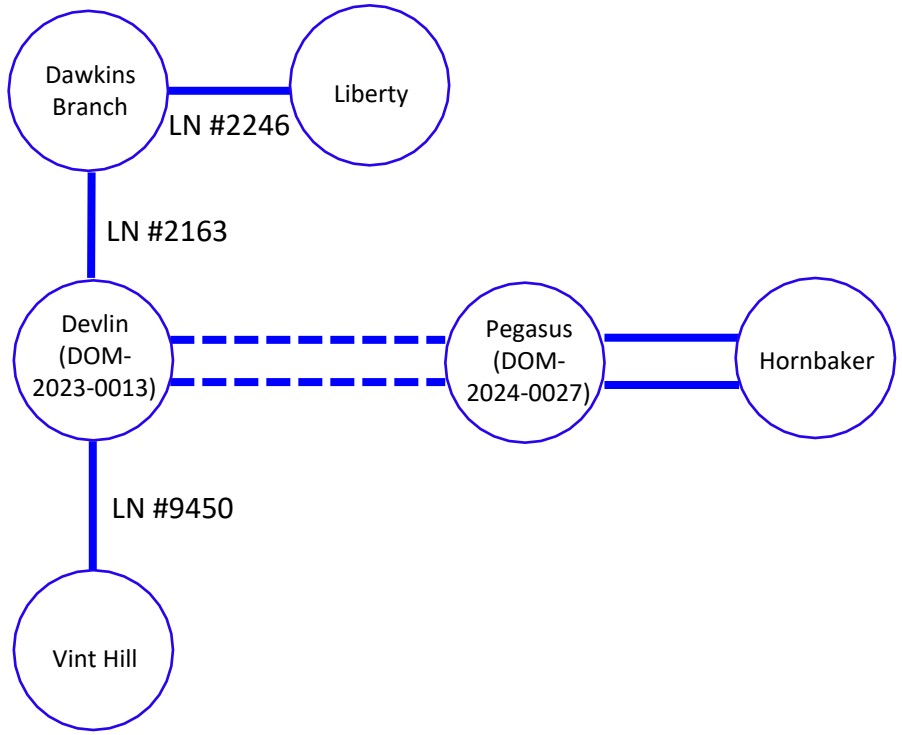
Substation Cost: $15.0M

Projected In-service Date: 06/15/2029

Supplemental Project ID: s3693.2, s3693.3

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0047

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 07/09/2024

Solution Meeting 12/03/2024

Project Driver: Customer Service

Specific Assumption References:

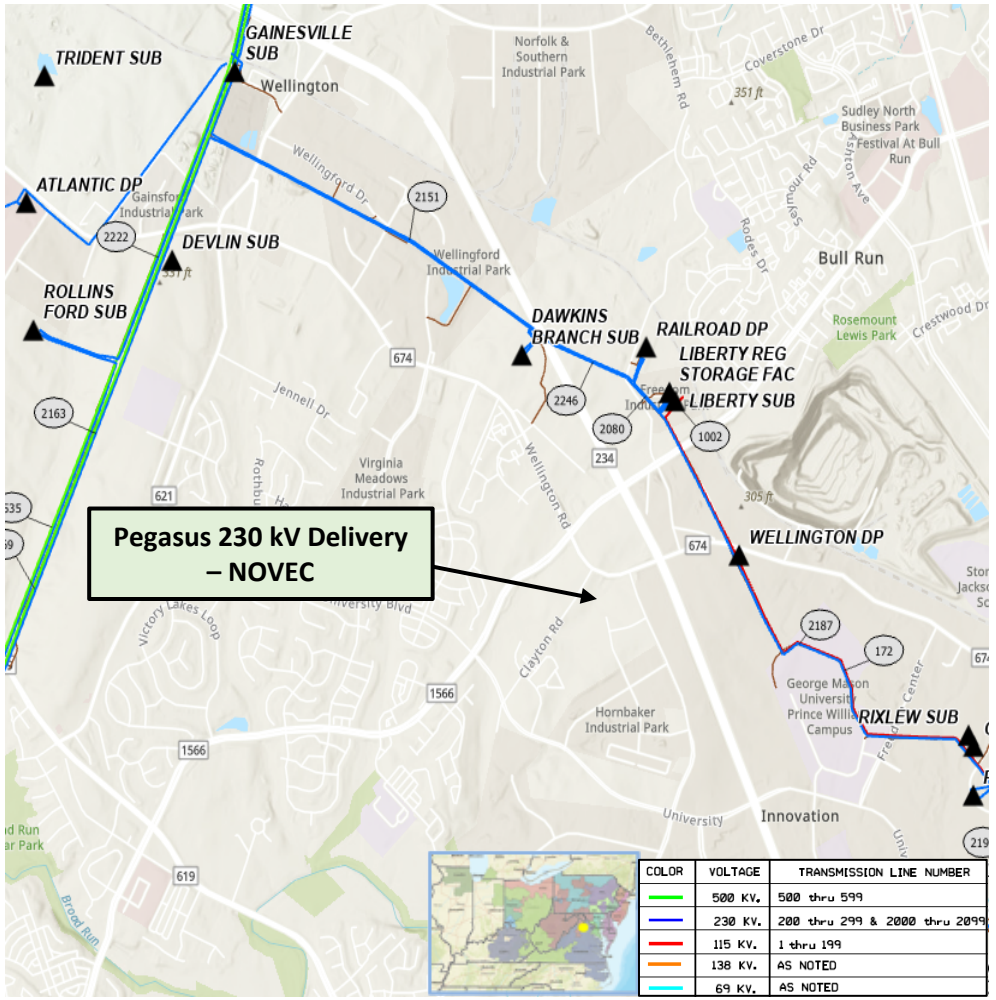
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

NOVEC has submitted a DP Request for a new substation (Pegasus) to serve a data center complex in Prince William County with a total load in excess of 100 MW.

Requested in-service date is 04/14/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 22.8 MW Winter: 22.8 MW	Summer: 87.0 MW Winter: 87.0 MW



Dominion Transmission Zone: Supplemental Pegasus 230kV Delivery – NOVEC

Need Number: DOM-2024-0047

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Interconnect the new substation by cutting and extending Line #2187 (Liberty – Hornbaker) and Line #9306 (Pioneer – Hornbaker) to the proposed site, terminating (2) 230 kV lines in-and-out of Pegasus Substation. Lines to terminate into a (6) breaker 230 kV breaker-and-a-half AIS configuration, expandable to an ultimate of (9) breakers.

Estimated Project Cost: $28.5M (Total)

Transmission Line Cost: $3.5M

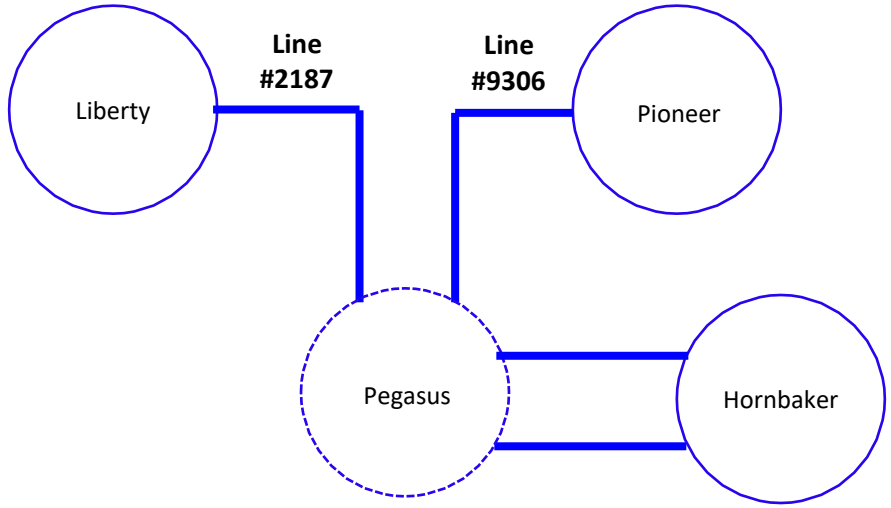
Substation Cost: $25.0M

Projected In-service Date: 04/14/2027

Supplemental Project ID: s3700

Project Status: Engineering

Model: 2028 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0063

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 09/10/2024

Solution Meeting 12/03/2024

Project Driver: Customer Service

Specific Assumption References:

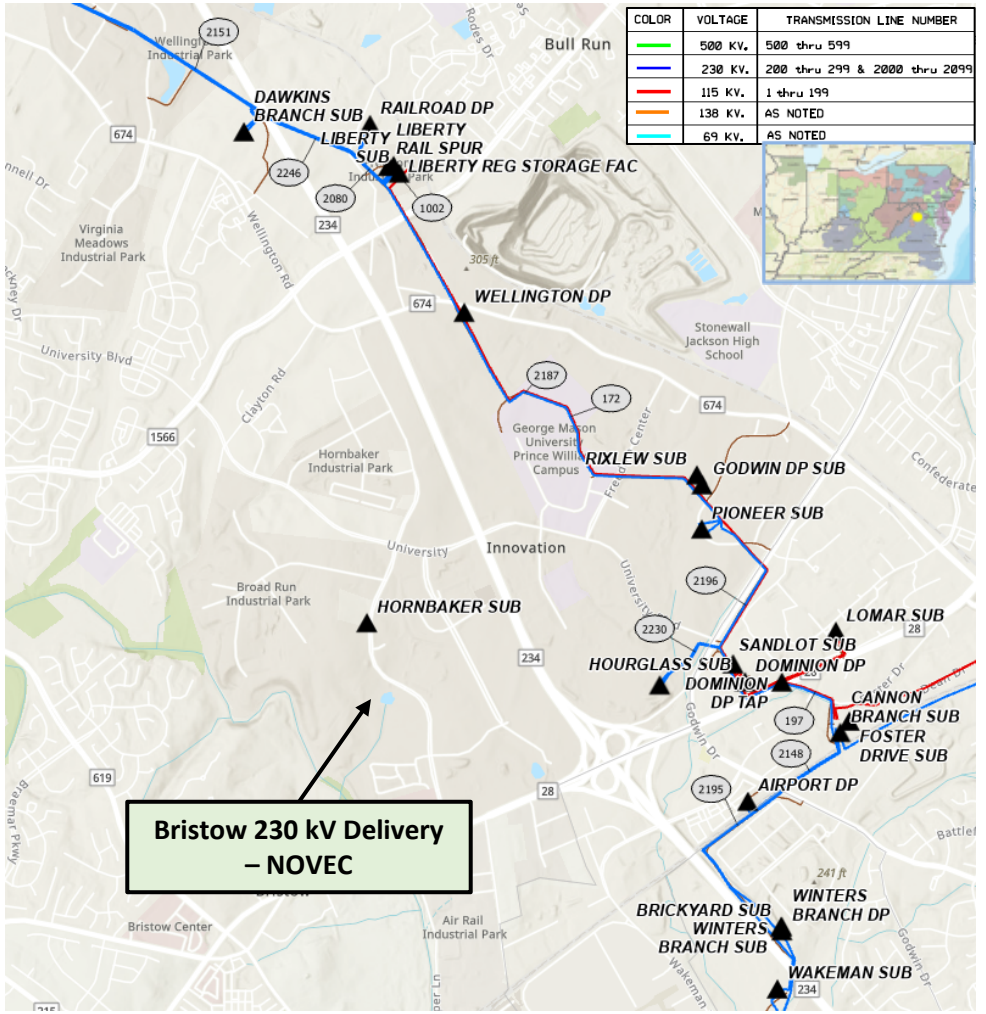
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

NOVEC has submitted a DP Request for a new substation (Bristow) to serve a data center complex in Manassas with a total load in excess of 100 MW.

Requested in-service date is 04/30/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 50.2 MW Winter: 1.5 MW	Summer: 213.0 MW Winter: 140.0 MW



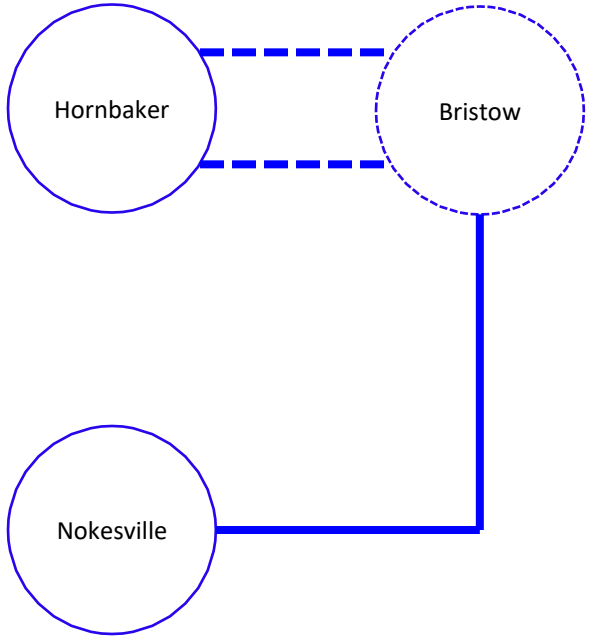
Dominion Transmission Zone: Supplemental Bristow 230kV Delivery – NOVEC

Need Number: DOM-2024-0063

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- Interconnect the proposed Bristow substation by extending (2) 230 kV tie-lines between Hornbaker and Bristow.
- Due to being directly adjacent to Hornbaker Substation, the termination of the 230 kV line between Nokesville and Hornbaker Substations (DOM-2022-0045-DNH) will be reconfigured to terminate into Bristow.
- Lines to terminate into a 230 kV six-breaker ring arrangement.



Estimated Project Cost: $14.0M (Total)

Transmission Line Cost: $0.5M

Substation Cost: $13.5M

Projected In-service Date: 04/30/2028

Supplemental Project ID: s3699

Project Status: Engineering

Model: 2029 RTEP

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0023

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 04/30/2024

Solution Meeting 12/3/2024

Project Driver: Customer Service

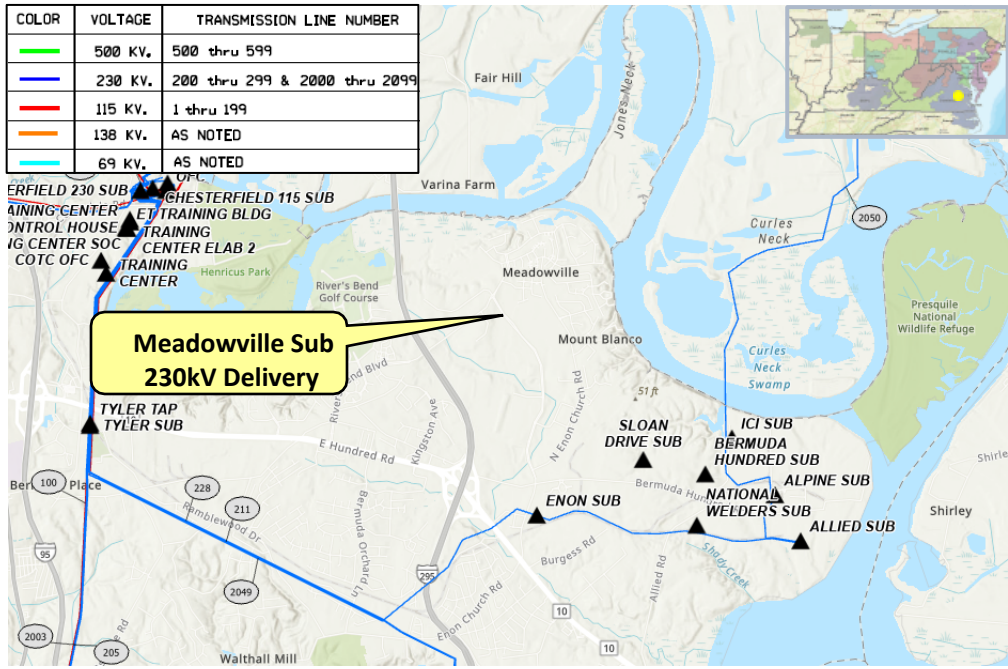
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (Meadowville) to serve a data center in Chesterfield County with a total load in excess of 100 MW. The requested in-service date is 12/31/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 80.0 MW Winter: 80.0 MW	Summer: 300.0 MW Winter: 300.0 MW



Dominion Transmission Zone: Supplemental Meadowville 230kV Delivery - DEV

Need Number: DOM-2024-0023

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:
Connect the new substation by extending new double circuit 230kV lines from future Sloan Drive Substation. Lines to terminate in a 230kV six-breaker ring arrangement.

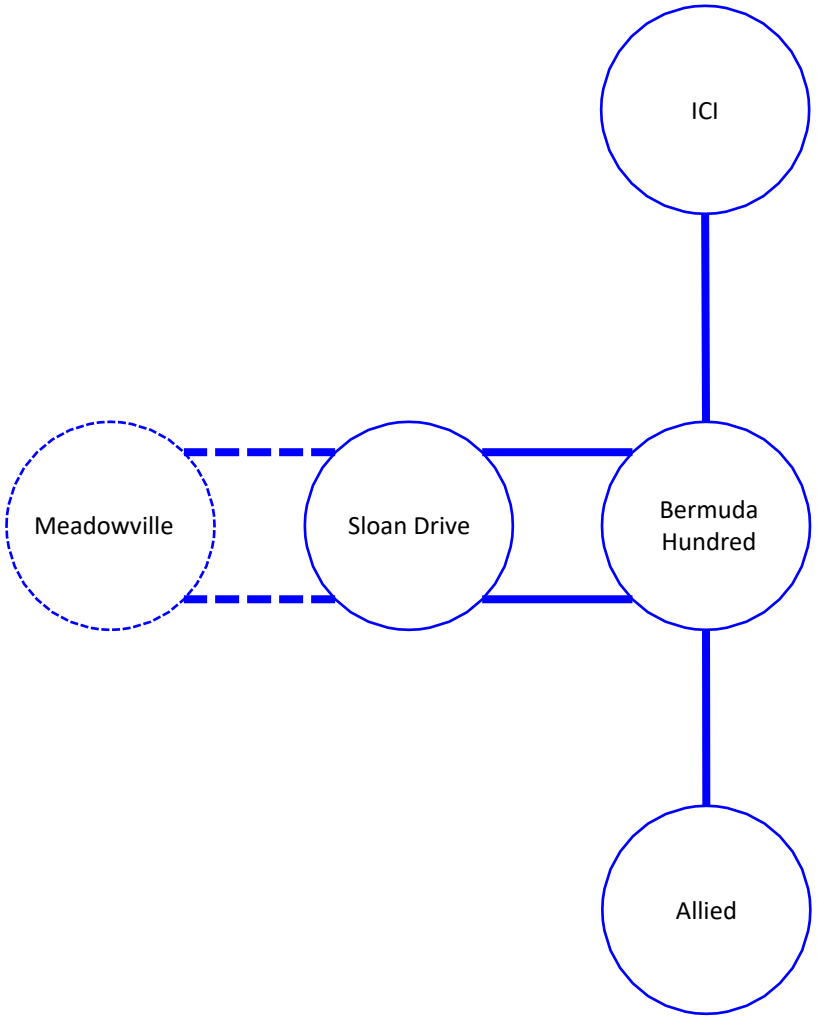
Estimated Project Cost: $36.9M
- Substation: $13.7M
- Transmission Lines: $23.2M

Projected In-service Date: Q1 2028

Supplemental Project ID: s3671

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0024

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 04/30/2024

Solution Meeting 12/03/2024

Project Driver: Customer Service

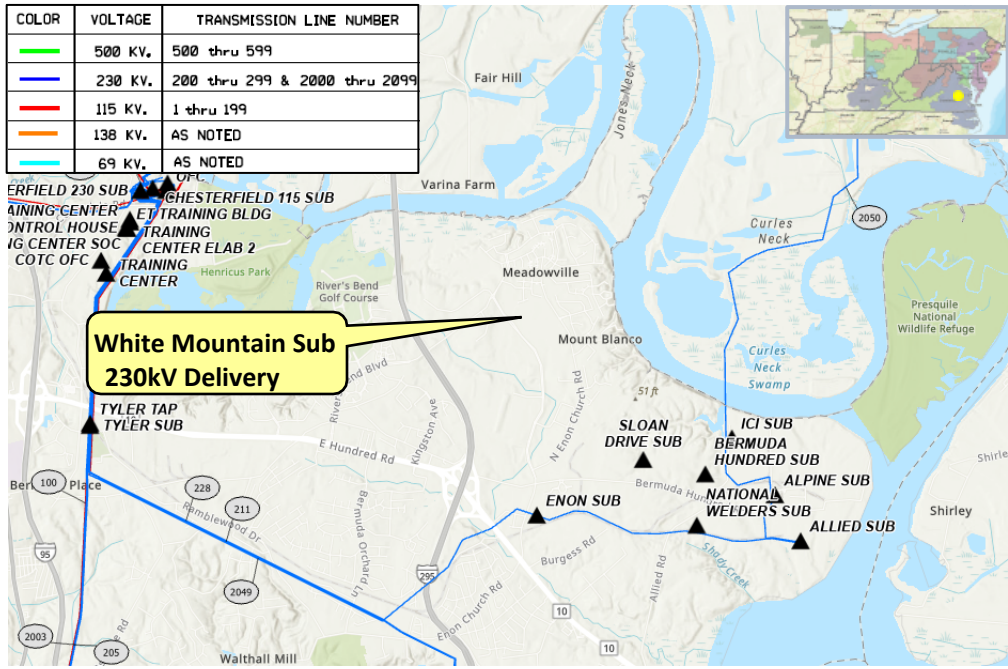
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (White Mountain) to serve a data center in Chesterfield County with a total load in excess of 100 MW. The requested in-service date is 06/30/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 100.0 MW Winter: 100.0 MW	Summer: 100.0 MW Winter: 100.0 MW



Dominion Transmission Zone: Supplemental White Mountain 230kV Delivery - DEV

Need Number: DOM-2024-0024

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:

Connect the new substation by extending a new 230kV feed from future Sloan Drive Substation. Lines to terminate in a 230kV six-breaker ring arrangement.

Estimated Project Cost: $19.0M

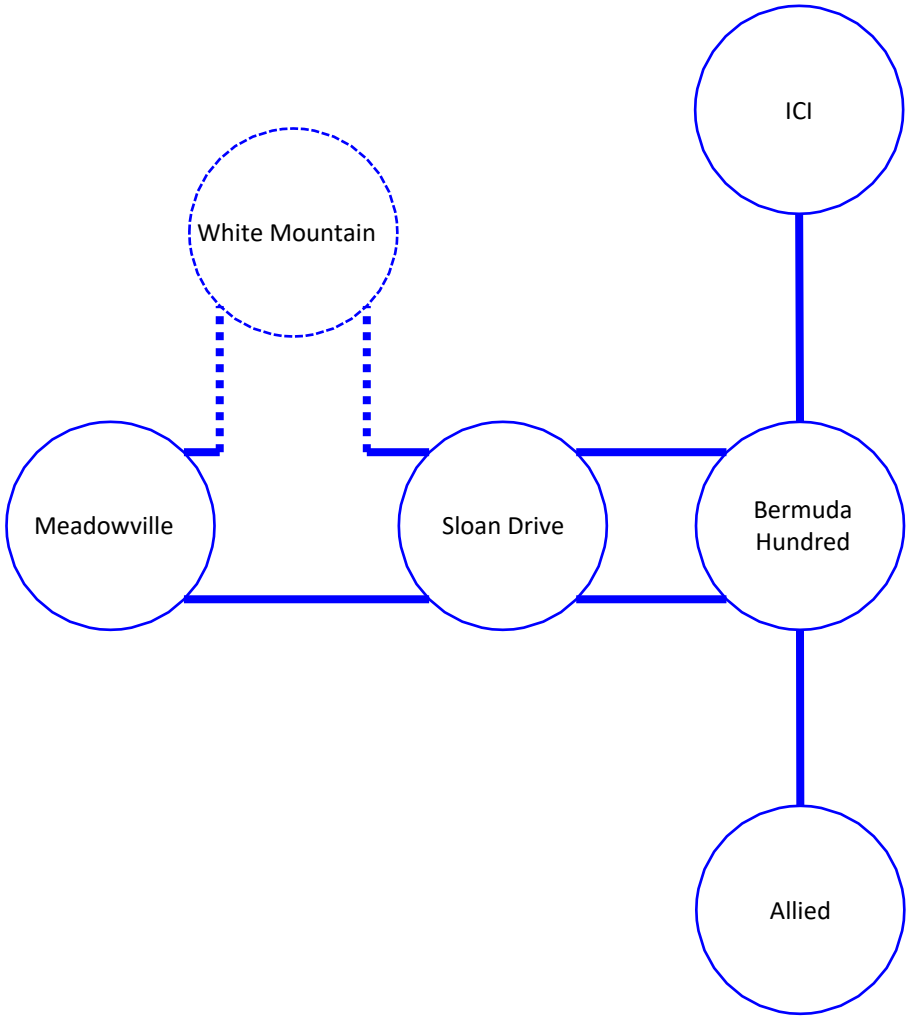
- Substation: $13.8M
- Transmission Lines: $5.2M

Projected In-service Date: Q1 2028

Supplemental Project ID: s3672

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2019-0021, DOM-2024-0022, DOM-2024-0023, DOM-2024-0024 - DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented:

Solution Meeting 6/30/2024: DOM-2019-0021 & DOM-2024-0022

Solution Meeting 12/03/2024: DOM-2024-0023 & DOM-2024-0024

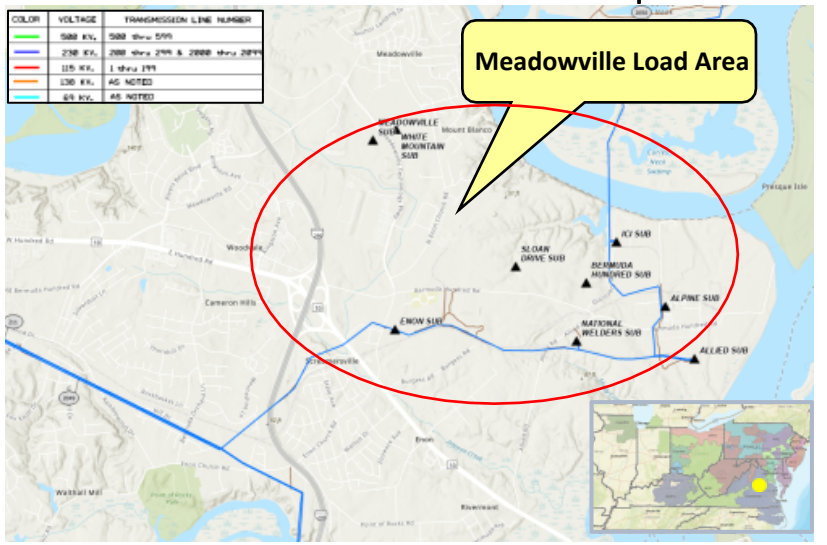
Project Driver: Do No Harm Analysis – Meadowville Load Area

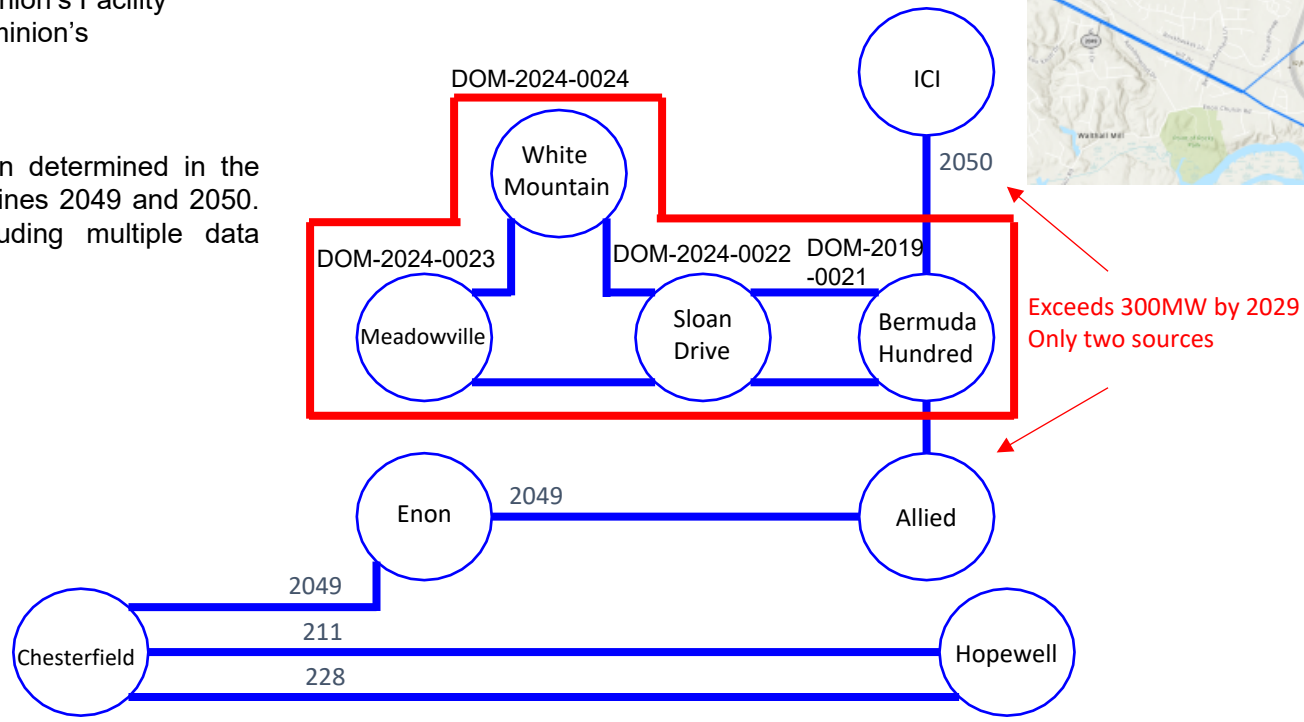
Specific Assumption References:

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

Problem Statement:

A 300MW N-1-1 contingency violation has been determined in the Meadowville general load area with the loss of Lines 2049 and 2050. This violation affects multiple customers including multiple data centers, industrial, and residential load.





Need Number: DOM-2019-0021, DOM-2024-0022, DOM-2024-0023, DOM-2024-0024 - DNH
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Project Driver: Do No Harm – Meadowville Load Area

Selected Solution:
- Connect future Meadowville substation to existing Enon substation by constructing approximately two miles of double circuit 230kV lines.
- Enon substation will need to be expanded to include a new 230kV ring bus.
- Construct new Sycamore Springs switching station in existing transmission corridor. Loop existing 230kV Lines 211, 228, and 2049 in and out of Sycamore Springs.
- Wreck and rebuild approximately two miles of existing 230kV Line 2049 between Sycamore Springs and Enon substation with double circuit structures. Install second 230kV conductor on new structures to create a third source to the Meadowville area.

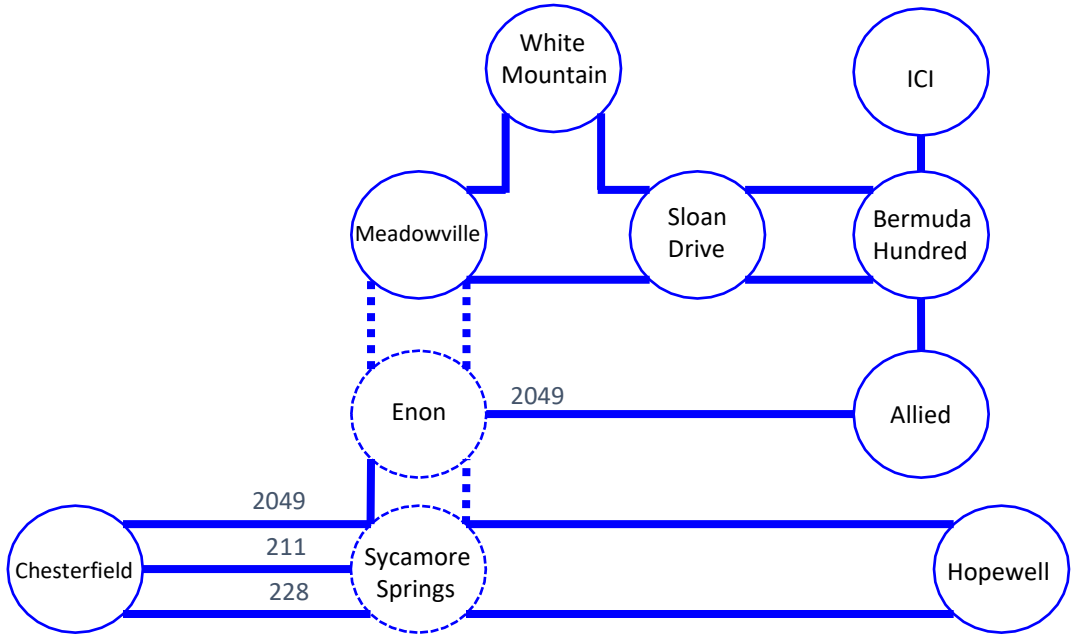
Estimated Project Cost: $92.7M
Substation: $37.6M
Transmission Lines: $55.1M

Projected In-service Date: Q4 2028

Supplemental Project ID: s3672.2, s3672.3, s3672.4

Project Status: Engineering

Model: 2029 RTEP



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

Need Number: DOM-2024-0013

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 10/17/2024

Solutions Meeting 12/12/2024

Project Driver: Equipment Material Condition, Performance Risk

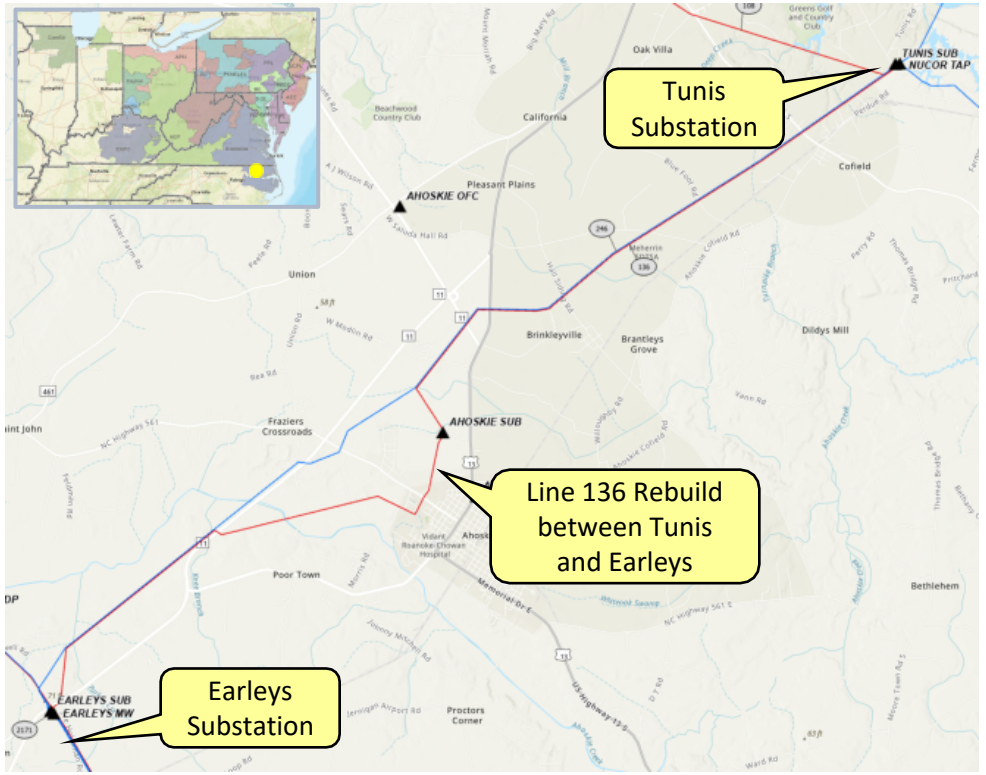
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2023.

Problem Statement:

Dominion Energy has identified a need to replace approximately 14.8 miles of 115kV Line #136 (Earleys to Ahoskie) to new 115kV standards based on the Company's End of Life criteria.

- Line #136 was constructed on primarily wood frame structures dating back to 1969 with many in need of replacement due to deterioration. These structures show a maintenance history of woodpecker damage as well as leaning and bowed poles.
- Industry guidelines indicate equipment life for wood structures is 35-55 years, conductor and connectors are 40-60 years, and porcelain insulators are 50 years.
- There are 157 wooden structures that need to be replaced.
- Line #136 is critical to provide load at Ahoskie Substation. Permanent load loss for removal of this line is estimated to be 25.1 MW.



COLOR	VOLTAGE	TRANSMISSION LINE NUMBER
	500 KV.	500 thru 599
	230 KV.	200 thru 299 & 2000 thru 2099
	115 KV.	1 thru 199
	138 KV.	AS NOTED
	69 KV.	AS NOTED

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

Need Number: DOM-2024-0013

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Pla

Project Driver: Equipment Material Condition, Performance Risk

Selected Solution: Rebuild approximately 14.8 miles of Line 136 between Earleys and Tunis to current 115kV standards. The normal rating of the line conductor will be 393 MVA.

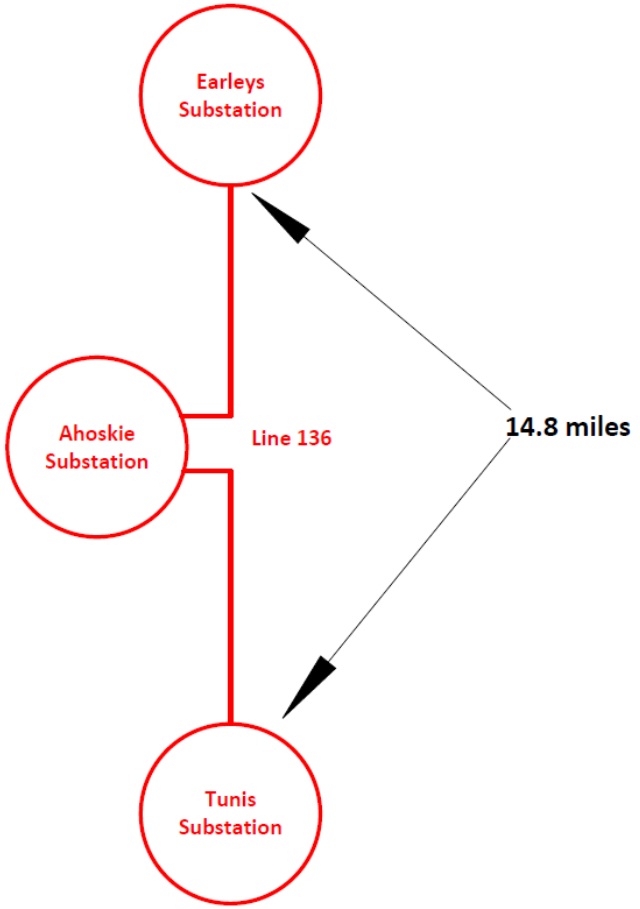
Estimated Project Cost: $50M

Project In-service Date: 12/31/2028

Supplemental Project ID: s3597

Project Status: Conceptual

Model: 2028 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0018

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 07/09/2024

Solution Meeting 01/07/2025

Project Driver: Customer Service

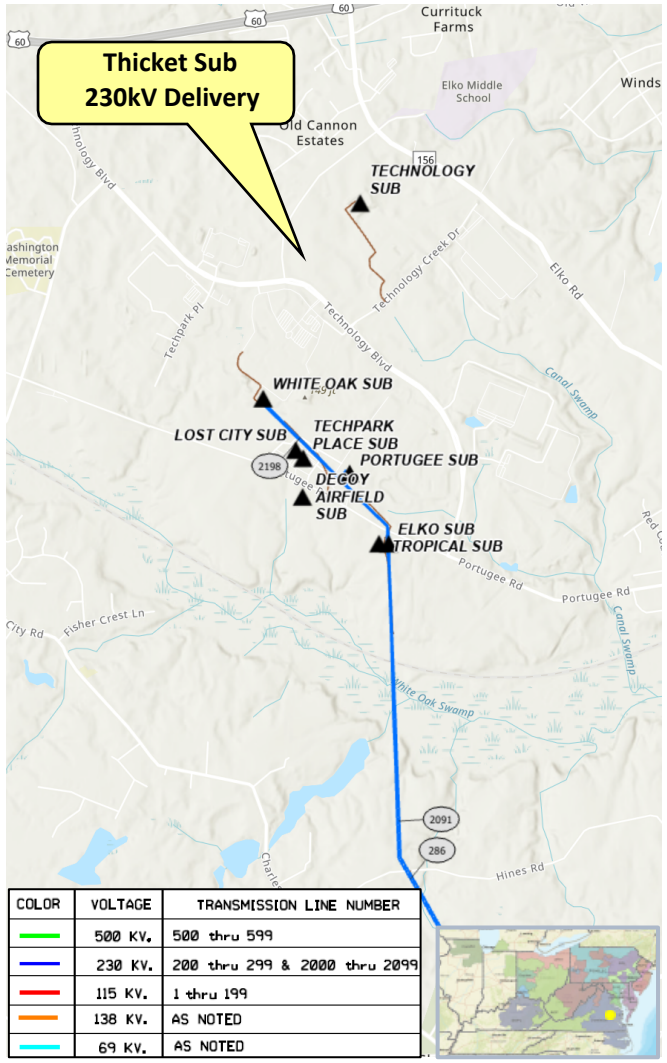
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (Thicket) to serve a data center in Henrico County with a total load in excess of 100 MW. The requested in-service date is Q1 2028.

Initial In-Service Load	Projected 2029 Load
Summer: 123.0 MW Winter: 0.0 MW	Summer: 255.0 MW Winter: 195.0 MW



Dominion Transmission Zone: Supplemental Thicket 230kV Delivery - DEV

Need Number: DOM-2024-0018

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:

Cut and loop future 230kV Line 2294 (Chickahominy to White Oak) in and out of proposed Thicket substation. Line 2294 to terminate in a 230kV six-breaker ring arrangement.

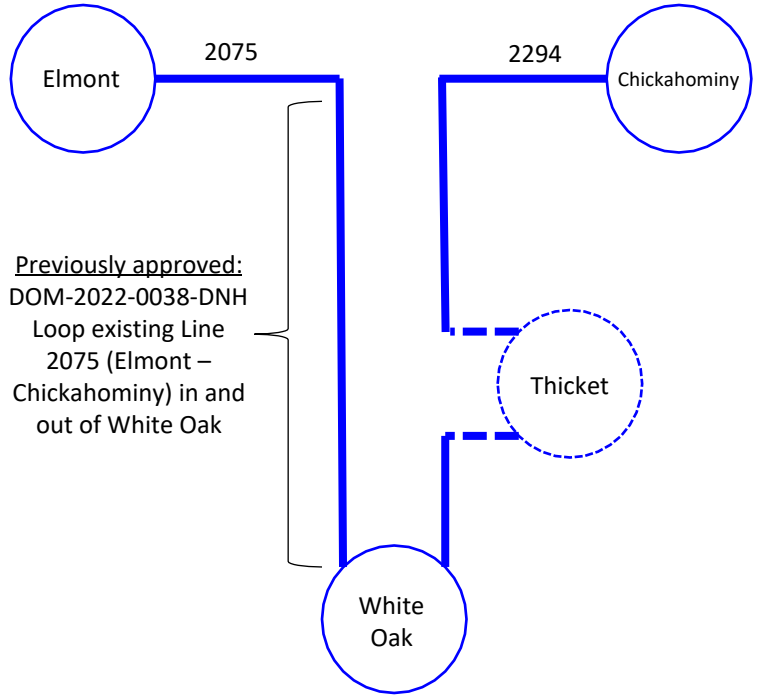
Estimated Project Cost: $20M Substation, $5M Transmission Line

Projected In-service Date: Q4 2027

Supplemental Project ID: s3673

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0020

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 07/09/2024

Solution Meeting 01/07/2025

Project Driver: Customer Service

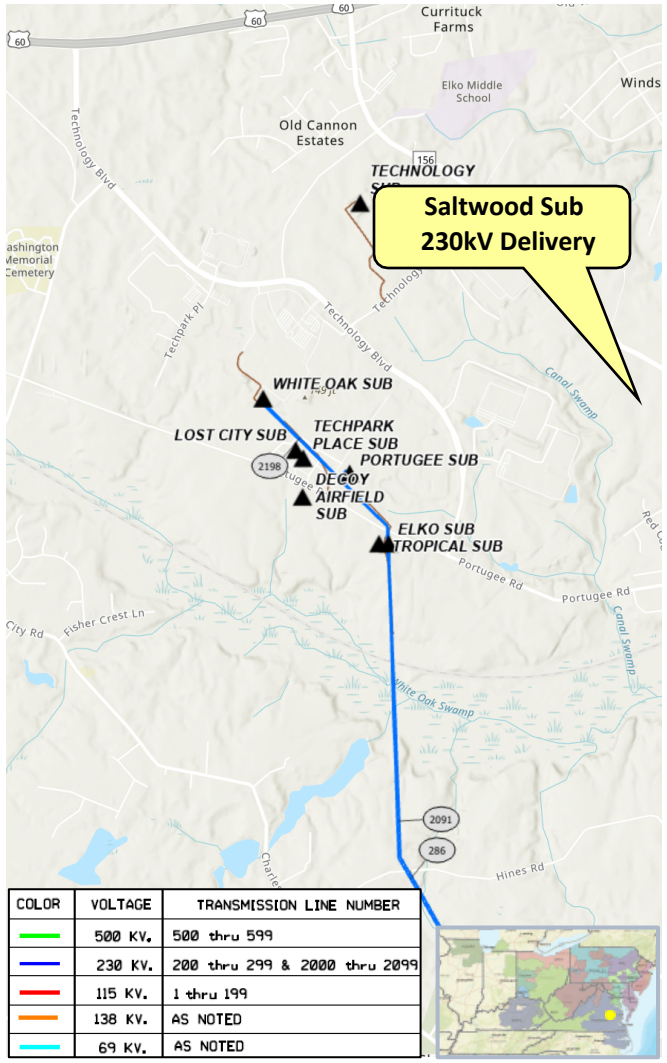
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (Saltwood) to serve a data center in Henrico County with a total load in excess of 100 MW. The requested in-service date is 7/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 150.0 MW Winter: 0.0 MW	Summer: 300.0 MW Winter: 300.0 MW



Dominion Transmission Zone: Supplemental Saltwood 230kV Delivery - DEV

Need Number: DOM-2024-0020

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:
Extend two 230kV lines from proposed Thicket substation to proposed Saltwood substation. Lines to terminate in a 230kV six-breaker ring arrangement.

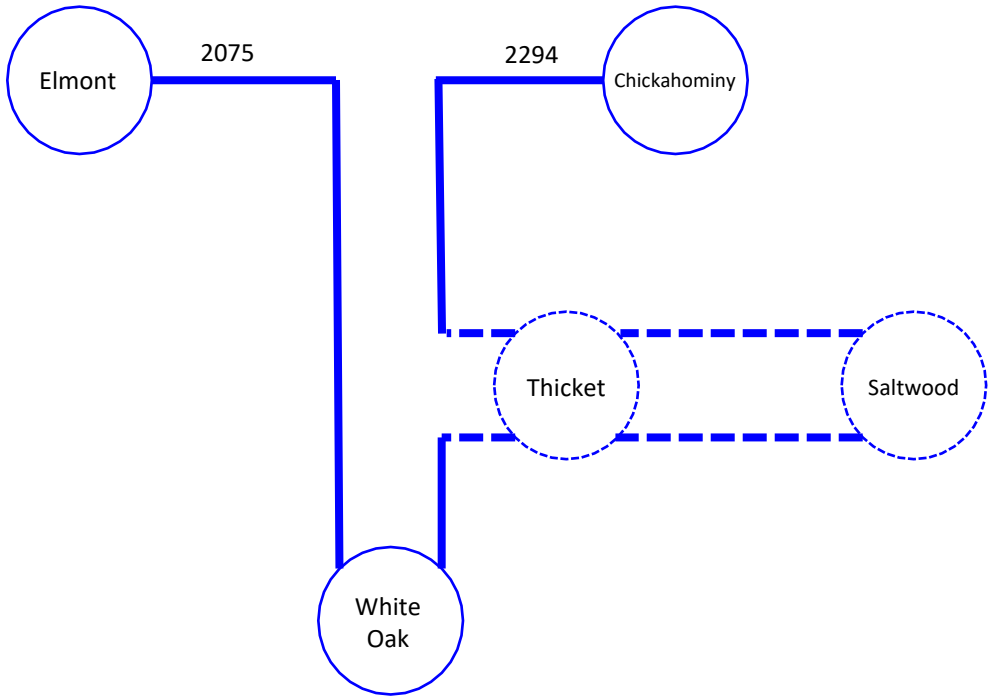
Estimated Project Cost: $20M Substation, $20M Transmission Line

Projected In-service Date: Q3 2027

Supplemental Project ID: s3674

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0040

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 08/06/2024

Solution Meeting 01/07/2025

Project Driver: Customer Service

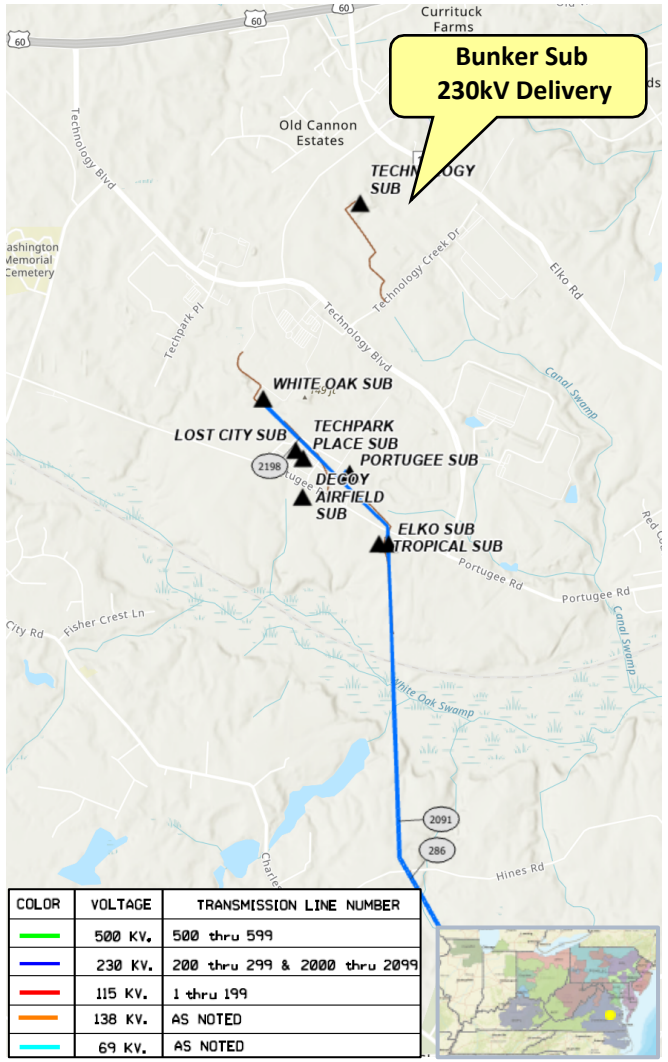
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (Bunker) to serve a data center in Henrico County with a total load in excess of 100 MW. The requested in-service date is 12/31/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 28.0 MW Winter: 8.0 MW	Summer: 104.0 MW Winter: 60.0 MW



Dominion Transmission Zone: Supplemental Bunker 230kV Delivery - DEV

Need Number: DOM-2024-0040

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:
Cut and loop future 230kV line between proposed Thicket substation and proposed Saltwood substation in and out of proposed Bunker substation. Lines to terminate in a 230kV four-breaker ring arrangement.

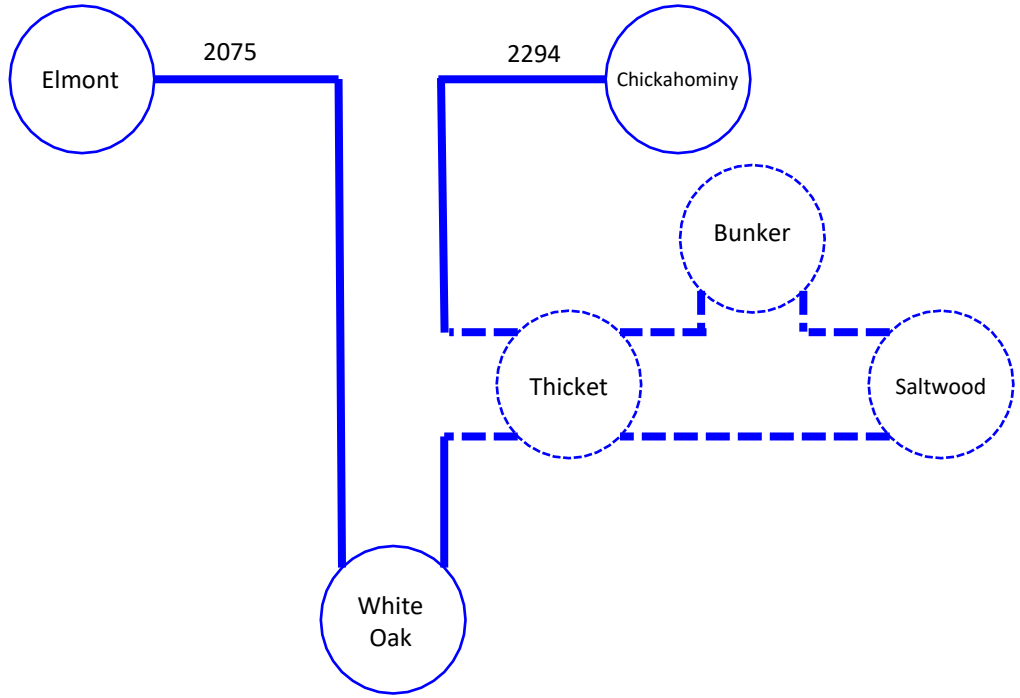
Estimated Project Cost: $15M Substation, $6M Transmission Line

Projected In-service Date: Q4 2027

Supplemental Project ID: s3675

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0019

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 07/09/2024

Solution Meeting 01/07/2025

Project Driver: Customer Service

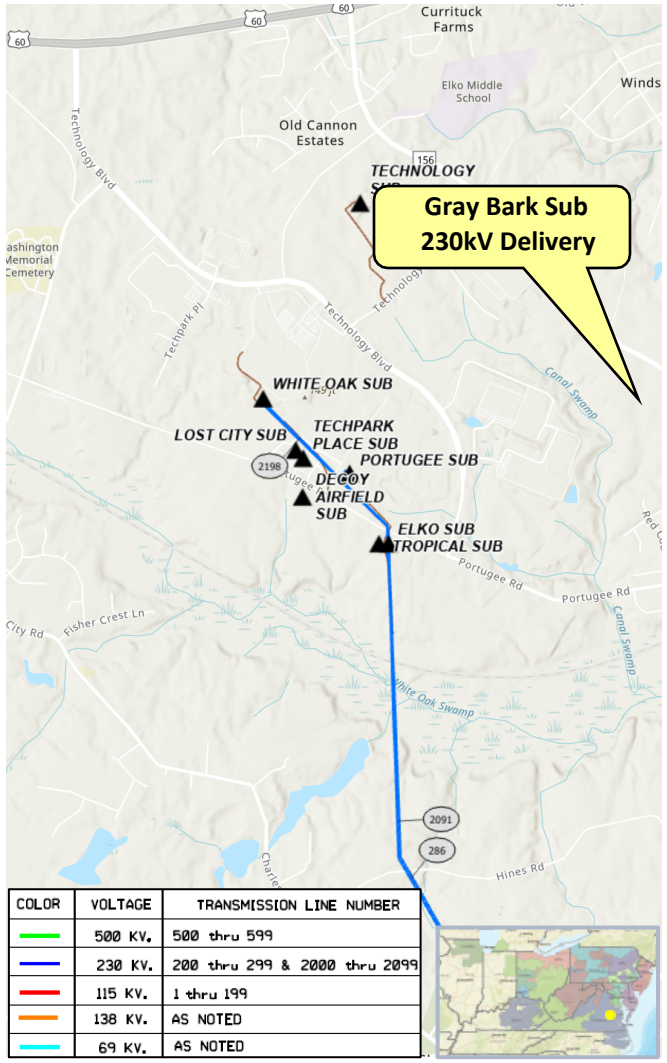
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (Gray Bark) to serve a data center in Henrico County with a total load in excess of 100 MW. The requested in-service date is 7/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 127.0 MW Winter: 0.0 MW	Summer: 300.0 MW Winter: 300.0 MW



Dominion Transmission Zone: Supplemental Gray Bark 230kV Delivery - DEV

Need Number: DOM-2024-0019

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Proposed Solution:

Extend two 230kV lines from proposed Saltwood substation to proposed Gray Bark substation. Cut and loop existing 230kV Line 2091 (Chickahominy to Portugee) into Gray Bark substation. Lines to terminate in a 230kV six-breaker ring arrangement.

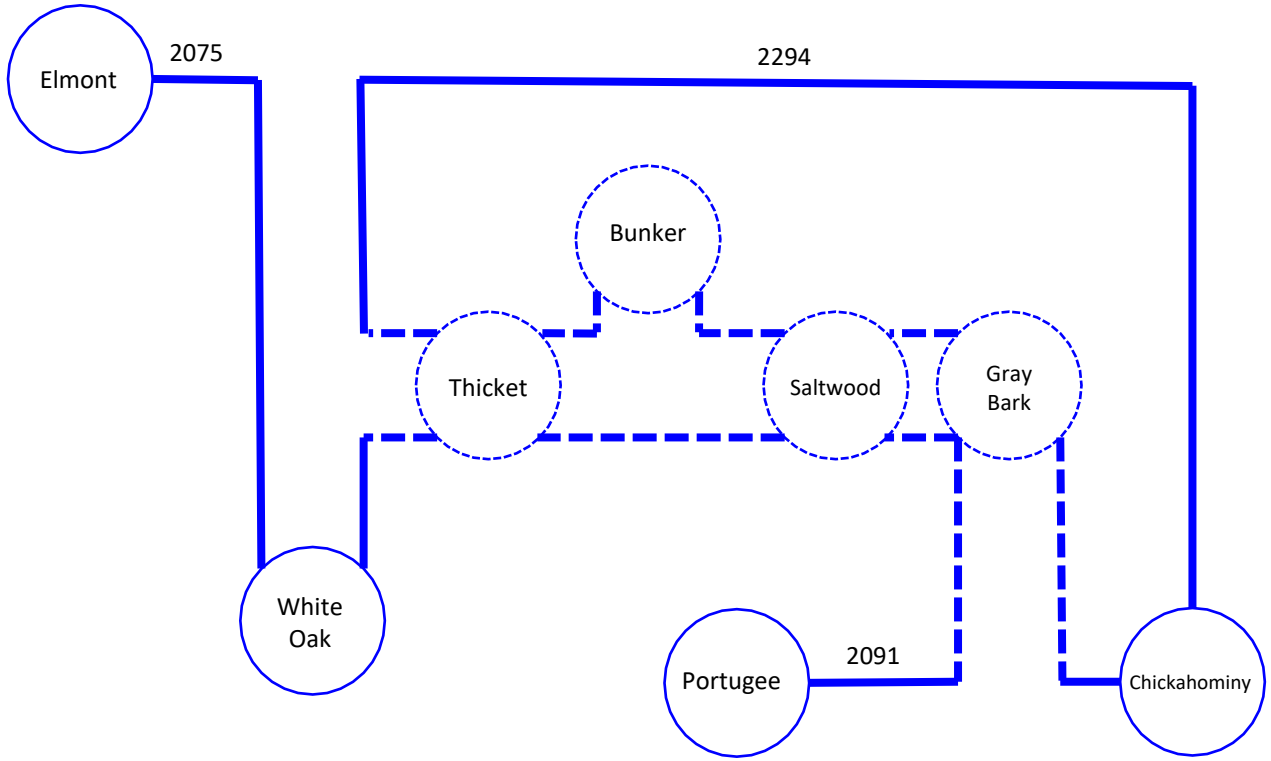
Estimated Project Cost: $20M Substation, $20M Transmission Lines

Projected In-service Date: Q3 2027

Supplemental Project ID: s3676

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0031

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 04/30/2024

Solution Meeting 2/04/2024

Project Driver: Customer Service

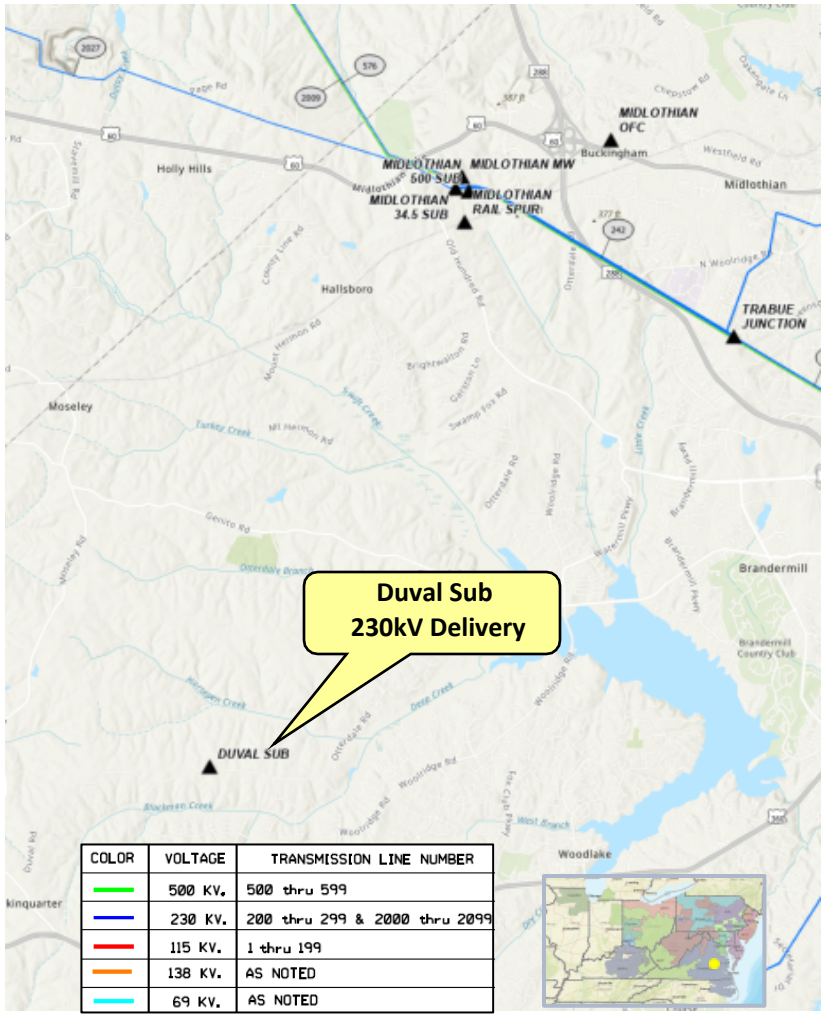
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (Duval) to serve new residential and commercial load in Chesterfield County with a total load in excess of 100 MW. The requested in-service date is 5/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 35.9 MW Winter:31.0 MW	Summer: 76.1 MW Winter: 76.9 MW



Dominion Transmission Zone: Supplemental Duval 230kV Delivery - DEV

Need Number: DOM-2024-0031

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:
Connect the new substation by extending two new 230kV lines from Midlothian substation to proposed Duval substation. Lines to terminate in a 230kV six-breaker ring arrangement.

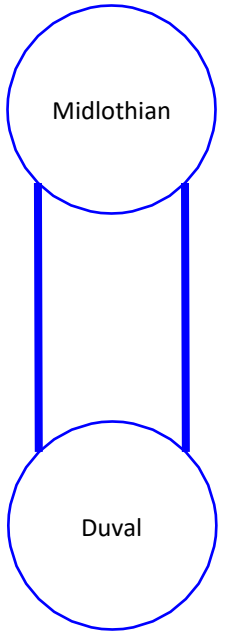
Estimated Project Cost: $30.0M Substation, $80M Transmission Lines

Projected In-service Date: 1/1/2028

Supplemental Project ID: s3677

Project Status: Engineering

Model: 2029 RTEP



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

Need Number: DOM-2024-0086

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 12/03/2024; Solution Meeting 02/04/2025

Project Driver: Equipment Material Condition, Performance and Risk

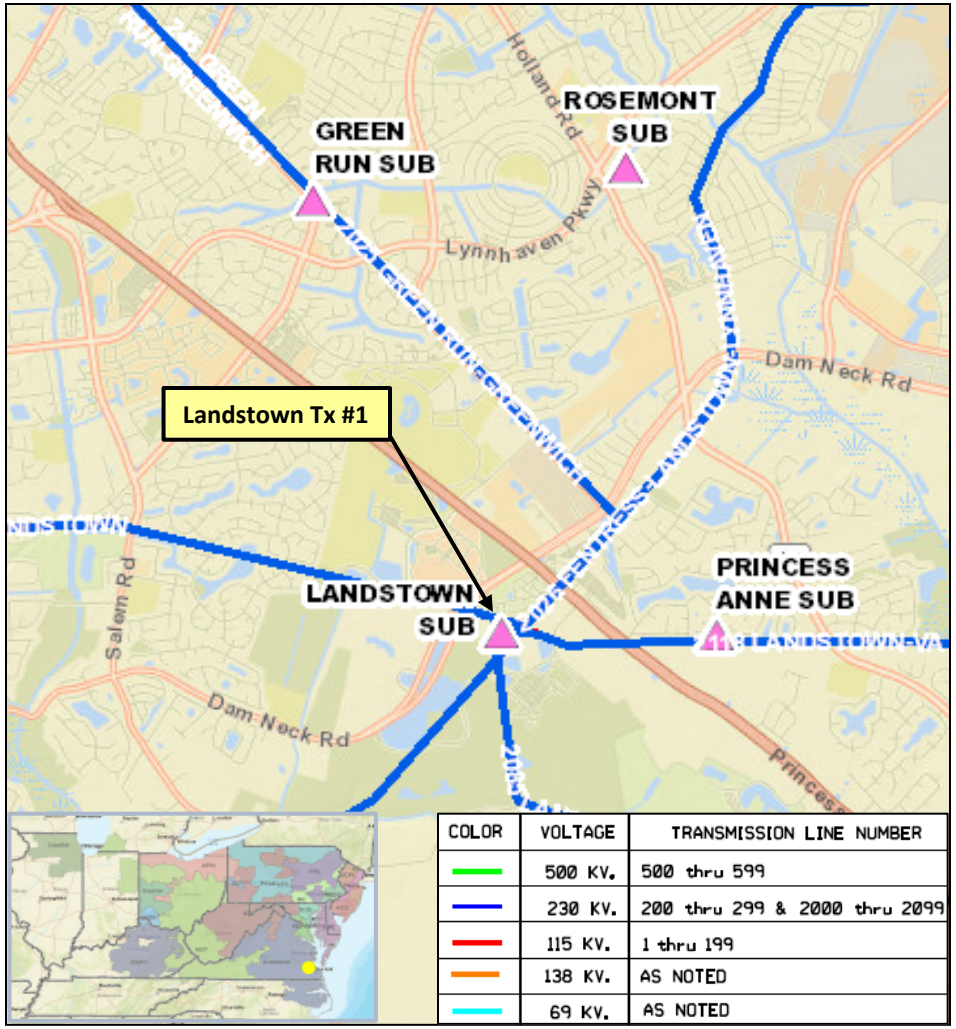
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2023.

Problem Statement:

Landstown TX#1 is a 224 MVA, 230/115/13.2 kV transformer bank manufactured in 1988. This transformer bank has been identified for replacement based on the results of Dominion's transformer health assessment (THA) process. Detailed drivers include:

- Age (>30 years old).
- Documented quality and design issues for the group of transformers purchased from this manufacturer.
- Reduced BIL rating (2 levels below std highside,1 level below std low side).
- Legacy core steel technology with high no-load loss.
- Legacy porcelain-type bushings.
- Aging LTC has limited parts availability. External oil filtration system has been fitted to the LTC, enhancing the possibility of oil leaks or spills.
- Transformer paint coating is degrading.
- THA score is below 80.



Dominion Transmission Zone: Supplemental
Replace Landstown TX#1 - DEV

Need Number: DOM-2024-0086

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:
Replace Landstown TX#1 with a new three-phase, 230/115/13.2 kV, 224 MVA unit.
Include other ancillary equipment (high side breaker, arresters, switches, relays, etc.) as needed.

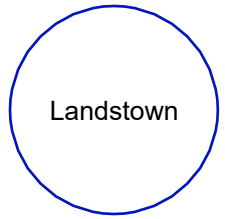
Estimated Project Cost: $5.1 M

Projected In-service Date: 12/31/2025

Supplemental Project ID: s3678

Project Status: Engineering

Model: 2029 RTEP



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

Need Number: DOM-2024-0087

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 12/03/2024; Solution Meeting 02/04/2025

Project Driver: Equipment Material Condition, Performance and Risk

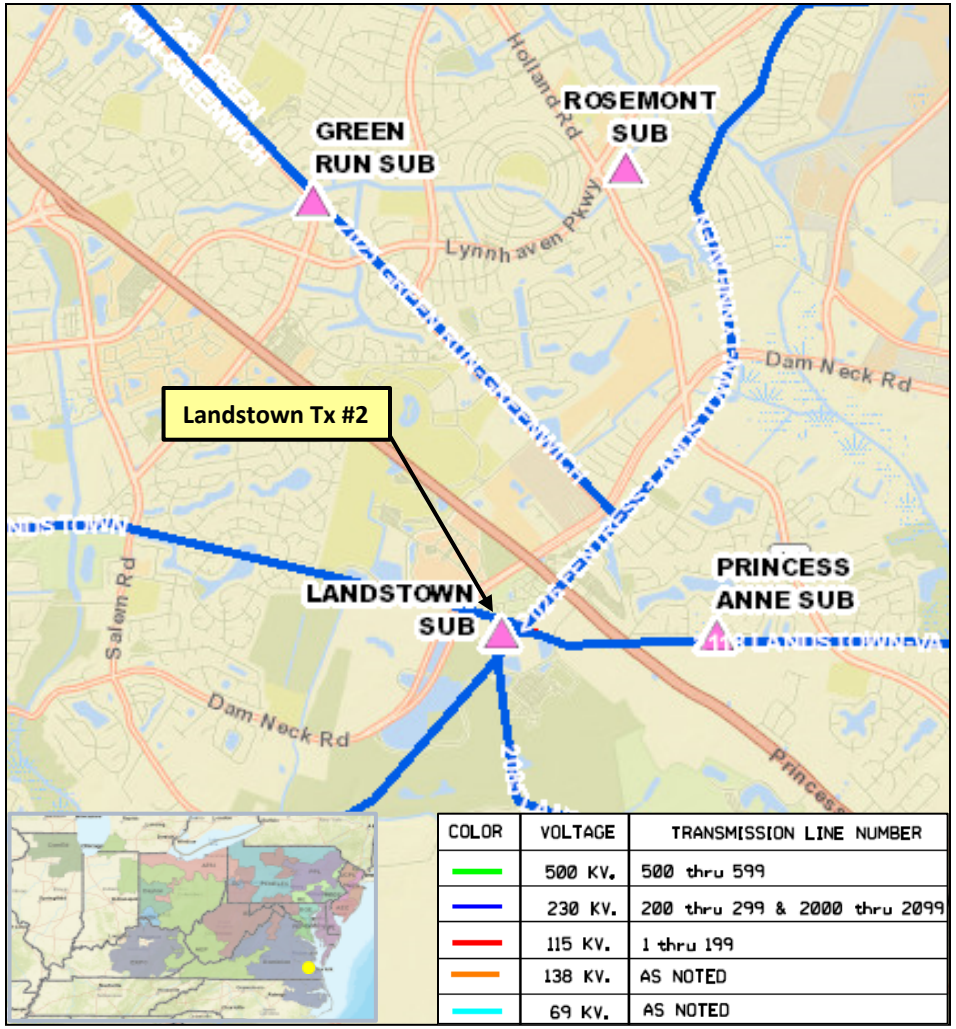
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2023.

Problem Statement:

Landstown TX#2 is a 224 MVA, 230/115/13.2 kV transformer bank manufactured in 1990. This transformer bank has been identified for replacement based on the results of Dominion's transformer health assessment (THA) process. Detailed drivers include:

- Age (>30 years old).
- Reduced BIL rating (2 levels below std highside,1 level below std low side).
- Legacy core steel technology with high no-load loss.
- Legacy porcelain-type bushings.
- Oil DGA indicates high levels of CO and CO2 indicating deterioration of dielectric paper insulation
- Aging LTC has limited parts availability.
- Transformer paint coating is degrading.
- THA score is 80.



Dominion Transmission Zone: Supplemental
Replace Landstown TX#2 - DEV

Need Number: DOM-2024-0087

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Replace Landstown TX#2 with a new three-phase, 230/115/13.2 kV, 224 MVA unit.

Include other ancillary equipment (high side breaker, arresters, switches, relays, etc.) as needed.

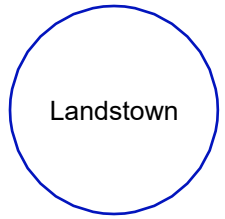
Estimated Project Cost: $4.76 M

Projected In-service Date: 12/31/2026

Supplemental Project ID: s3679

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0034 (Update)

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Solution Meeting 09/06/2022

Solutions Meeting 02/04/2025

Project Driver: Customer Service

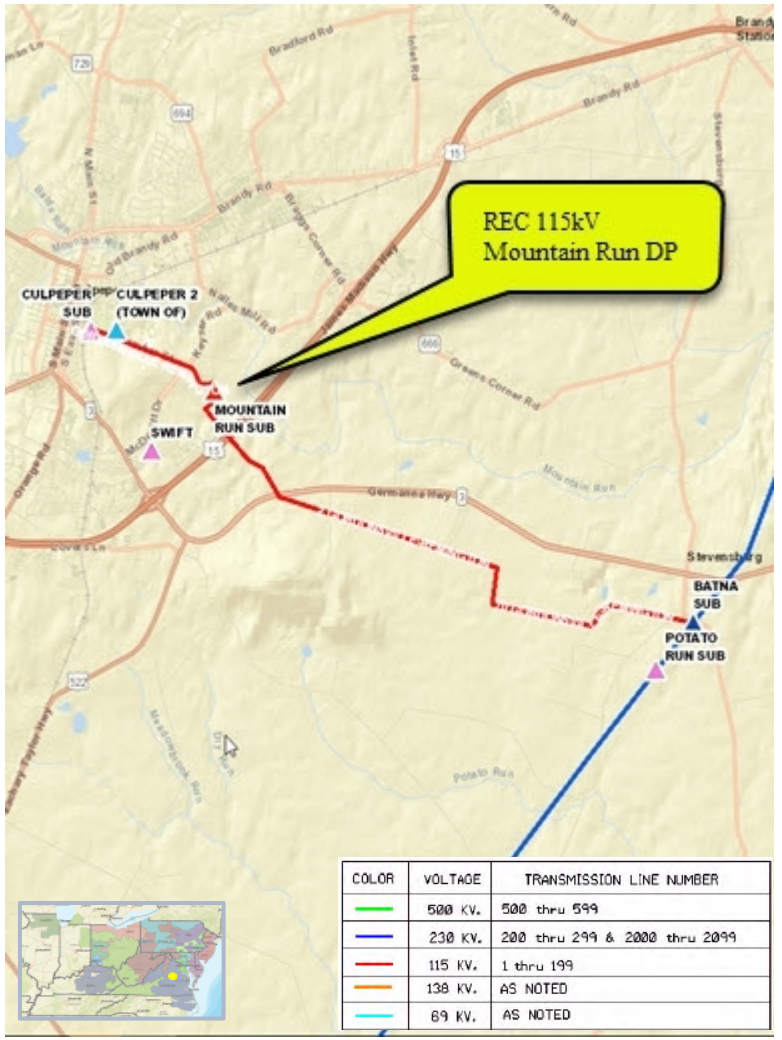
Specific Assumption References:

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

Problem Statement:

Rappahannock Electric Cooperative (REC) has submitted a DP Request to supply a new substation Technology [previously called Mountain Run 3] to serve a new data center with a total projected load of ~~350~~ 298 MW. The requested in-service date is ~~06/01/2024~~ 11/22/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 19 MW	Summer: 140 MW



Dominion Transmission Zone: Supplemental Mountain Run 230kV Delivery - REC

Need Number: DOM-2022-0034 (Update)

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

1. Build a new switching station Kyser next to the existing Mountain Run substation. Construct Kyser to accommodate a 230-kV breaker and a half configuration with 2 rows initially installed, and 3 rows ultimately.
2. Build new Cirrus switching station with 230kV six-breaker ring arrangement with four breakers installed initially.
3. Wreck and rebuild approximately five miles of existing double-circuit 115kV Line #2 and Line #70 on the same structure (from 2/1201, 70/53 to 2/1253, 70/1), using 230kV construction, from Mountain Run Junction to the new Kyser and Cirrus switching stations.
4. Cut 230kV Line #2199 at Mountain Run Junction and feed the rebuilt double-circuit line to Kyser and Cirrus switching stations.
5. Two 230/115kV – 168 MVA transformer will be installed at Kyser switching station to continue the 115kV service to Culpeper and Mountain Run.

Estimated Project Cost: $60 M (Total)

Transmission Line - $22M

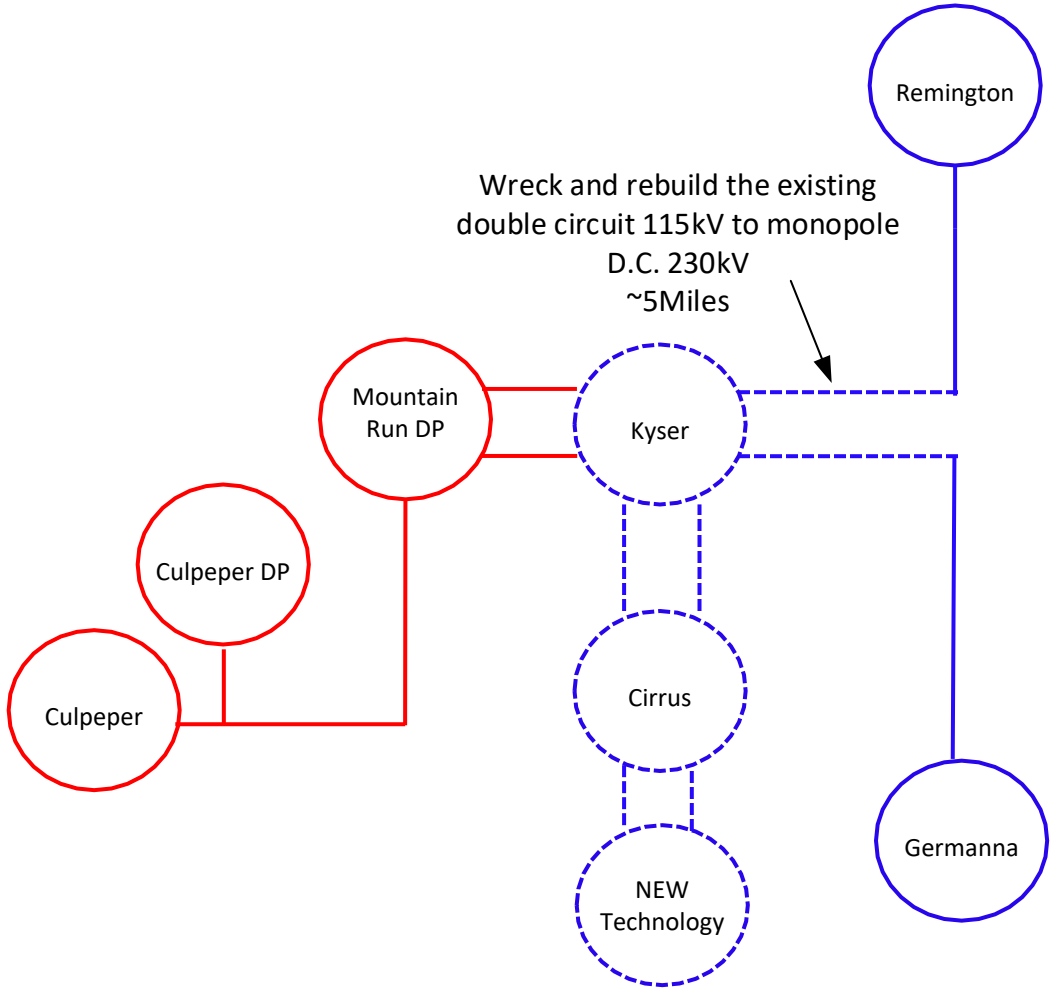
Substation - $38M

Projected In-service Date: Q4 2027

Supplemental Project ID: s3680

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0085

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 11/06/2024; Solution Meeting 02/04/2025

Project Driver: Customer Service

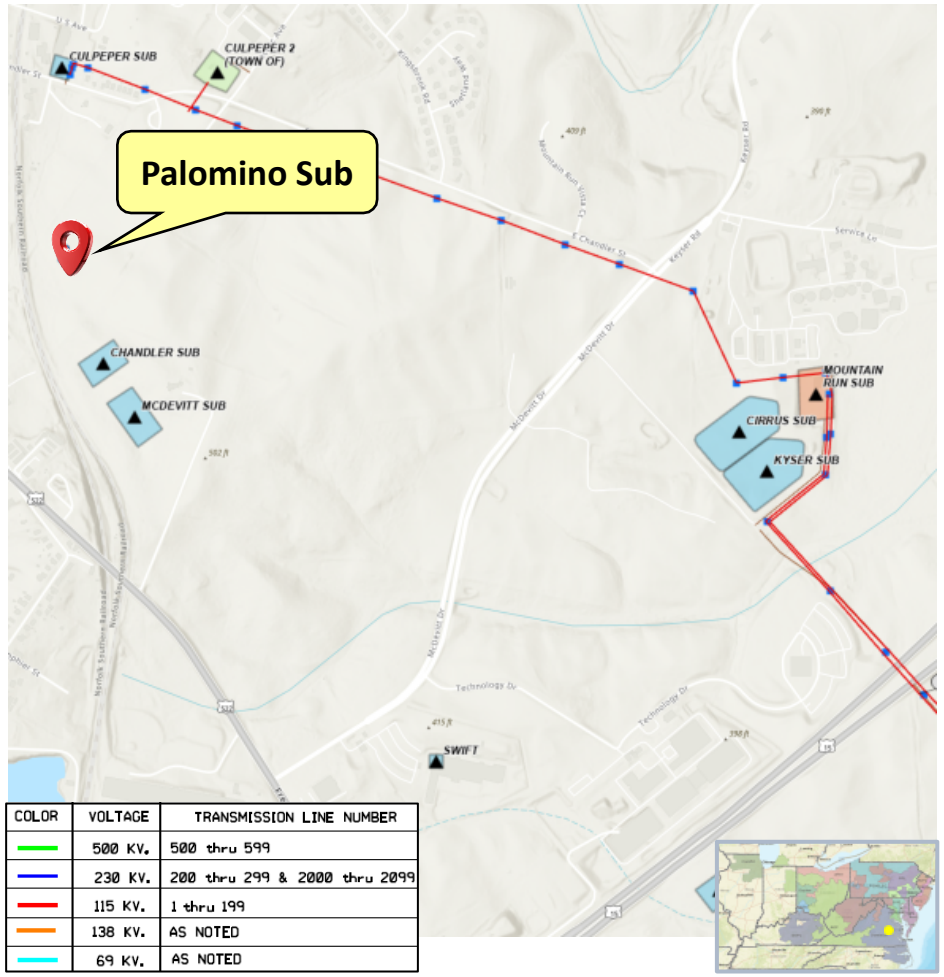
Specific Assumption References:

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

Problem Statement:

DEV distribution has submitted a DP request for a new 230 kV delivery point (Palomino Sub) to serve a data center customer in Culpeper County with a total load in excess of 100 MW. Requested in-service date is 07/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 42 MW Winter: 0 MW	Summer: 120 MW Winter: 54 MW



Dominion Transmission Zone: Supplemental Palomino 230kV Delivery - DEV

Need Number: DOM-2024-0085

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Connect the new substation Palomino by extending a new double circuit 230kV feed from future Cirrus Substation. Lines to terminate in a 230kV six-breaker ring arrangement.

Estimated Project Cost: $38.6M

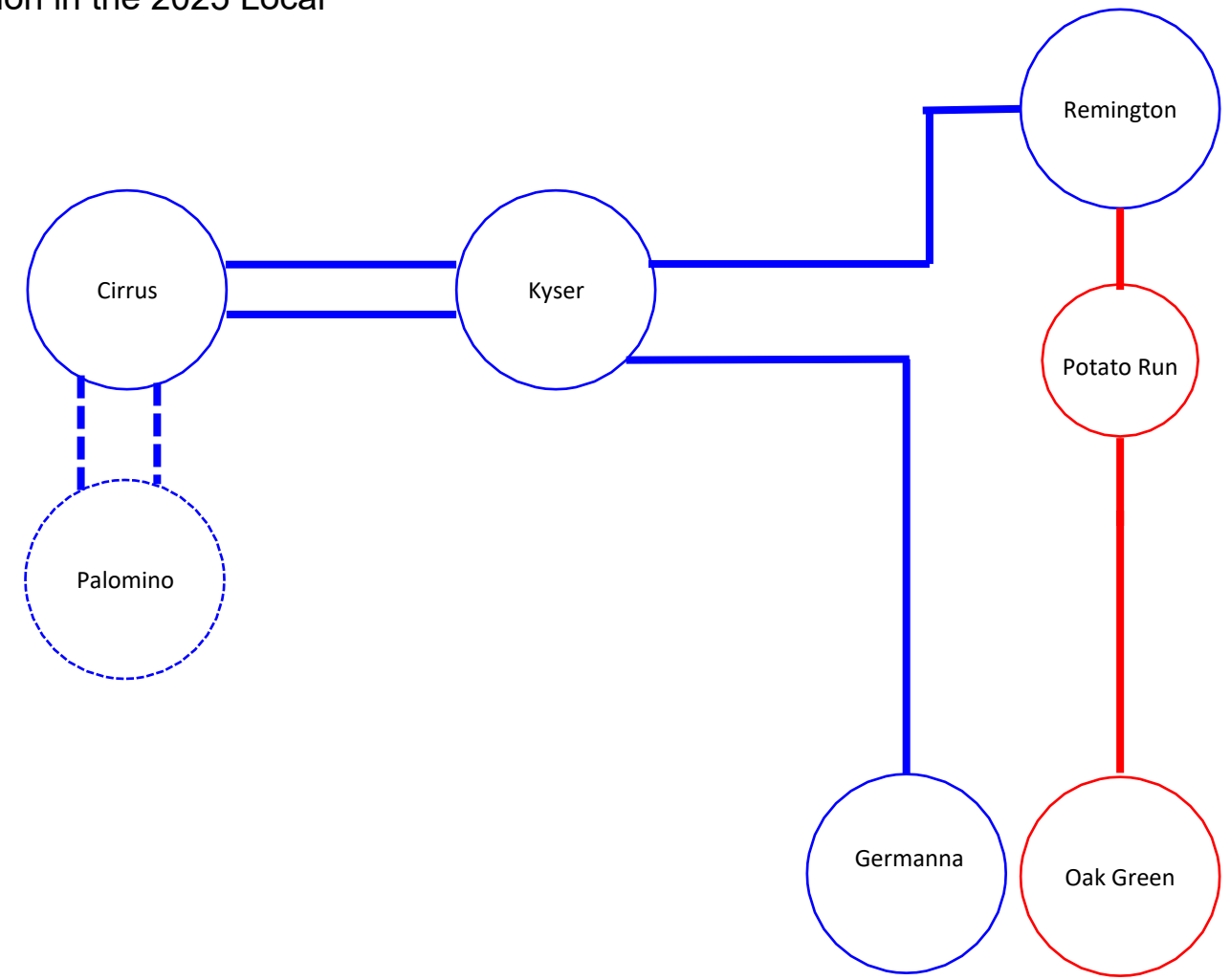
- Substation: $14.3M
- Transmission Lines: $24.2M

Projected In-service Date: Q2 2028

Supplemental Project ID: s3681

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0082

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 11/06/2024; Solution Meeting 02/04/2025

Project Driver: Customer Service

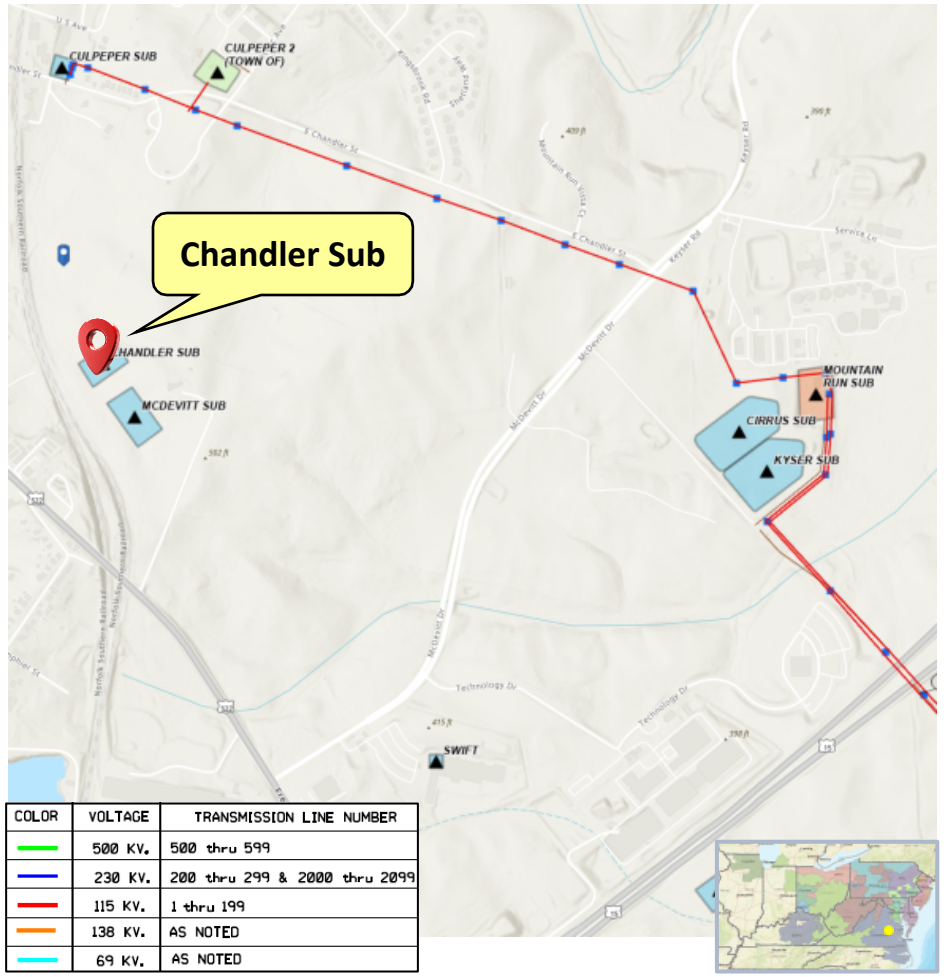
Specific Assumption References:

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

Problem Statement:

DEV distribution has submitted a DP request for a new 230 kV delivery point (Chandler Sub) to serve a data center customer in Culpeper County with a total load in excess of 100 MW. Requested in-service date is 10/15/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 32 MW Winter: 10 MW	Summer: 112 MW Winter: 66 MW



Dominion Transmission Zone: Supplemental Chandler 230kV Delivery - DEV

Need Number: DOM-2024-0082
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Proposed Solution:
Connect the new substation by extending a new double circuit 230kV feed from future Palomino Substation. Lines to terminate in a 230kV six-breaker ring arrangement.

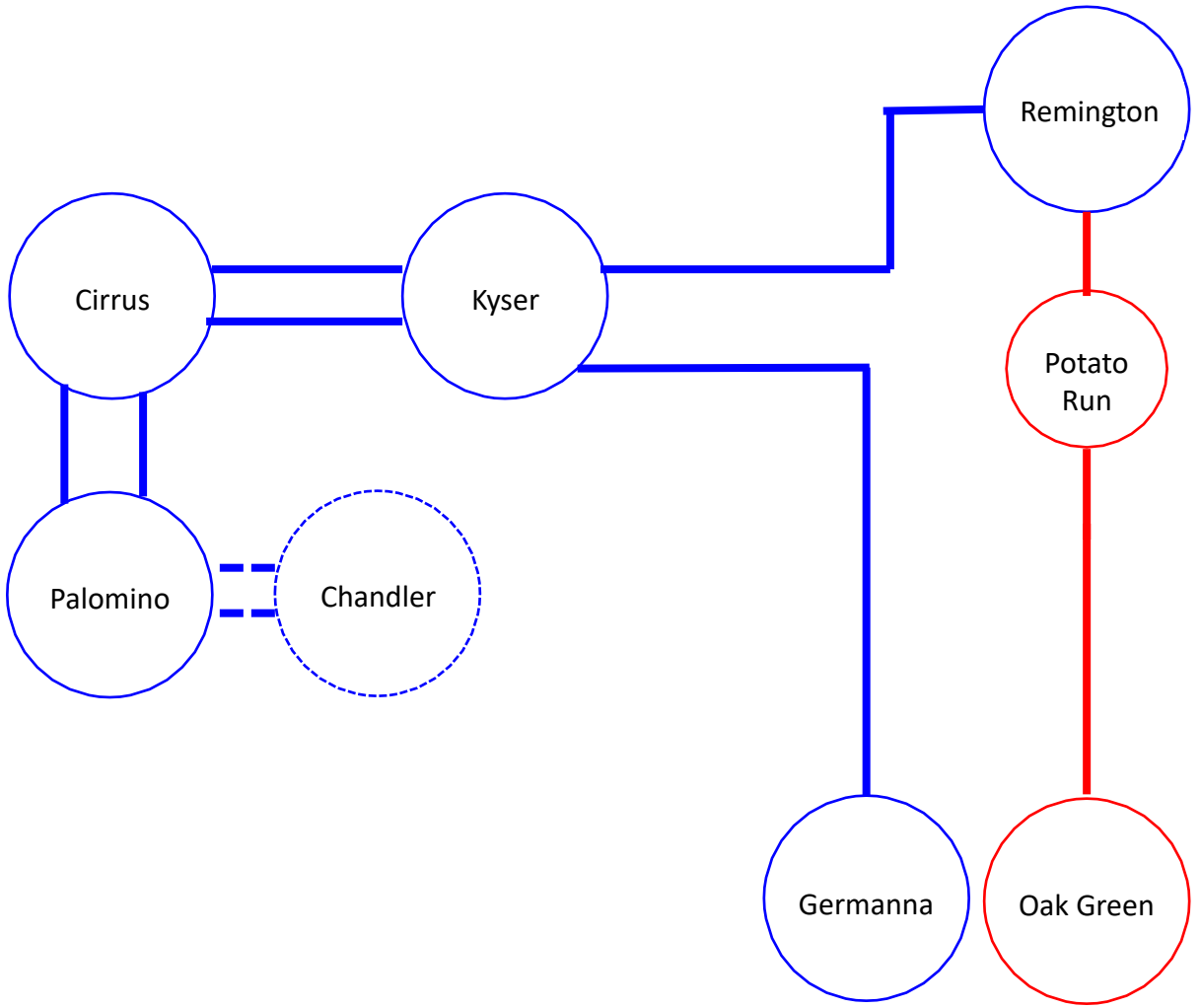
Estimated Project Cost: $20.8M
- Substation: $14.3M
- Transmission Lines: $6.5M

Projected In-service Date: Q2 2028

Supplemental Project ID: s 3682

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0083

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 11/06/2024; Solution Meeting 02/04/2025

Project Driver: Customer Service

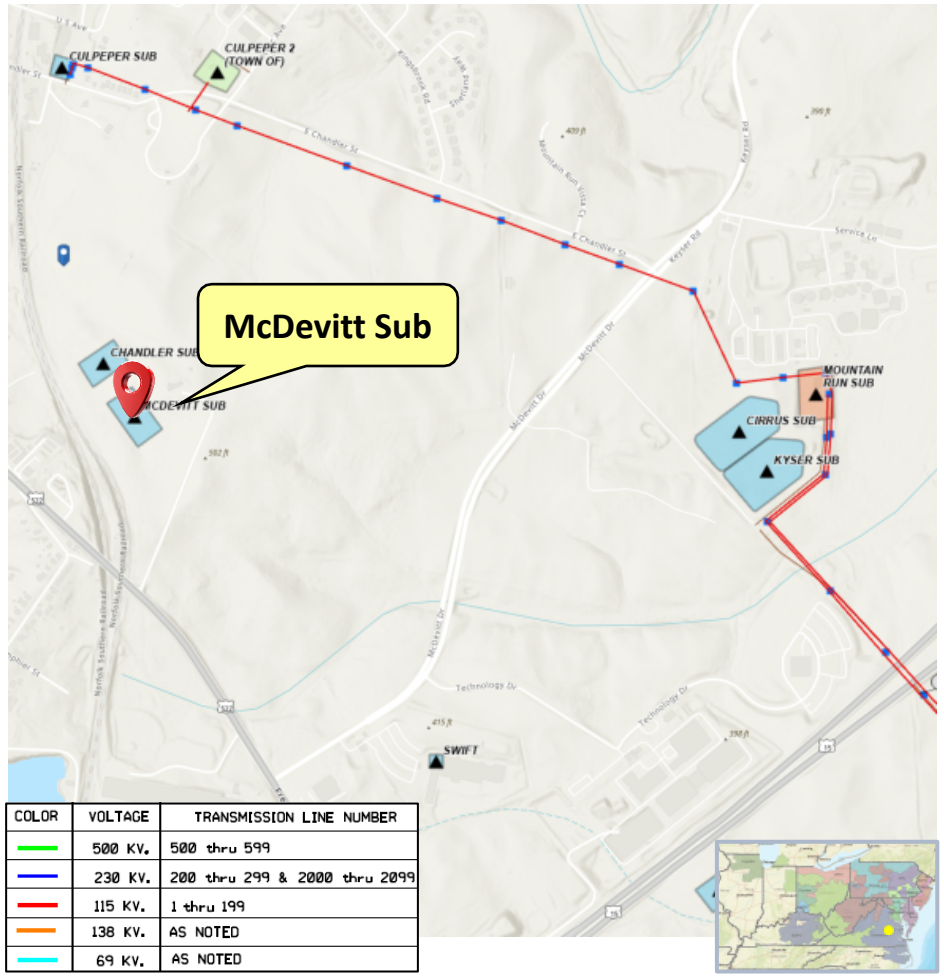
Specific Assumption References:

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

Problem Statement:

DEV distribution has submitted a DP request for a new 230 kV delivery point (McDevitt Sub) to serve a data center customer in Culpeper County with a total load in excess of 100 MW. Requested in-service date is 10/15/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 34 MW Winter: 10 MW	Summer: 118 MW Winter: 70 MW



Dominion Transmission Zone: Supplemental McDevitt 230kV Delivery - DEV

Need Number: DOM-2024-0083

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Connect the new substation by extending a new double circuit 230kV feed from future Chandler Substation. Lines to terminate in a 230kV six-breaker ring arrangement.

Estimated Project Cost: $19.8M

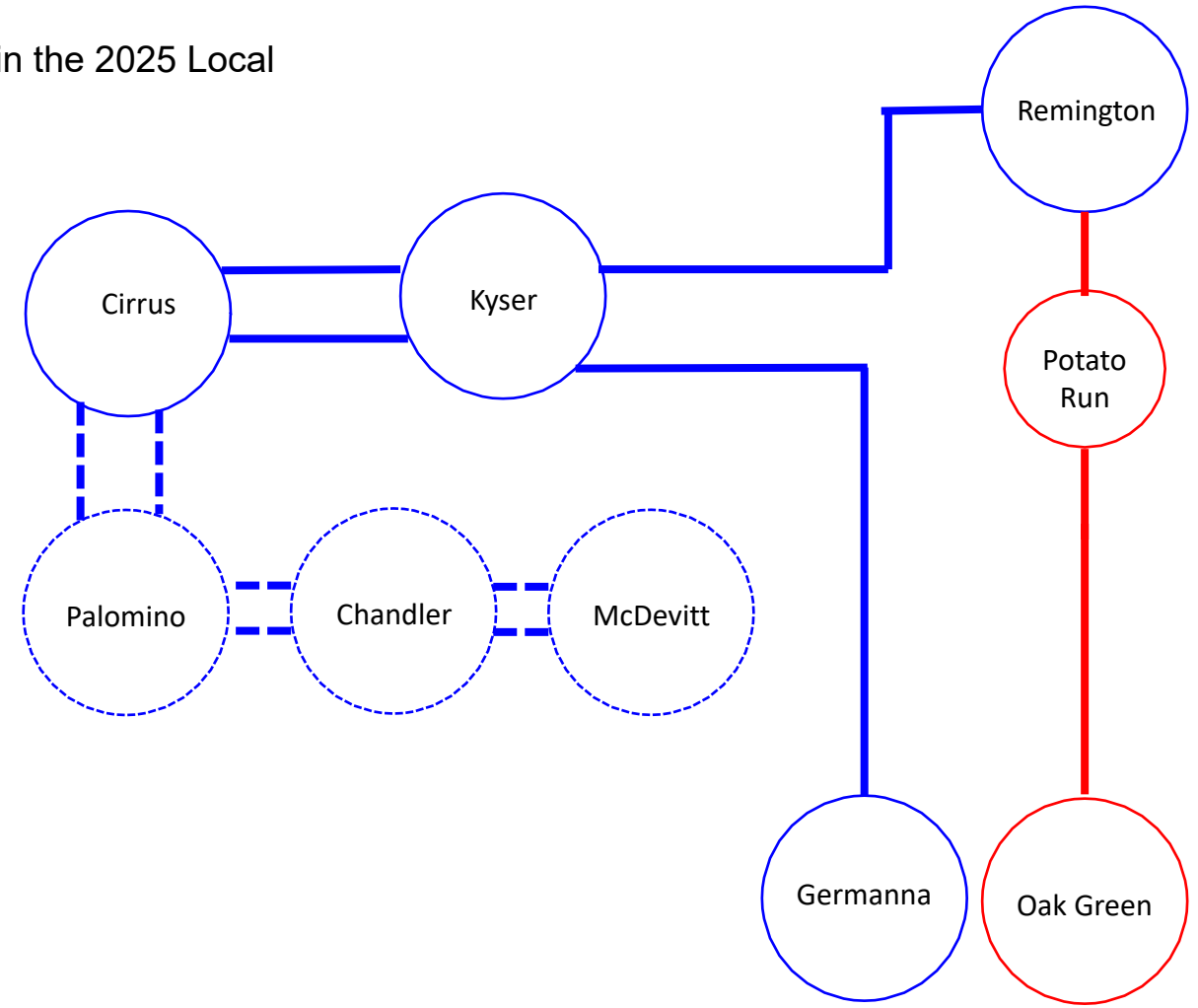
- Substation: $14.3M
- Transmission Lines: $5.5M

Projected In-service Date: Q2 2028

Supplemental Project ID: s3683

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0084

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 11/06/2024; Solution Meeting 02/04/2025

Project Driver: Customer Service

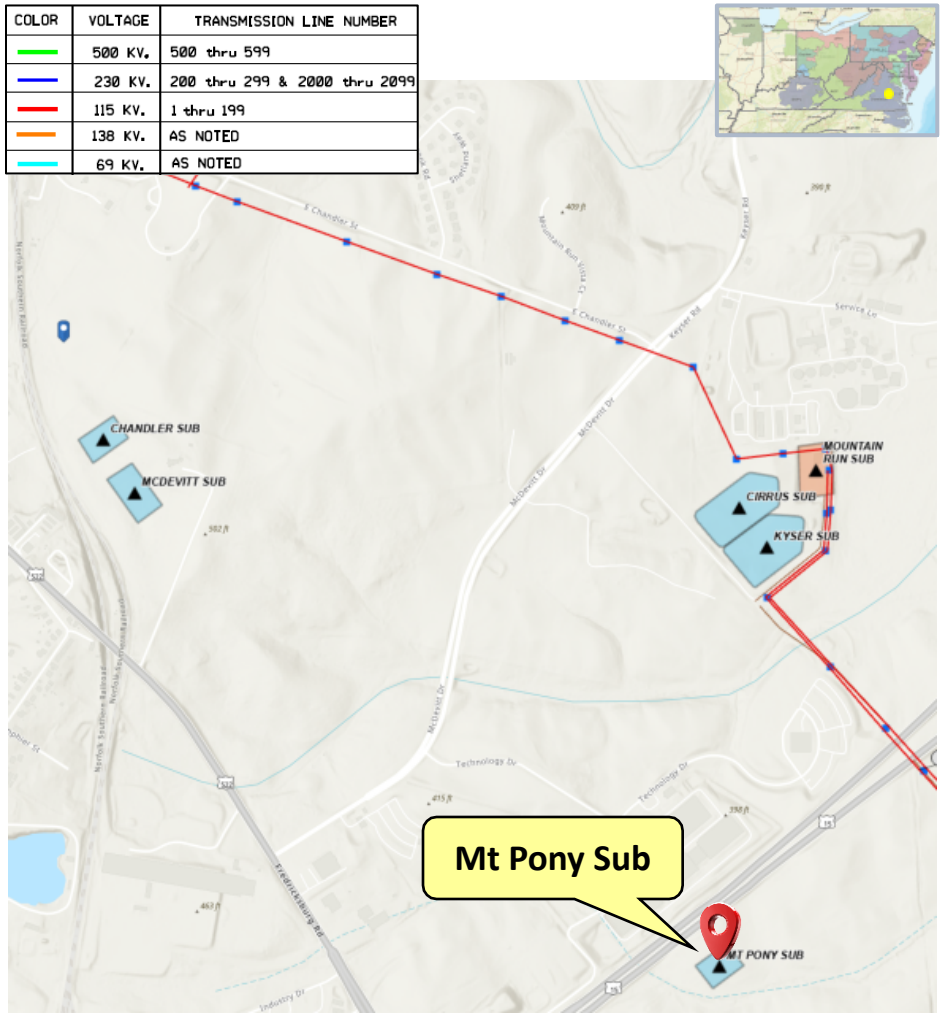
Specific Assumption References:

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

Problem Statement:

DEV distribution has submitted a DP request for a new 230 kV delivery point (Mt. Pony Sub) to serve a data center customer in Culpeper County with a total load in excess of 100 MW. Requested in-service date is 01/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 32 MW Winter: 8 MW	Summer: 160 MW Winter: 140 MW



Dominion Transmission Zone: Supplemental Mt Pony 230kV Delivery - DEV

Need Number: DOM-2024-0084

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Connect the new substation by extending a new double circuit 230kV feed from future McDevitt Substation. Lines to terminate in a 230kV six-breaker ring arrangement.

Estimated Project Cost: $39.8M

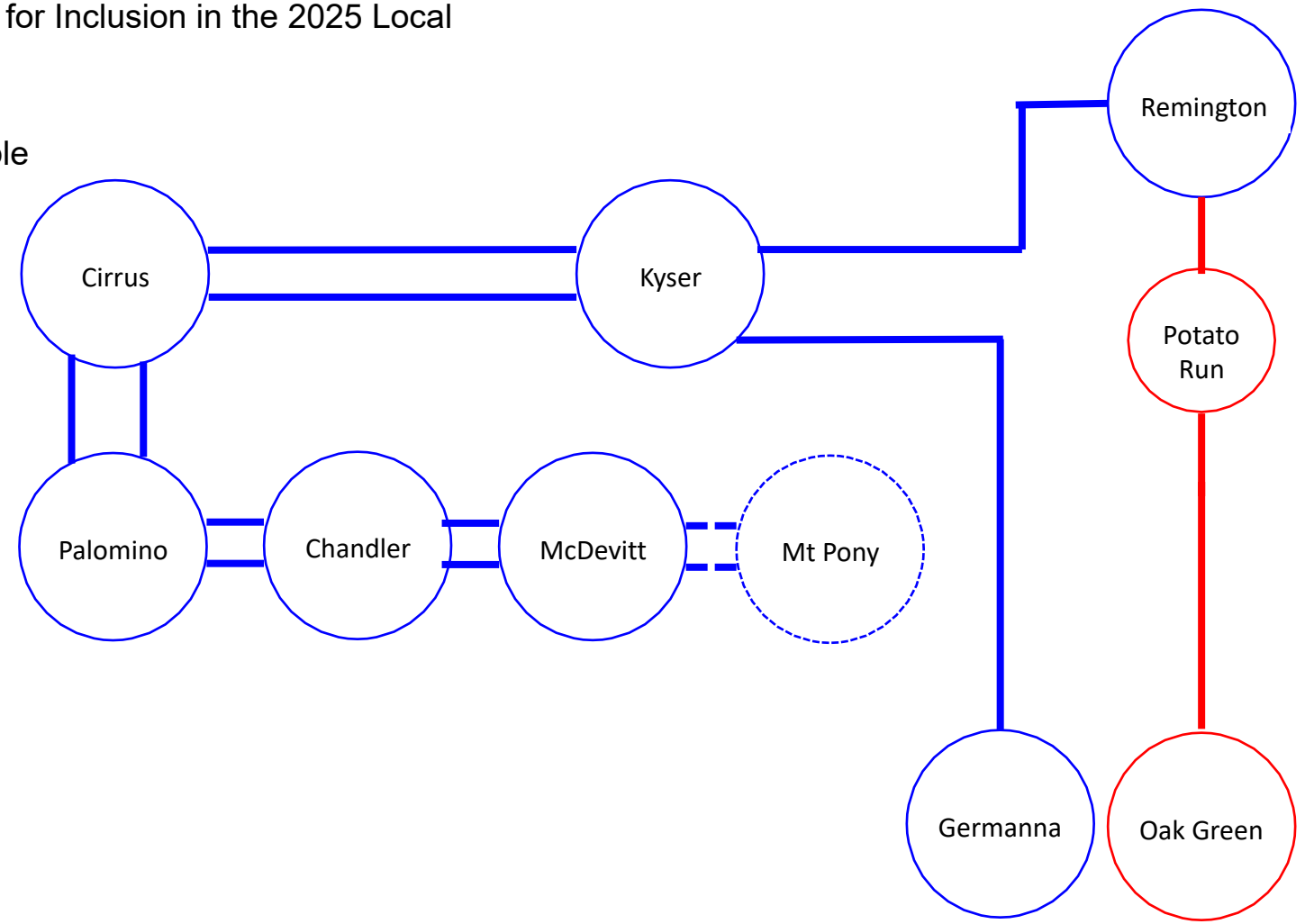
- Substation: $11.6M
- Transmission Lines: $28.2M

Projected In-service Date: Q2 2028

Supplemental Project ID: s3684

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0084-DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 11/06/2024; Solution Meeting 02/04/2025

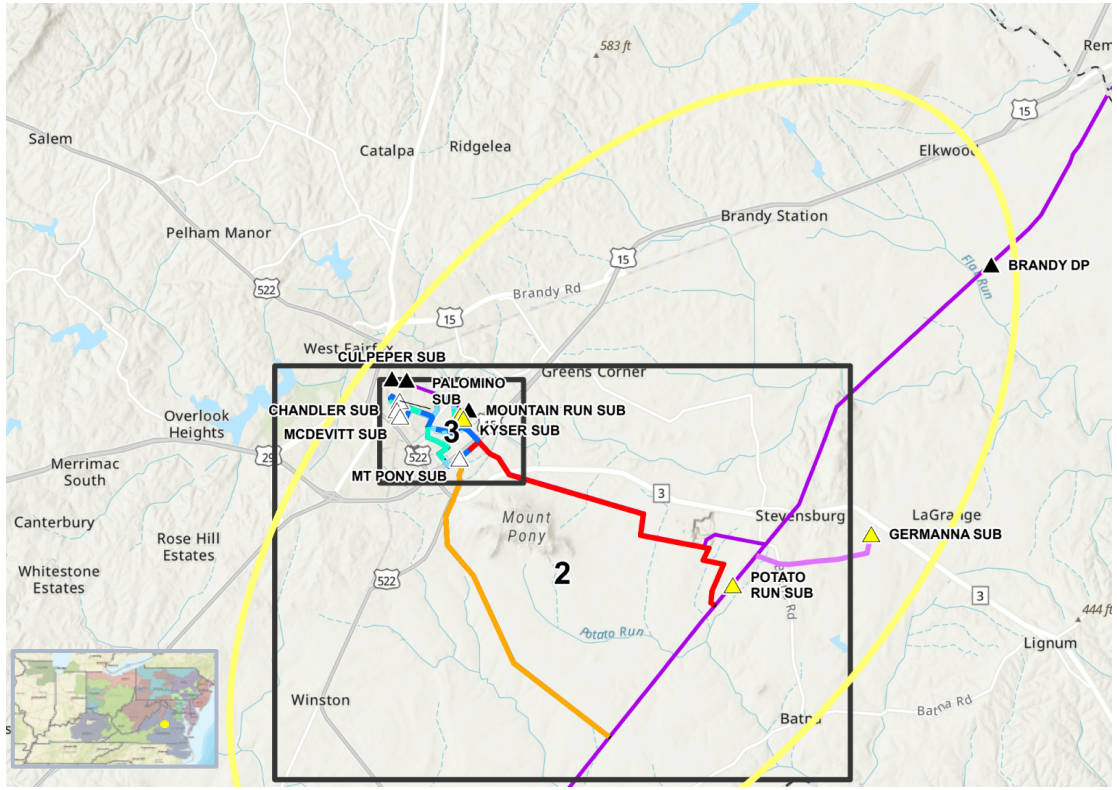
Project Driver: Do-No-Harm analysis

Specific Assumption References:

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

Problem Statement:

There are 5 new data center delivery points requested in the Culpeper Area near Cirrus-Kyser substations. With the current infrastructure, there will be a load drop in excess of 300 MW if the data centers are fed through Line #2276 alone. This is a violation of DE Planning Criteria.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0084-DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Proposed Solution:

1. Convert lines #2 and #1065 from Remington Sub to Potato Run and Potato Run to Oak Green Sub to 230kV
2. At Oak Green Sub – Expand the station and install a 230kV ring bus with 3 breakers (allow for future 6 breakers), add a 4th breaker to the 3 breaker 115kV ring bus and install 2 – 230/115kV 224 MVA transformers.

Estimated Project Cost: $140.8M

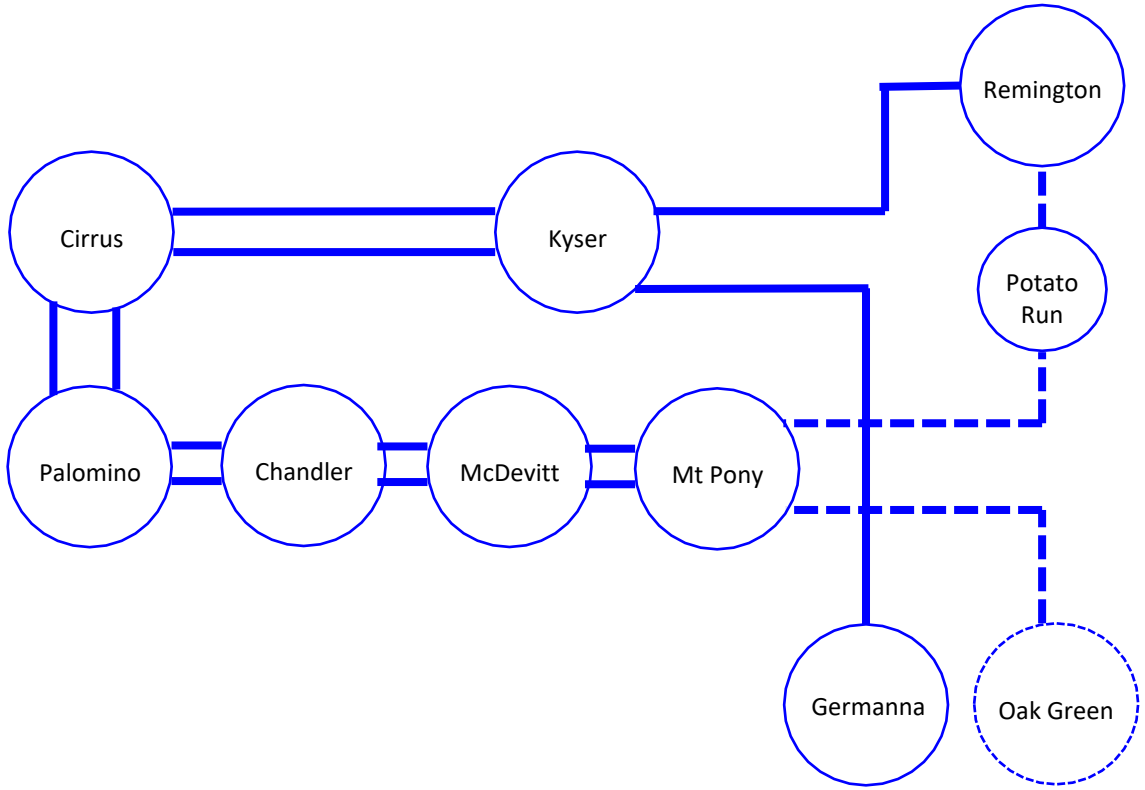
- Substation: $40.8M
- Transmission Lines: $100M

Projected In-service Date: Q2 2028

Supplemental Project ID: s3684

Project Status: Conceptual

Model: 2029 RTEP



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

Need Number: DOM-2024-0025

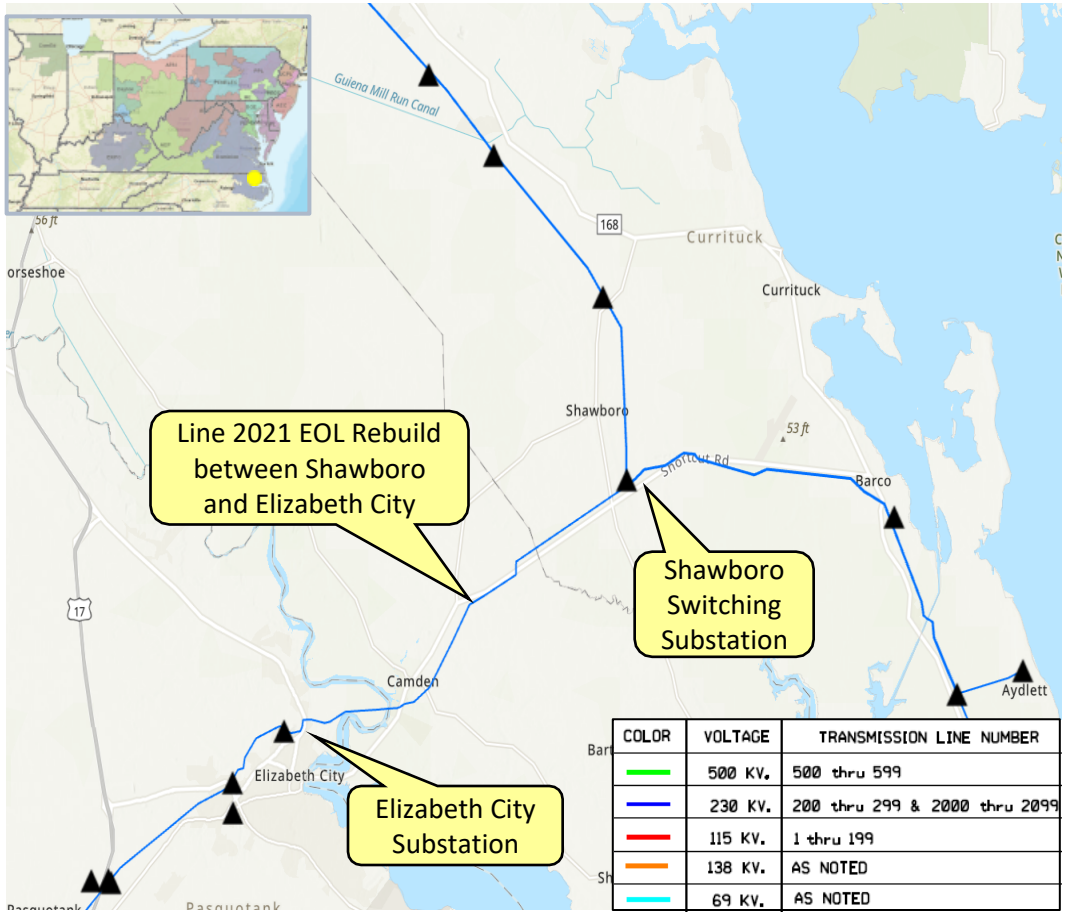
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 04/30/2024; Solution Meeting 03/04/2025
Project Driver: Equipment Material Condition, Performance Risk

Specific Assumption References:
See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2023.

Problem Statement:
Dominion Energy has identified a need to replace approximately 10.3 miles of 230kV Line #2021 (Shawboro to Elizabeth City) to new 230kV standards based on the Company's End of Life criteria.

- Line #2021 was constructed on wood H-frame structures in 1975, with many in need of replacement due to deterioration.
- Industry guidelines indicate equipment life for steel structures is 40-60 years, wood structures is 35-55 years, conductor and connectors are 40-60 years, and porcelain insulators are 50 years.
- Reliability analysis with removal of Line #2021 shows these deficiencies -
  - Generation deliverability creates line thermal overloads for certain breaker failure contingencies
  - 300 MW load drop violations for N-1-1 and tower line contingencies



Dominion Transmission Zone: Supplemental 230kV Line 2021 – EOL Rebuild

Need Number: DOM-2024-0025

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution: Rebuild approximately 10.3 miles of Line 2021 between Shawboro and Elizabeth City to current 230kV standards. The normal rating of the line conductor will be 1573 MVA.

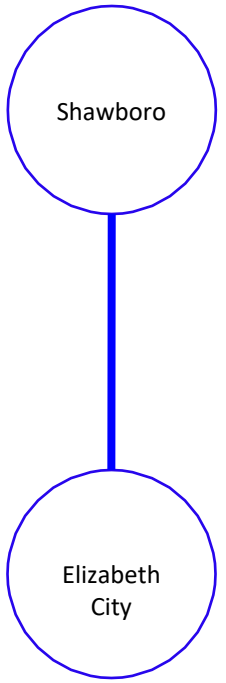
Estimated Project Cost: $30.6M

Project In-service Date: 5/30/2025

Supplemental Project ID: s3685

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2025-0001

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 03/04/2025

Solution Meeting 04/01/2025

Project Driver: Customer Service

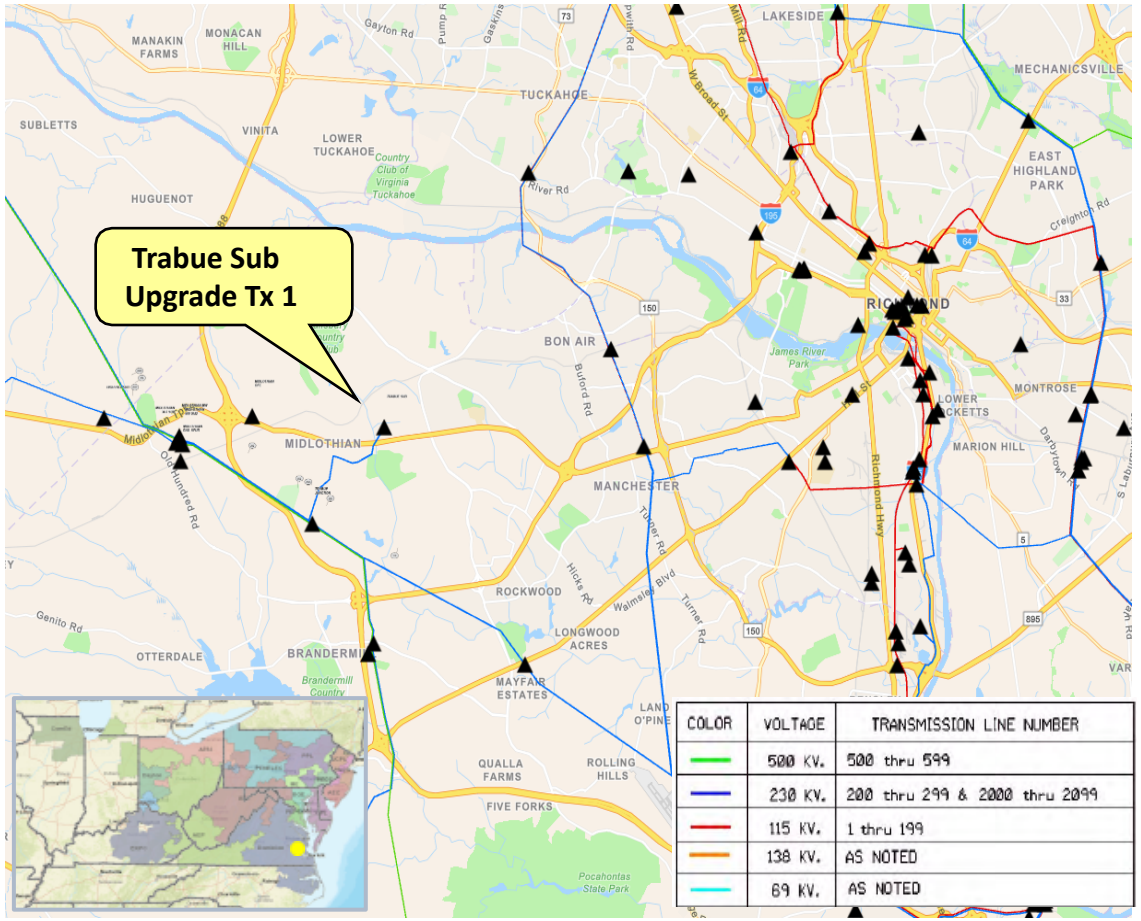
Specific Assumption References:

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

Problem Statement:

DEV has submitted a delivery point request to upgrade transformer 1 at Trabue Substation in Midlothian, VA. The upgrade is being driven by new customer load. The total load is in excess of 100 MW. The customer requests service by January 1, 2026.

Initial In-Service Load	Projected 2029 Load
Summer: 96 MW Winter: 75 MW	Summer: 100 MW Winter: 90 MW

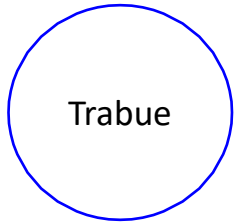


Dominion Transmission Zone: Supplemental Trabue 230kV Delivery - DEV

Need Number: DOM-2025-0001
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Project Driver: Customer Service

Selected Solution:

- Construct a four breaker 230kV ring bus at Trabue substation which is required by Dominion's Facility Interconnection Requirements for substation loads in excess of 100MW.
- Upgrade TX1 from 45 to 84 MVA.



Estimated Project Cost: Substation: $10.1M

Projected In-service Date: 1/1/2026

Supplemental Project ID: s3687

Project Status: Engineering

Model: 2029 RTEP

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2025-0010

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 3/4/2025

Solution Meeting 4/1/2024

Project Driver: Customer Service

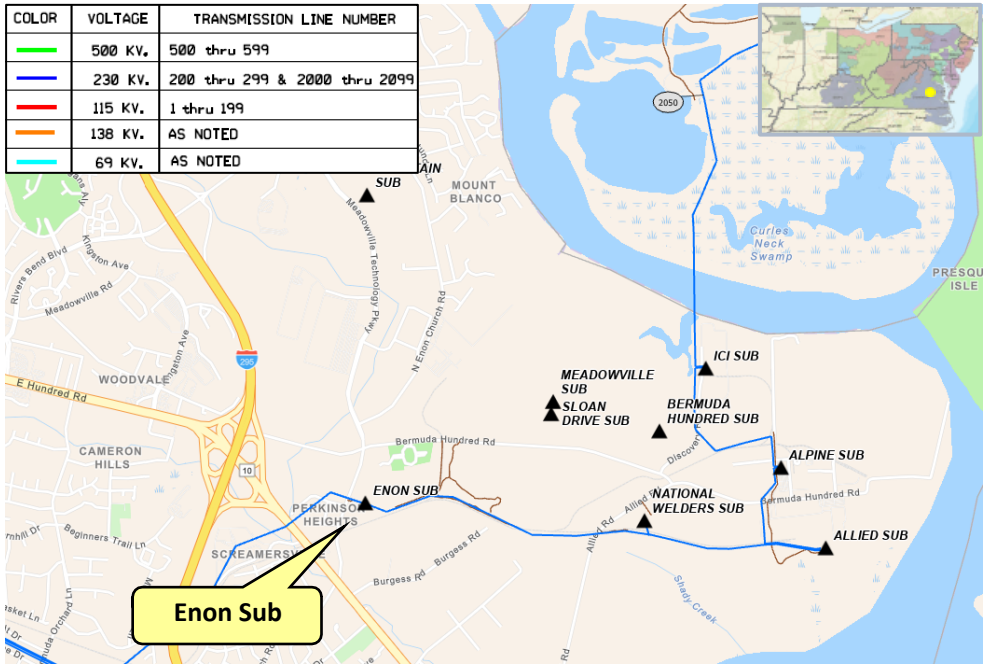
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request to add TX3 at existing Enon substation in Petersburg, VA. The new TX is being driven by new customer load. The requested in-service date is 03/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 76.9 MW Winter: 64.9 MW	Summer: 88.9 MW Winter: 65.9 MW



Dominion Transmission Zone: Supplemental Enon 230kV Delivery - DEV

Need Number: DOM-2025-0010

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Proposed Solution:

- Install an 84 MVA transformer #3 and associated high side equipment

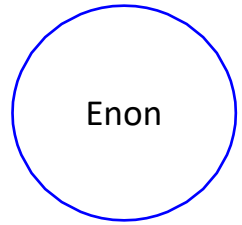
Estimated Project Cost: Substation: $1.6M

Projected In-service Date: 3/1/2028

Supplemental Project ID: s3688

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0018, 0019, 0020, 0040 - DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented Solutions – 06/04/2024 and 12/03/2024

Solutions Meeting 05/06/2025 – Do No Harm

Supplemental Project Driver: Do No Harm Analysis

Specific Assumption Reference:

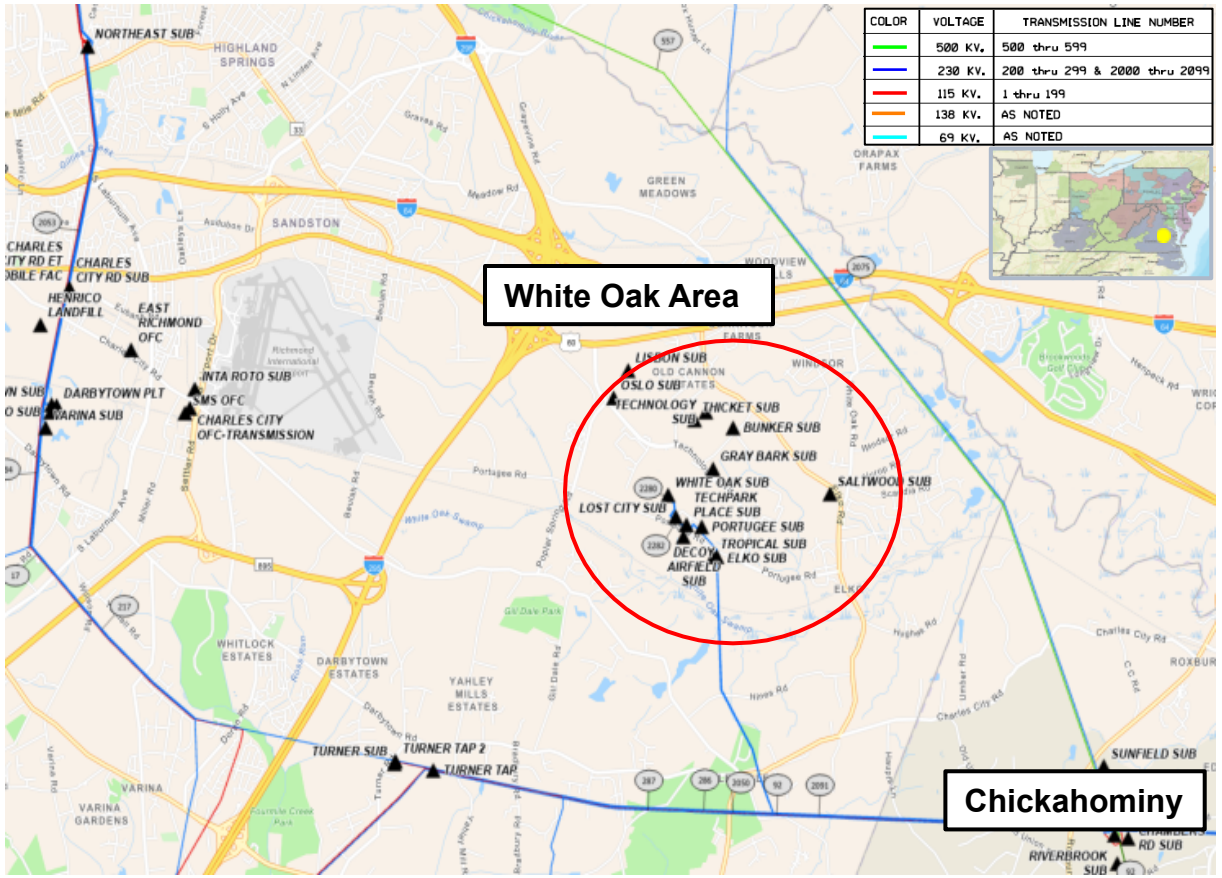
Customer load request will be evaluated per Dominion's Facility Interconnections Requirements Document & Dominion's Transmission Planning Criteria.

Problem Statement:

Dominion has identified, and PJM verified, multiple violations in the general White Oak area due to the associated supplemental projects via the 2025 Do-No-Harm analysis through January 1, 2025.

Thermal overloads identified:

- Line 286 from Techpark Place to Darbytown under N-1-1
- Line 2050 from Chickahominy to future Bermuda Hundred under N-1
- Line 2075 from Chickahominy to future Thicket under Gen Deliv
- Line 2091 from Chickahominy to Elko under Gen Deliv



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0018, 0019, 0020, 0040 - DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solutions:

- The majority of Line #286 structures date back to the 1940s and 70s. Rebuild approximately 13.7 miles of existing 230kV Line #286 between Techpark Place and Darbytown. The majority of Line #286 shares structures with other lines, so rebuild with double circuit structures using a higher capacity conductor and associated substation equipment to achieve a minimum normal summer rating of 1573 MVA.
- Approved supplemental project DOM-2022-0038-DNH (s3030.2) will cut and loop existing 230kV Line #2075 (Chickahominy – Elmont) in and out of White Oak substation. Reconductor approximately 6.5 miles of existing 230kV Line #2075 from the cut in location back to Chickahominy substation using a higher ampacity conductor and associated substation equipment to achieve a minimum normal summer rating of 1573 MVA.
- Reconductor approximately 6.75 miles of existing 230kV Line #2091 (Chickahominy – Elko) using a higher capacity conductor and associated substation equipment to achieve a minimum normal summer rating of 1573 MVA.
- Reconductor approximately 13.5 miles of existing 230kV Line #2050 (Chickahominy – Bermuda Hundred) using a higher capacity conductor and associated substation equipment to achieve a minimum normal summer rating of 1573 MVA.

Estimated cost:

Line 286 – $54.8M

Line 2075 – $19.5M

Line 2091 – $20.25

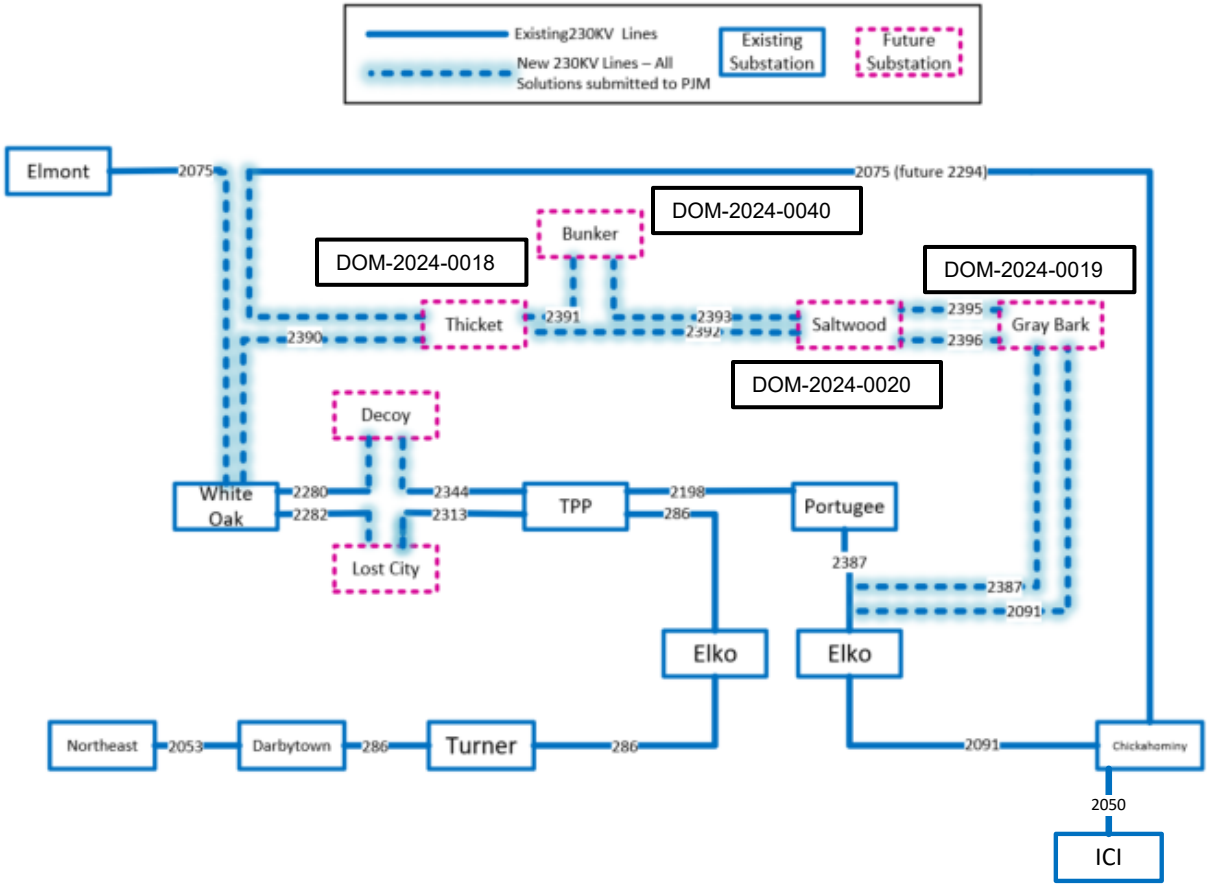
Line 2050 – $40.5M

Projected In-service Date: 12/01/2030

Supplemental Project ID: s3673.2, s3673.3, s3673.4, s3673.5

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0023 - DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Solution Meeting 12/03/2024

Do No Harm Solution Meeting 05/06/2025

Project Driver: Do No Harm Analysis – Meadowville

Specific Assumption References:

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

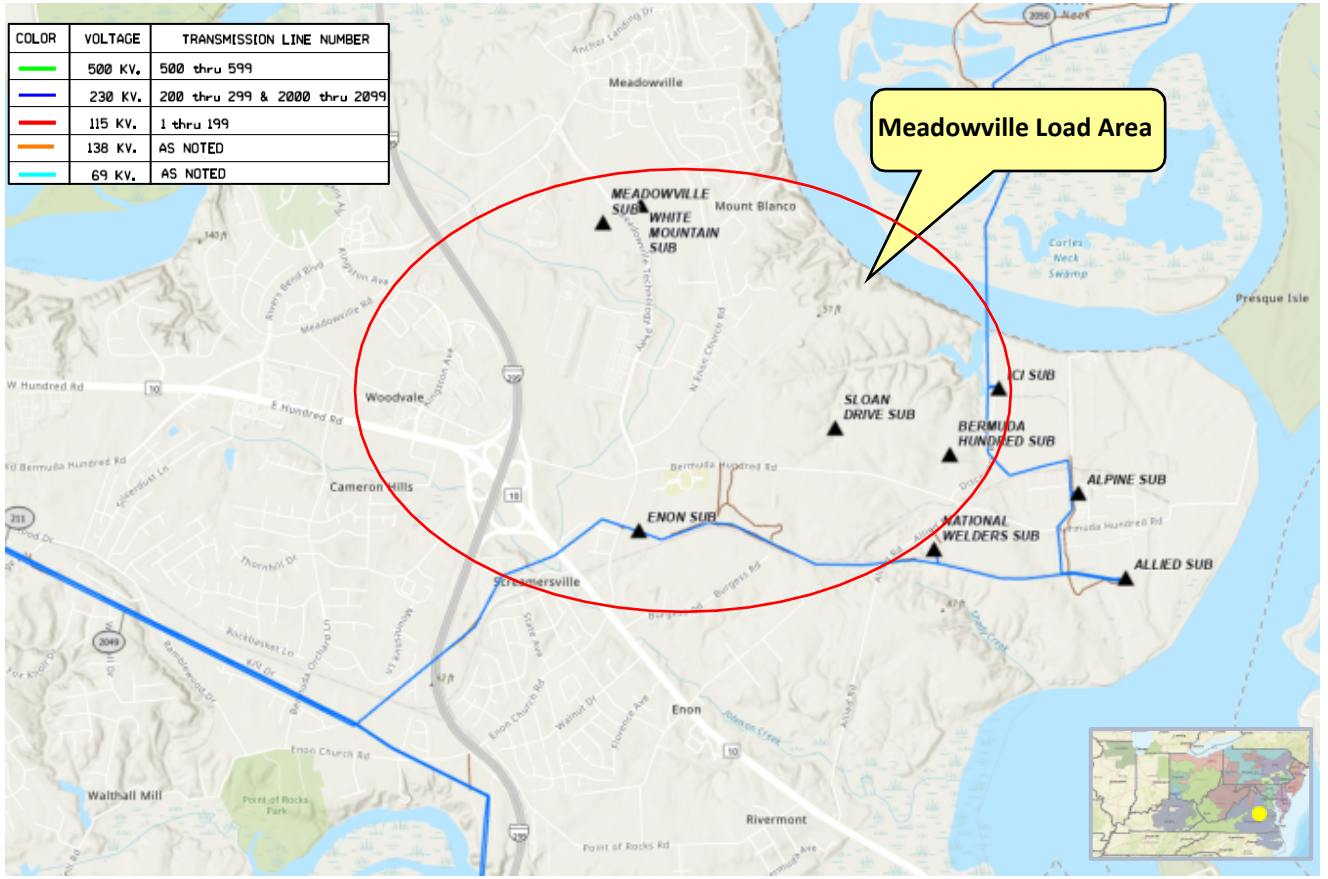
Problem Statement:

Dominion has identified, and PJM verified, several overloads in the general "Meadowville Load Area" with the addition of Meadowville substation.

Initial In-Service Load	Projected 2029 Load
Summer 80MW	Summer 300MW
Winter 80MW	Winter 300MW

Thermal violations identified:

- Line 211 and 228 from future Sycamore Springs substation to Hopewell substation under Gen Deliv.
- Line 238 from Carson substation to Clubhouse substation under Gen Deliv.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

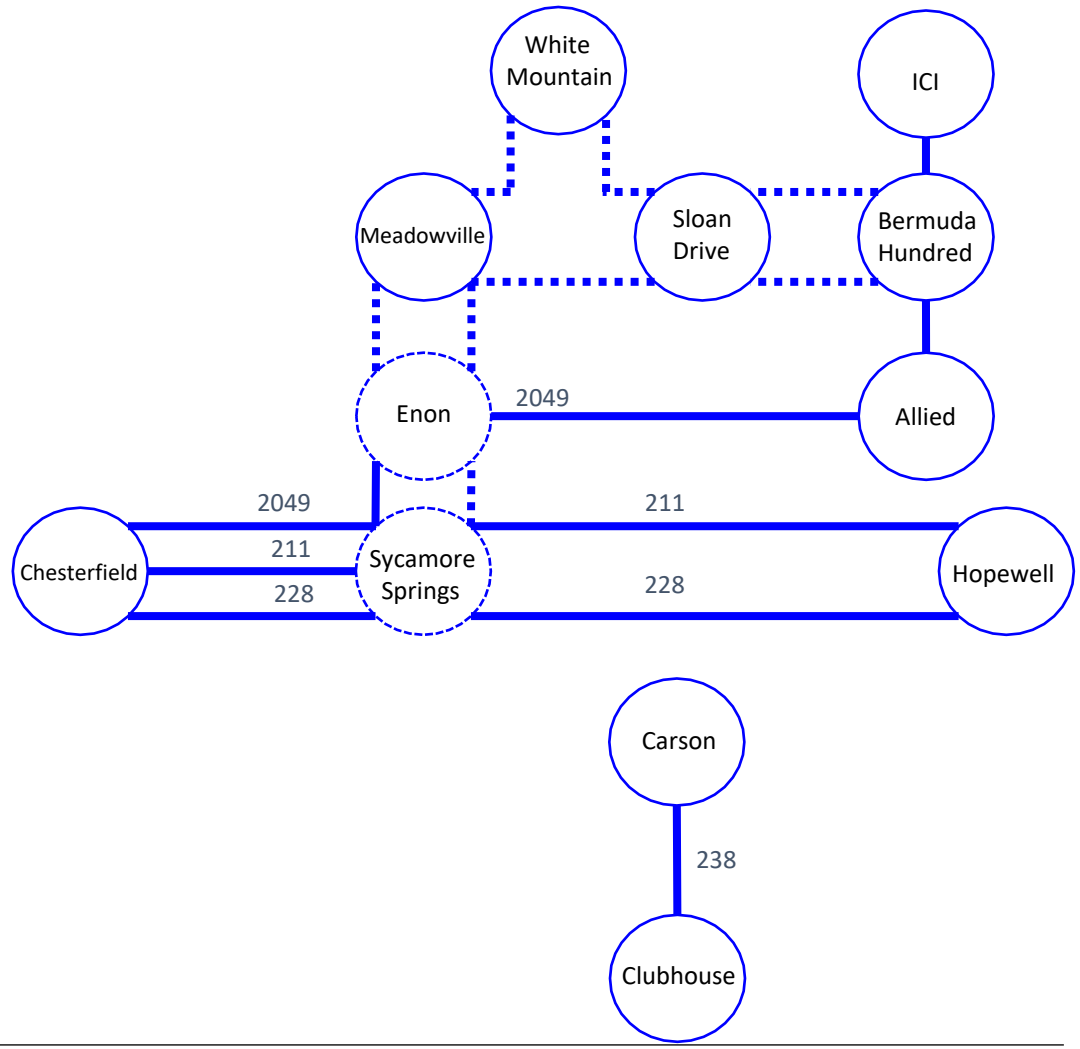
Need Number: DOM-2024-0023 - DNH
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Project Driver: Do No Harm – Meadowville

Selected Solution:

- Reconductor 5.5 miles of existing Lines 211 and 228 from future Sycamore Springs substation to existing Hopewell substation with new 230kV conductor to bring the normal summer rating to 1573 MVA.
- Reconductor 28 miles of existing Line 238 from existing Carson substation to Clubhouse substation with new 230kV conductor to bring the normal summer rating to 1573 MVA.

Estimated Project Cost:
Lines 211 and 228: $33M
Line 238: $84M

Projected In-service Date: Q4 2030
Supplemental Project ID: s3671
Project Status: Conceptual
Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0054

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 07/09/2024

Solution Meeting 05/06/2025

Project Driver: Customer Service

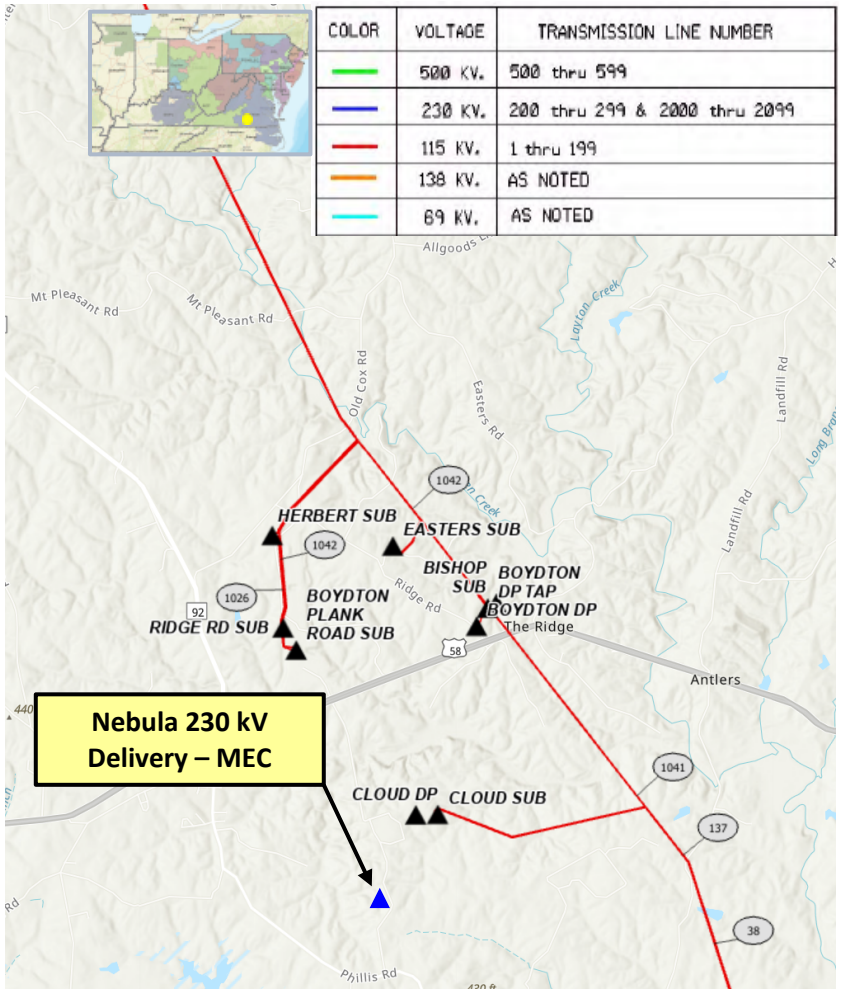
Specific Assumption References:

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

Problem Statement:

ODEC on behalf of Mecklenburg Electric Coop (MEC) has submitted a DP request for a new 230 kV delivery point (Nebula Sub) to serve a data center customer in Mecklenburg County with a total load in excess of 100 MW. Requested in-service date is 11/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 0 MW Winter: 12 MW	Summer: 12 MW Winter: 26 MW



Dominion Transmission Zone: Supplemental Nebula 230kV Delivery - MEC

Need Number: DOM-2024-0054

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- A new 230kV line from Cloud to Raines was selected in the PJM 2024 Window 1 and assigned baseline numbers b4000.331, 332 and 333
- Cut, re-route approximately 0.9 mile and loop the future 230kV line #2399 (Cloud to Raines) in and out of the proposed Nebula switching station.
- Line #2399 and Line #2402 to terminate into a 230kV breaker and a half configuration with fourteen 230kV, 4000 amp breakers. Ten of these breakers will be paid for by the Customer (cost not included here).
- Monopole double circuit construction with an idle line for future use
- Conductor rated 1573 MVA summer

Estimated Project Cost: $48.6M

Transmission Line: $29.4M (re-route line and additional right-of-way)

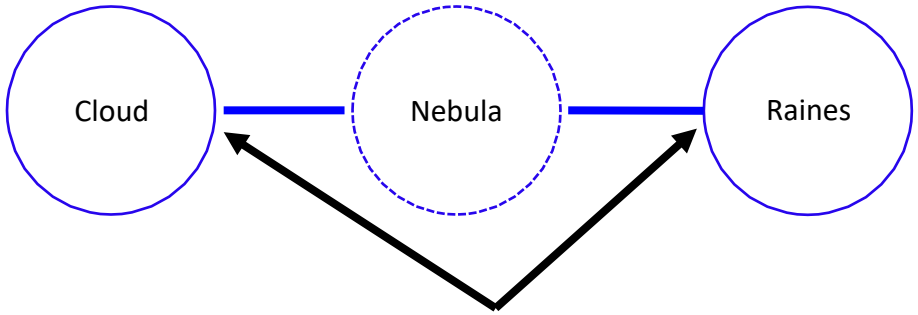
230kV Substation: $19.2M (Excess facilities will be paid by Customer not included here)

Projected In-service Date: 11/01/2028

Supplemental Project ID: s3686

Project Status: Engineering

Model: 2029 RTEP



2024W1-Regional Cluster Preferred Solution : 2024-W1-24 build a new 230kV line from Raines to Cloud

Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0063-DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Solutions Meeting 05/06/2025

Project Driver: Do No Harm Analysis

Specific Assumption References:

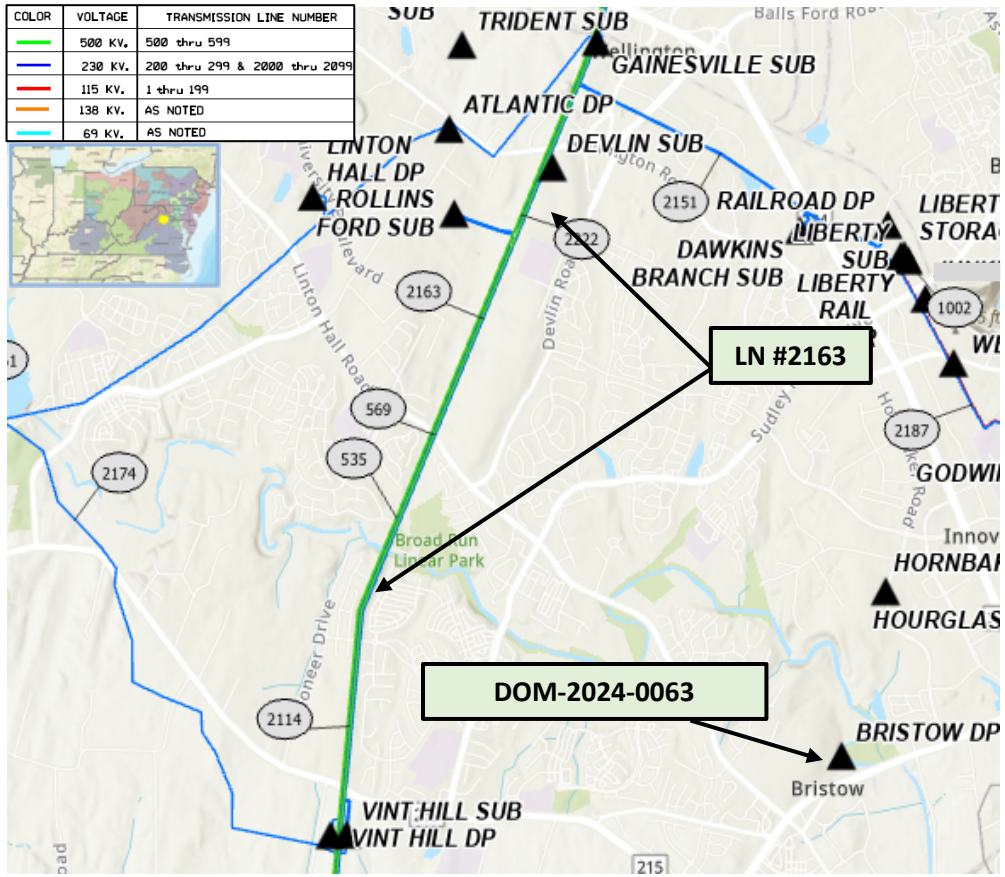
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

PJM has identified multiple N-1-1 thermal loading violations on the following monitored facility in the 2025 Do-No-Harm analysis:

- Line #2163 (Vint Hill to Devlin 230 kV)
  - N-1-1 Contingency Scenarios:
    - L/O DVP_P:1-2: LN 2352 (Vint Hill – Rollins Ford 230 kV) and DVP_P:1-2: LN 2101 (Vint Hill - Nokesville 230 kV)
    - L/O DVP_P:1-2: LN 2352 (Vint Hill – Rollins Ford 230 kV) and DVP_P:1-2: LN 2174 (Vint Hill - Wheeler 230 kV)
    - L/O DVP_P:1-2: LN 2222 (Gainesville – Rollins Ford 230 kV) and DVP_P:1-2: LN 2101 (Vint Hill - Nokesville 230 kV)
    - L/O DVP_P:1-2: LN 2151 (Gainesville – Railroad 230 kV) and DVP_P:1-2: LN 2101 (Vint Hill - Nokesville 230 kV)
    - L/O DVP_P:1-2: LN 2011 (Clifton – Brickyard 230 kV) and DVP_P:1-2: LN 2101 (Vint Hill - Nokesville 230 kV)

The violations are caused by previously presented Supplemental Project DOM-2024-0063 in the Dominion Zone.



Dominion Transmission Zone: Supplemental Do No Harm Analysis

Need Number: DOM-2024-0063-DNH

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- String (1) 230 kV transmission line on shared tower structures for approximately 7.0 miles from Devlin to Vint Hill Substation with a minimum summer normal conductor rating of 1572 MVA.
- The 230 kV circuit will be installed along the existing Line #2161/#2346 corridor between Gainesville and Wheeler, and the existing Line #2174 corridor between Wheeler and Vint Hill on the empty side of the double-circuit tower structures constructed under b4000.304 -.310 (ISD 6/1/2029).
- Acquisition of approximately 0.25 miles of Right-of-Way will be required from Devlin to the existing Line #2161/#2346 corridor.
- Install 230 kV GIS breakers and associated equipment (ie. switches, leads) at both Devlin and Vint Hill Substations to accommodate the termination of the lines.

Estimated Project Cost: $24.0M (Total)

Transmission Line Cost: $5.0M

Substation Cost: $12.0M

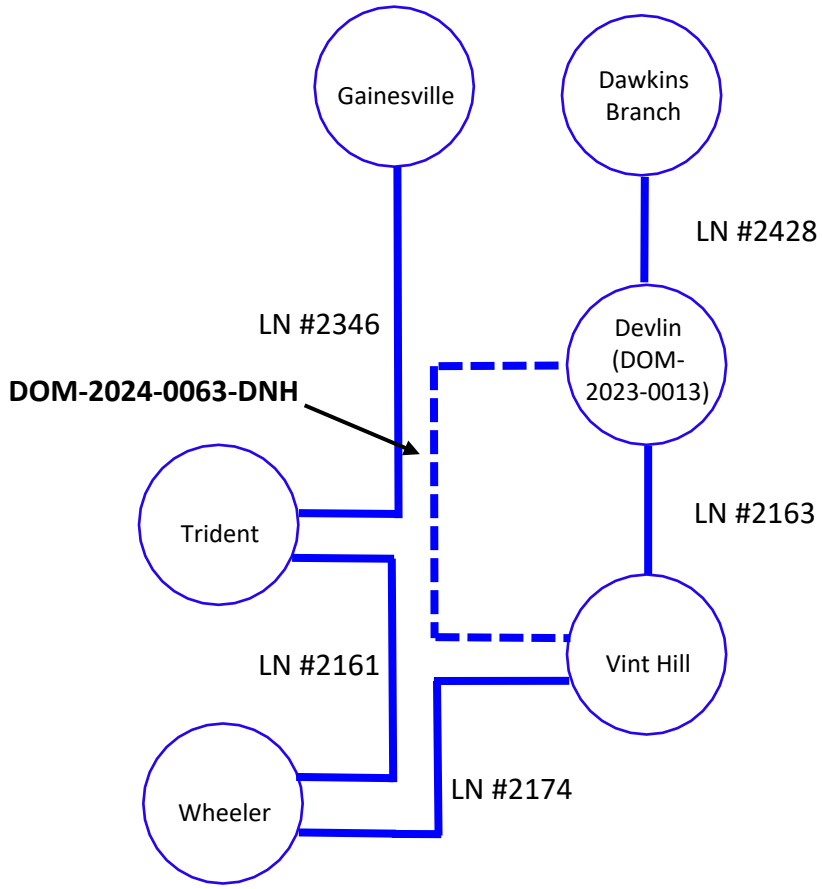
Real Estate Cost: $7.0M

Projected In-service Date: 06/01/2029

Supplemental Project ID: s3699.3, s3699.4, s3699.5

Project Status: Conceptual

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0009
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Previously Presented: Need Meeting 02/06/2024
Solutions Meeting 06/05/2025

Project Driver: Customer Service

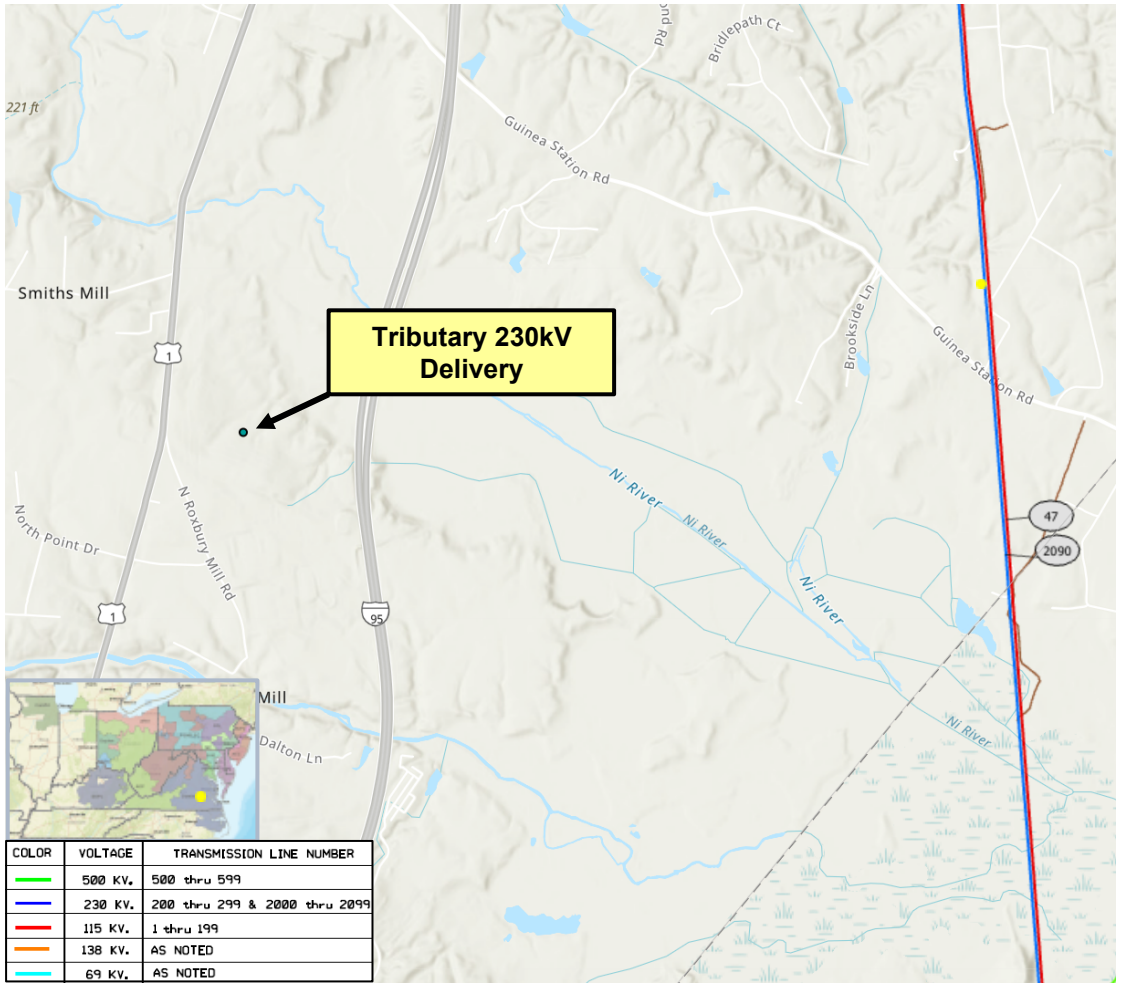
Specific Assumption References:

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

Problem Statement:

ODEC has submitted a DP request for a new 230 kV delivery point (Tributary) to serve a data center customer in Spotsylvania, VA with a total load in excess of 100 MW. Requested in-service date is 04/01/2027.

Initial In-Service Load	Projected 2028 Load
Summer: 7 MW Winter: 0 MW	Summer: 108 MW Winter: 108 MW



Dominion Transmission Zone: Supplemental Tributary 230kV Delivery - REC

Need Number: DOM-2024-0009

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

- Construct Tributary 230 kV switching station with a 4-breaker ring bus configuration.
- Cut Line #2090 (New Post – Ladysmith CT) and extend double-circuit 230kV lines for approx. 2.4 miles to Tributary Switching Station.

Estimated Project Cost: $32.3M (Total)

Transmission Line: $20.6M

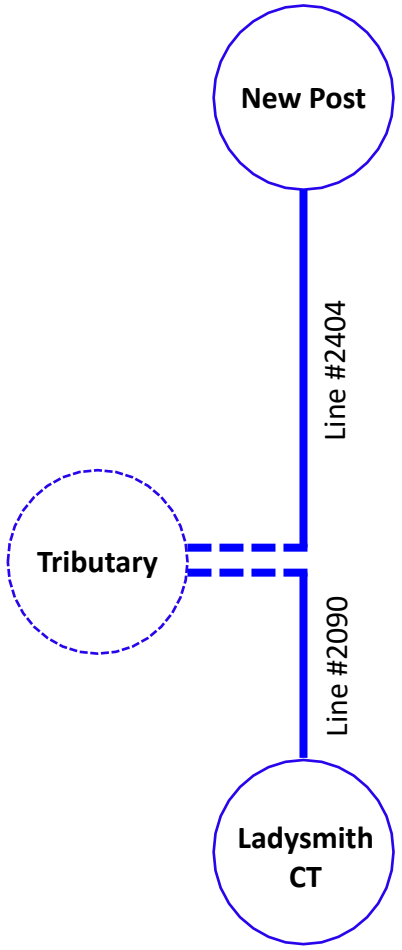
230kV Substation: $11.7M

Projected In-service Date: 04/01/2027

Supplemental Project ID: s3721

Project Status: Engineering

Model: 2028 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0002

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 02/07/2023; Solutions Meeting 06/03/2025

Project Driver: Customer Service

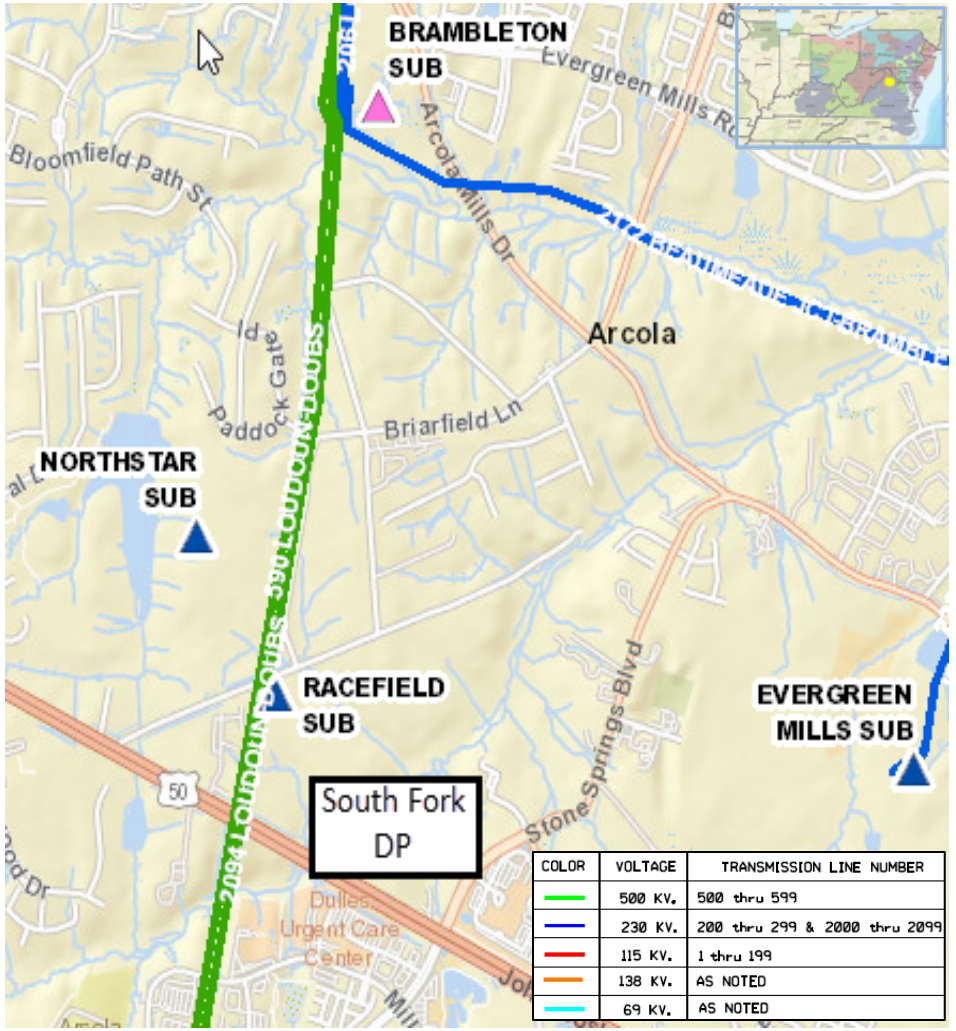
Specific Assumption References:

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

Problem Statement:

NOVEC has submitted a DP Request (South Fork) for a new substation (Reed Farm) in Loudoun County. Requested in-service date is 9/30/2026.

Initial In-Service Load	Projected 2029 Load
Summer: 34.9 MW Winter: 40.5 MW	Summer: 162.0 MW Winter: 124.0 MW



Dominion Transmission Zone: Supplemental South Fork 230kV Delivery - NOVEC

Need Number: DOM-2023-0002

Process Stage: Solutions Meeting 06/03/2025

Selected Solution:

Interconnect the new substation by cutting and extending Line #2094 (Racefield - Loudoun) approximately 0.2 mile to the proposed Reed Farm Substation. Lines to terminate in a 230kV four-breaker ring arrangement with an ultimate arrangement of a six-breaker ring.

Estimated Project Cost: $19.0M

Transmission Line: $7.0M

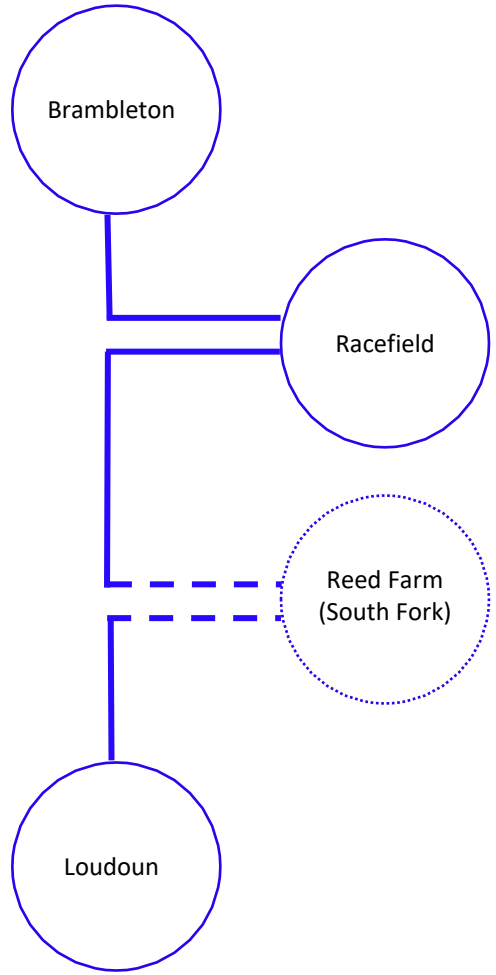
230kV Substation: $12.0M

Projected In-service Date: 09/30/2026

Supplemental Project ID: s3722

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0059

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 09/10/2024 Solutions Meeting 10/08/2024

Project Driver: Customer Service

Specific Assumption References:

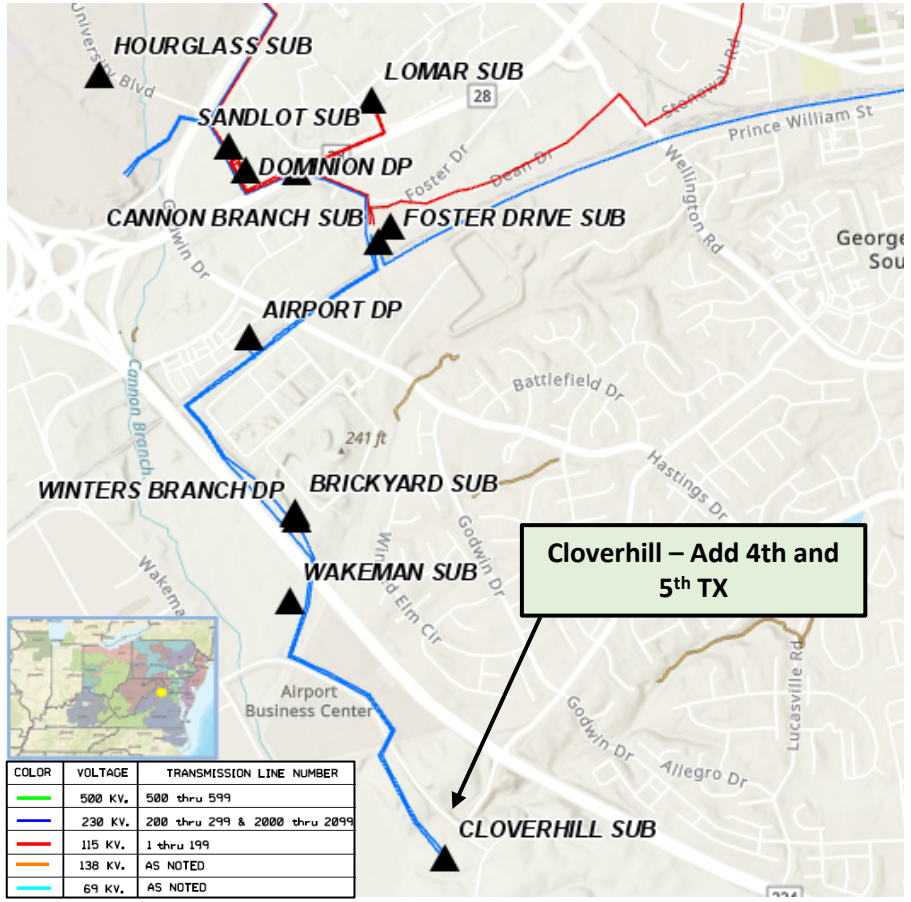
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to add a 4th and 5th distribution transformer at Cloverhill Substation in Manassas. The new transformers are being driven by significant area load growth.

Requested in-service date is 03/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 159.1 MW Winter: 159.1 MW	Summer: 191.3 MW Winter: 191.3 MW



Dominion Transmission Zone: Supplemental Cloverhill - Add 4th and 5th TX - DEV

Need Number: DOM-2024-0059

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Install (2) 1200 Amp, 50kAIC circuit switchers and associated equipment (bus, relaying, etc.) to feed the new transformers at Cloverhill.

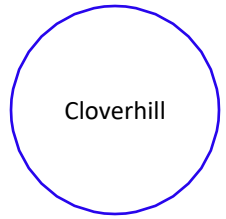
Estimated Project Cost: $1.0 M

Projected In-service Date: 03/01/2027

Supplemental Project ID: s3696.1

Project Status: Engineering

Model: 2028 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2020-0043- UPDATE

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Solutions Meeting 12/01/2020

Project Driver: Customer Service

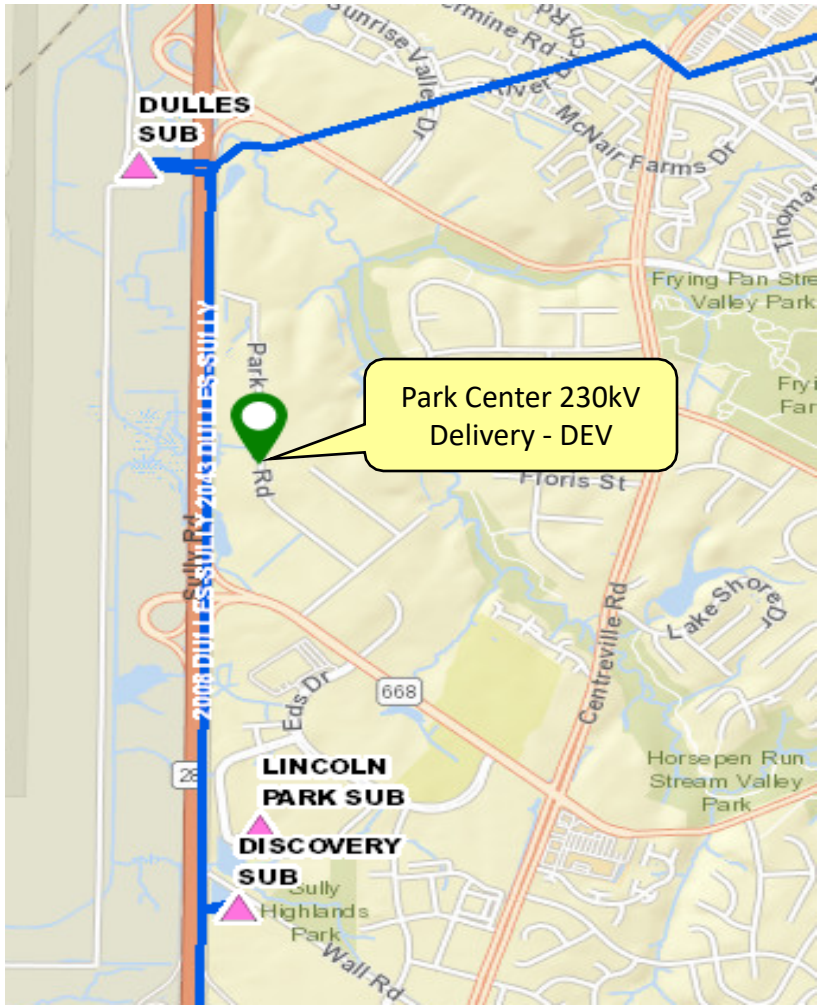
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a **revised** DP Request for a new substation (Park Center) to accommodate a new datacenter campus in Fairfax County with a total load in excess of 100MW. Requested **revised** in-service date is 11/21/2025.

Initial In-Service Load	Projected 2029 Load
Summer: 29.0 MW (UPDATED) Winter: 29.0 MW	Summer: 41.0 MW (UPDATED) Winter: 29.0 MW



Dominion Transmission Zone: Supplemental Park Center 230kV Delivery - DEV

Need Number: DOM-2020-0043- UPDATE

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Interconnect the new substation by cutting and extending Line #2043 (Reston-Lincoln Park) and Line #2242 (Dulles-Lincoln Park) to the proposed Park Center Substation. Lines to terminate in a six-breaker ring arrangement.

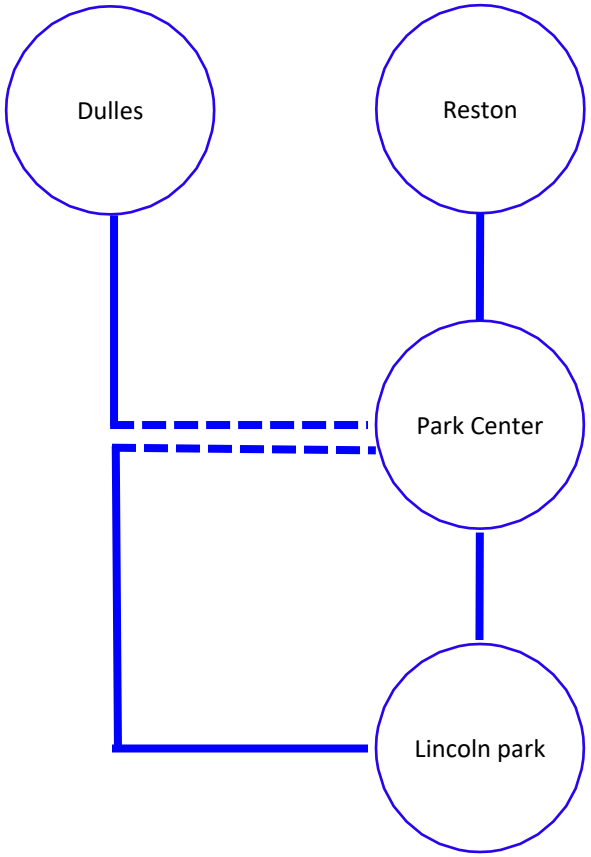
Estimated Project Cost: $27.0 M **(UPDATED)**

Projected In-service Date: 11/21/2025 **(UPDATED)**

Supplemental Project ID: s2622.1

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0041

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 08/06/2024 Solution Meeting 11/06/2024

Project Driver: Customer Service

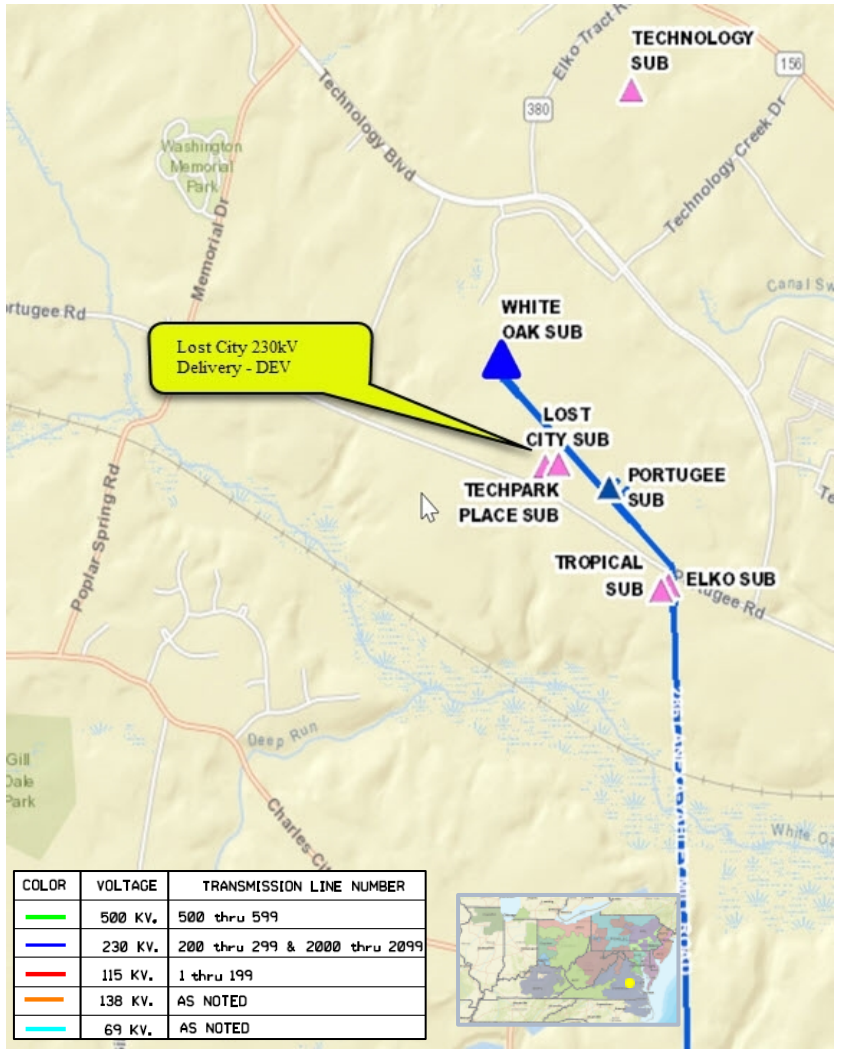
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a DP Request to add a new 230/34.5kV 112MVA transformer at future Lost City Substation in Henrico County. The additional transformer is being driven by increased customer load. The total station load will be over 100MW. The requested in-service date is June 2026.

Initial In-Service Load	Projected 2029 Load
Summer: 150.0 MW Winter: 120.0 MW	Summer: 187.0 MW Winter: 169.0 MW



Dominion Transmission Zone: Supplemental Lost City 230kV Delivery - DEV

Need Number: DOM-2024-0041

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Project Driver: Customer Service

Selected Solution:
Install a 230kV circuit switcher, high side switch, and any associated transmission equipment and bus work needed for new transformer.

Estimated Project Cost: $5.0M

Projected In-service Date: 06/01/2026

Supplemental Project ID: s3698.1

Project Status: Engineering

Model: 2029 RTEP

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0004

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 01/10/2023 Solutions Meeting 11/06/2024

Project Driver: Customer Service

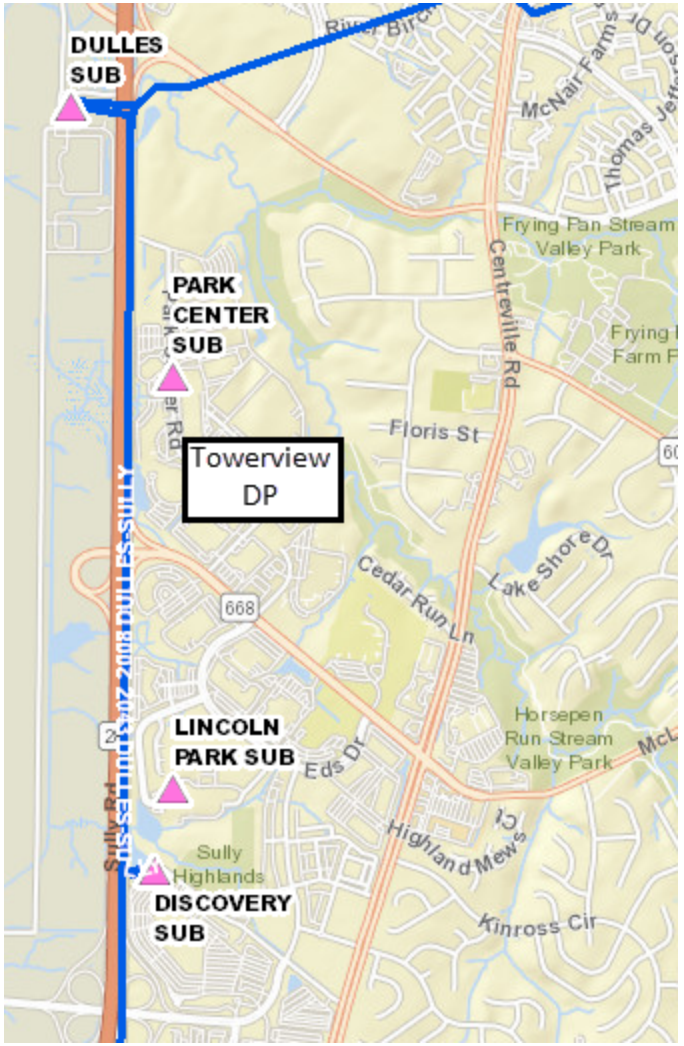
Specific Assumption References:

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

Problem Statement:

DEV has submitted a DP Request for a new substation (Towerview) in Fairfax County with a total load in excess of 100MW. Requested in-service date is 11/30/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 56.0 MW Winter: 0.0 MW	Summer: 300.0 MW Winter: 300.0 MW



Dominion Transmission Zone: Supplemental Towerview 230kV Delivery - DEV

Need Number: DOM-2023-0004

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:
Interconnect the new substation by cutting and extending Line #2043 (Reston - Park Center) to the proposed Towerview Substation. Terminate both ends into a four-breaker ring arrangement to create a Towerview - Reston line and a Park Center - Towerview line. The customer will be paying excess facility cost for GIS substation.

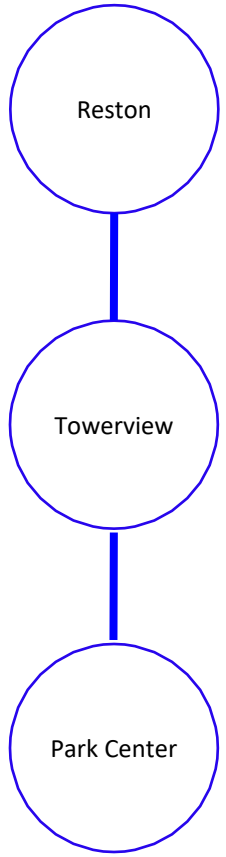
Estimated Project Cost: $13.0 M

Projected In-service Date: 11/30/2027

Supplemental Project ID: s3670

Project Status: Engineering

Model: 2029 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2023-0006

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Solutions Meeting 05/09/2023

Solutions Meeting 11/06/2024 – DNH Update

Project Driver: Customer Service

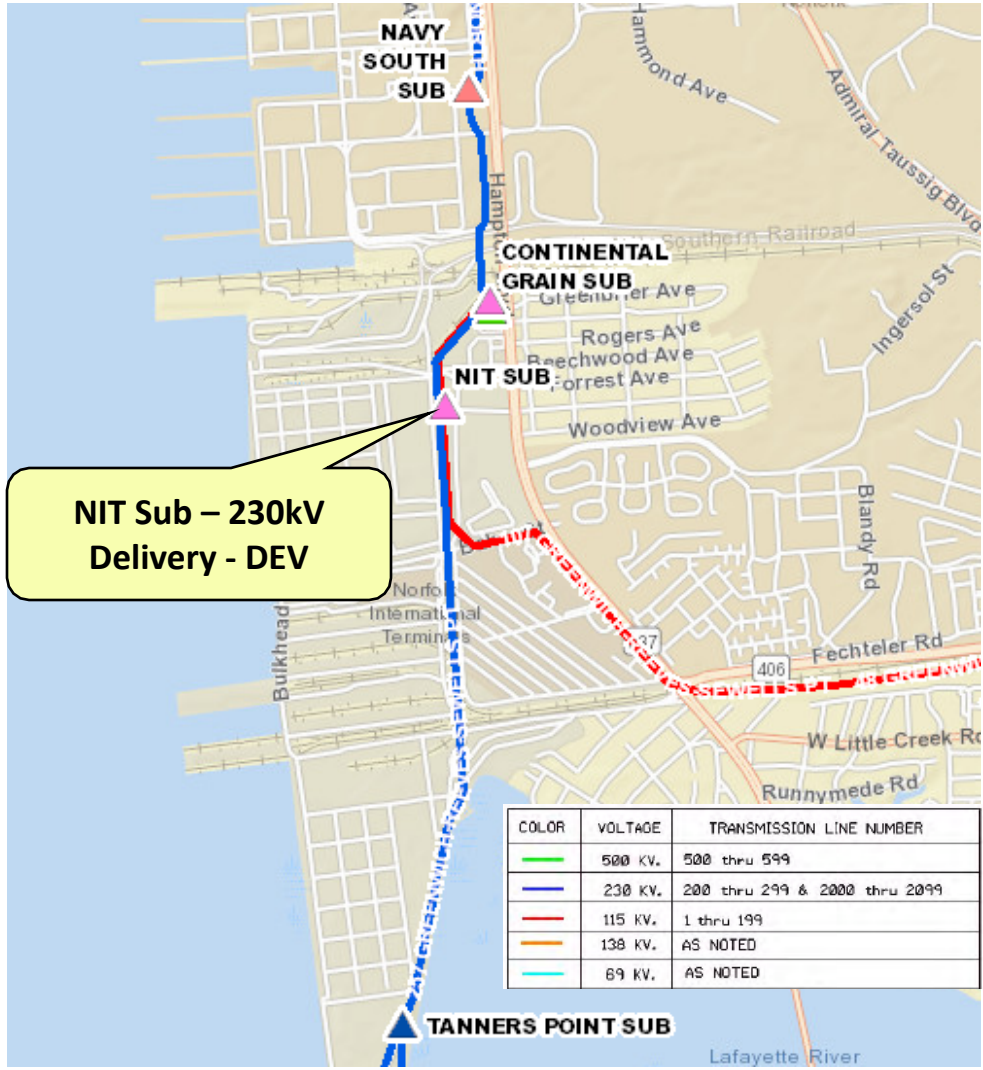
Specific Assumption References:

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

Problem Statement:

DEV Distribution has submitted a delivery point request for a new substation (NIT) in Norfolk, VA with a total load less than 100MW. The customer requests service by June 1, 2025.

Initial In-Service Load	Projected 2028 Load
Summer: 49.3 MW	Summer: 49.3 MW



Dominion Transmission Zone: Supplemental NIT Substation 230kV Delivery - DEV

Need Number: DOM-2023-0006

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Tap Line #257 (Sewells Point - Churchland) near structure 257/56,2099/56 and extend a single circuit 230kV tap to NIT substation.

Estimated Project Cost: $5.7 M (Total)

Transmission Line $4.5M

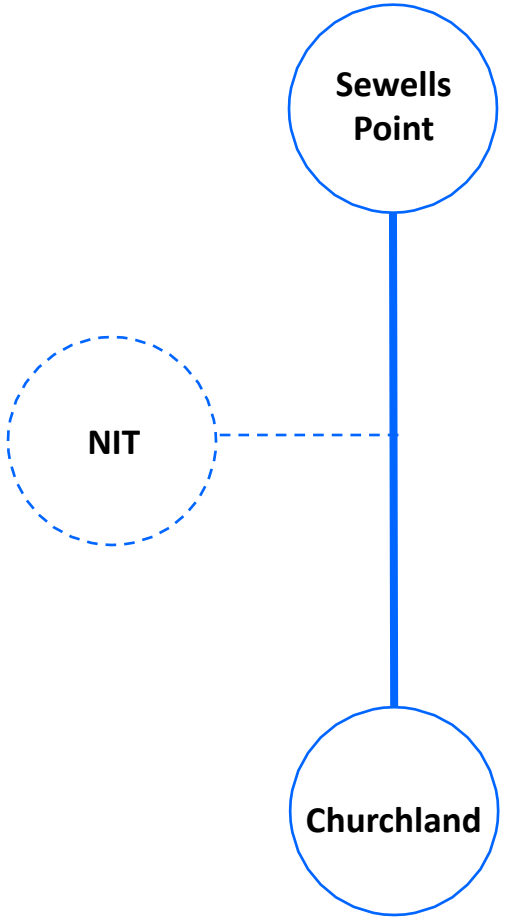
230kV Substation $1.2M

Projected In-service Date: 12/31/2024

Supplemental Project ID: s3697.1

Project Status: Construction

Model: 2027 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0015
Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan
Previously Presented: Need Meeting 04/02/2024, Solutions Meeting 09/13/2024

Project Driver: Customer Service

Specific Assumption References:

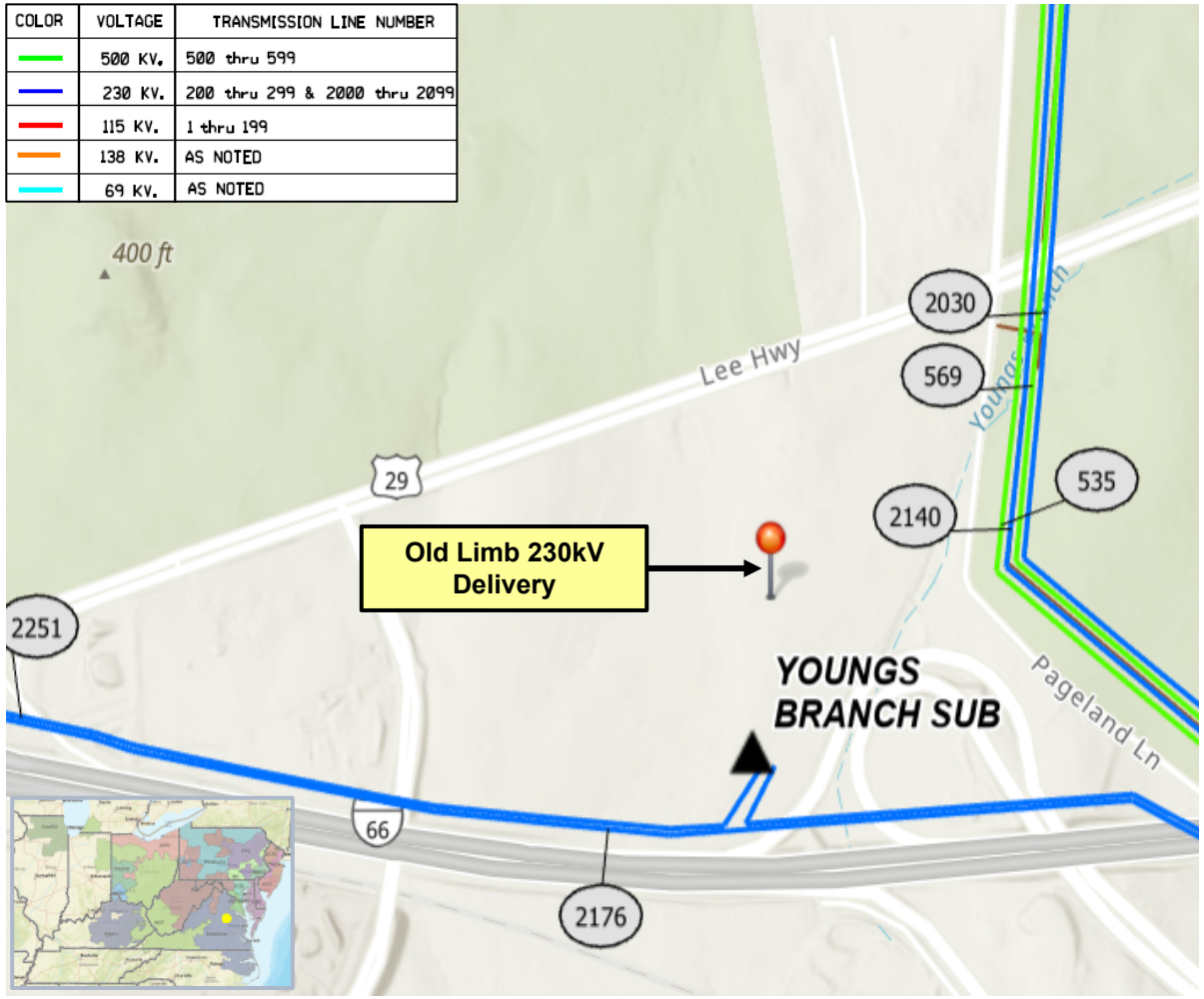
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

DEV has submitted a DP request for a new 230 kV delivery point (Old Limb Sub) to serve a data center customer in Prince William County with a total load in excess of 100 MW.

Requested in-service date is 8/01/2027.

Initial In-Service Load	Projected 2028 Load
Summer: 37 MW Winter: 0 MW	Summer: 148 MW Winter: 148 MW



Dominion Transmission Zone: Supplemental Old Limb 230kV Delivery – DEV

Need Number: DOM-2024-0015

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Interconnect the new substation by cutting and extending Line #2176 (Heathcote - Gainesville) to the proposed Old Limb Substation, directly adjacent to the existing Youngs Branch Substation.

- Line #2140 (Loudoun – Youngs Branch) will be re-terminated from Youngs Branch into Old Limb Substation. Line #2349 (Previously Heathcote – Gainesville) will be terminated into Youngs Branch.
- Extend (2) 230 kV tie-lines between Old Limb and Youngs Branch. At Youngs Branch, install (2) 230 kV circuit breakers and applicable 230 kV termination equipment.
- Lines at Old Limb Substation to terminate into a 230 kV six-breaker ring arrangement.
- L/O Line #2140 (Loudoun – Youngs Branch) and Line #2251 (Heathcote – Youngs Branch) is projected to exceed 300 MW load loss criteria by end of 2026, requiring another source into Youngs Branch Substation. During the construction of transmission into Old Limb, Line #2176 will be terminated into Youngs Branch temporarily until the proposed arrangement is completed.

Estimated Project Cost: $35.0 M

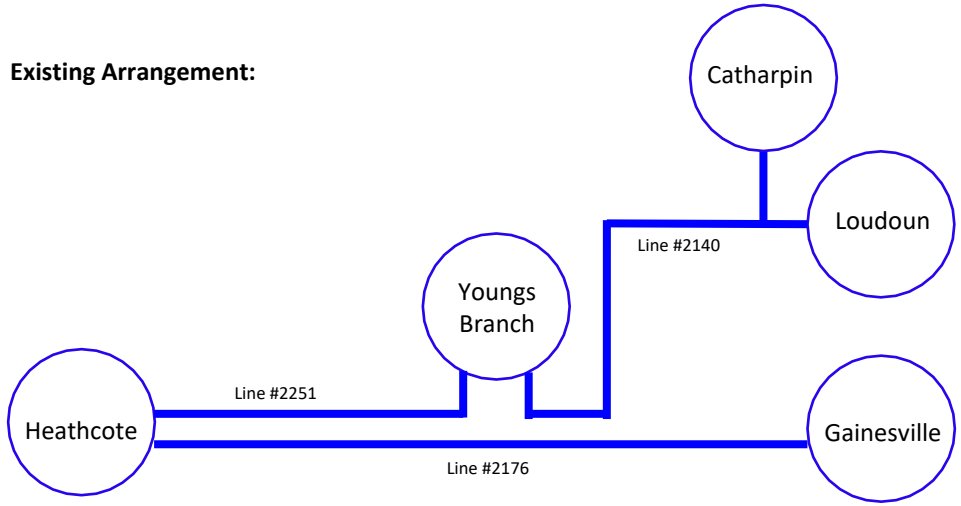
Projected In-service Date: 8/01/2027

Supplemental Project ID: s3704.1

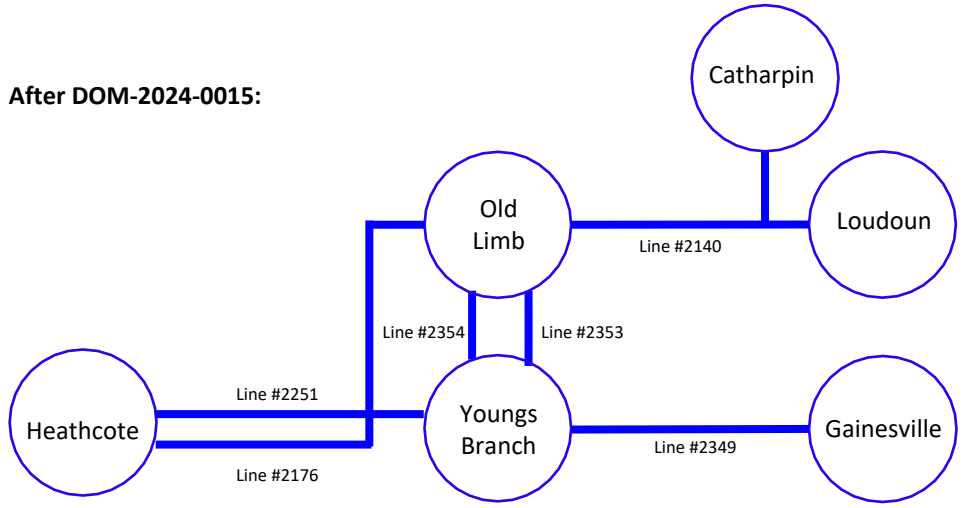
Project Status: Engineering

Model: 2028 RTEP

Existing Arrangement:



After DOM-2024-0015:



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0048

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Previously Presented: Need Meeting 07/09/2024, Solutions Meeting 09/13/2024

Project Driver: Customer Service

Specific Assumption References:

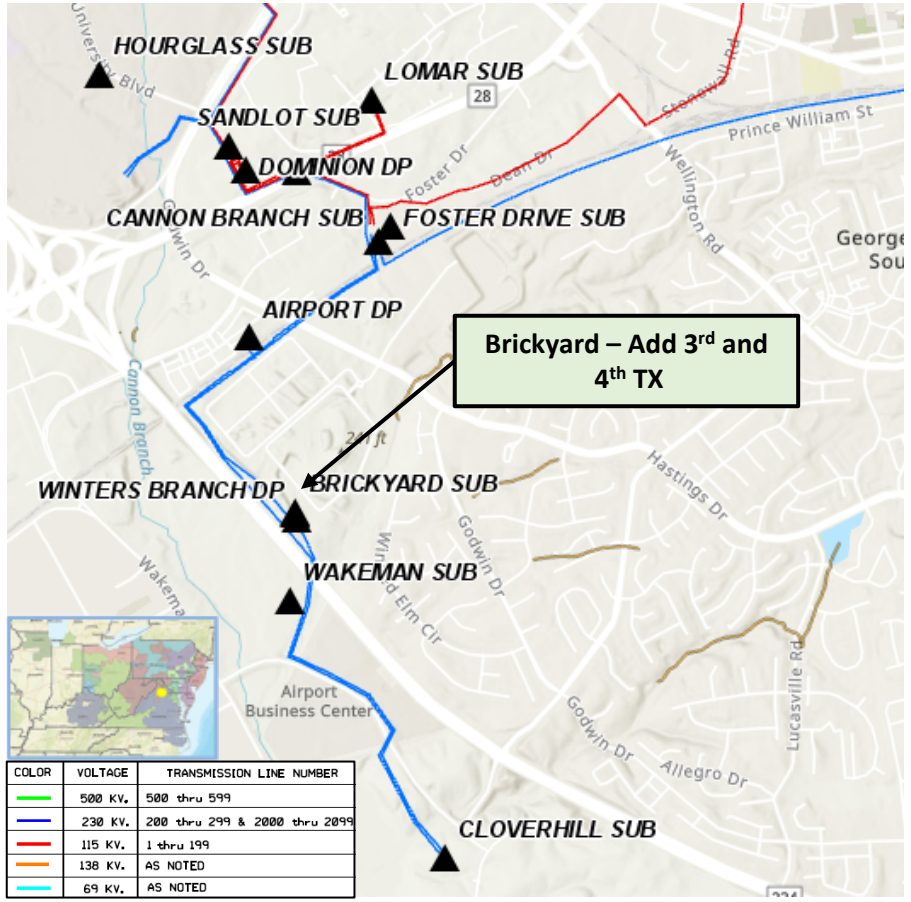
Customer load request will be evaluated per Dominion's Facility Interconnection Requirements Document and Dominion's Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to add a 3rd and 4th distribution transformer at Brickyard Substation in Manassas. The new transformers are being driven by significant area load growth.

Requested in-service date is 12/01/2026.

Initial In-Service Load	Projected 2029 Load
Summer: 49.0 MW Winter: 49.0 MW	Summer: 164.4 MW Winter: 147.6 MW



Dominion Transmission Zone: Supplemental Brickyard - Add 3rd and 4th TX - DEV

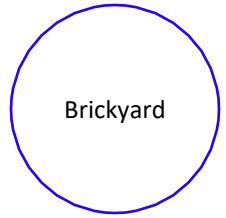
Need Number: DOM-2024-0048

Process Stage: Submission of Supplemental Project for Inclusion in the 2025 Local Plan

Selected Solution:

Install (2) 1200 Amp, 50kAIC circuit switchers and associated equipment (bus, relaying, etc.) to feed the new transformers at Brickyard.

Estimated Project Cost: $1.0 M



Projected In-service Date: 12/01/2026

Supplemental Project ID: s3705.1

Project Status: Engineering

Model: 2028 RTEP

Revision History

09/26/2025 – V1 – Added s3693.1-.3, s3694.1-s3701.1, s3704.1-s3705.1, s2622.1, s3597.1, s3670.1-s3688.1, s3721.1-s3722.1