

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
September 13, 2024

Needs

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0070

Process Stage: Need Meeting 9/13/2024

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 (Avion Sub) to serve a data center customer in Fairfax County with a total load in excess of 100 MW. Requested in-service date is 01/01/2028.



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



Initial In-Service Load	Projected 2029 Load
Summer: 96 MW Winter: 96 MW	Summer: 144 MW Winter: 144 MW

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0055

Process Stage: Need Meeting 9/13/2024

Project Driver: Customer Service

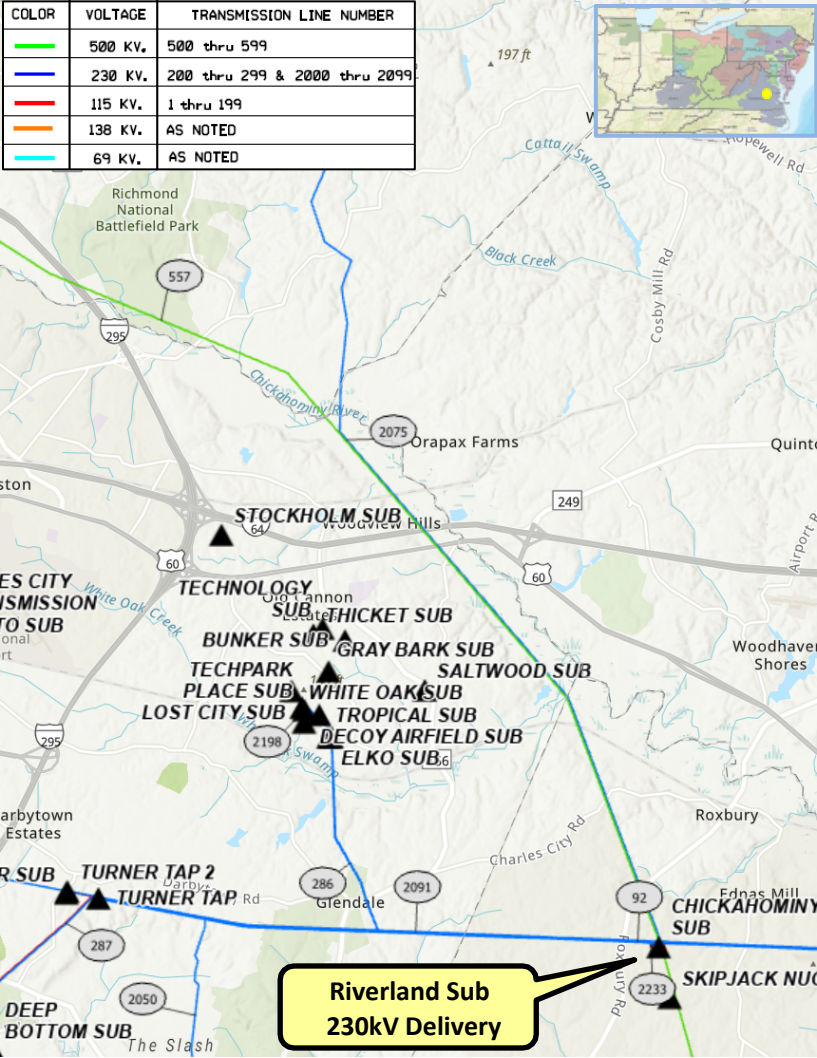
Specific Assumption References:

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 for a new substation (Riverland) to serve a data center in Charles City County with a total load in excess of 100 MW. The requested in-service date is 08/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 10.0 MW Winter: 0.0 MW	Summer: 72.0 MW Winter: 26.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0056

Process Stage: Need Meeting 9/13/2024

Project Driver: Customer Service

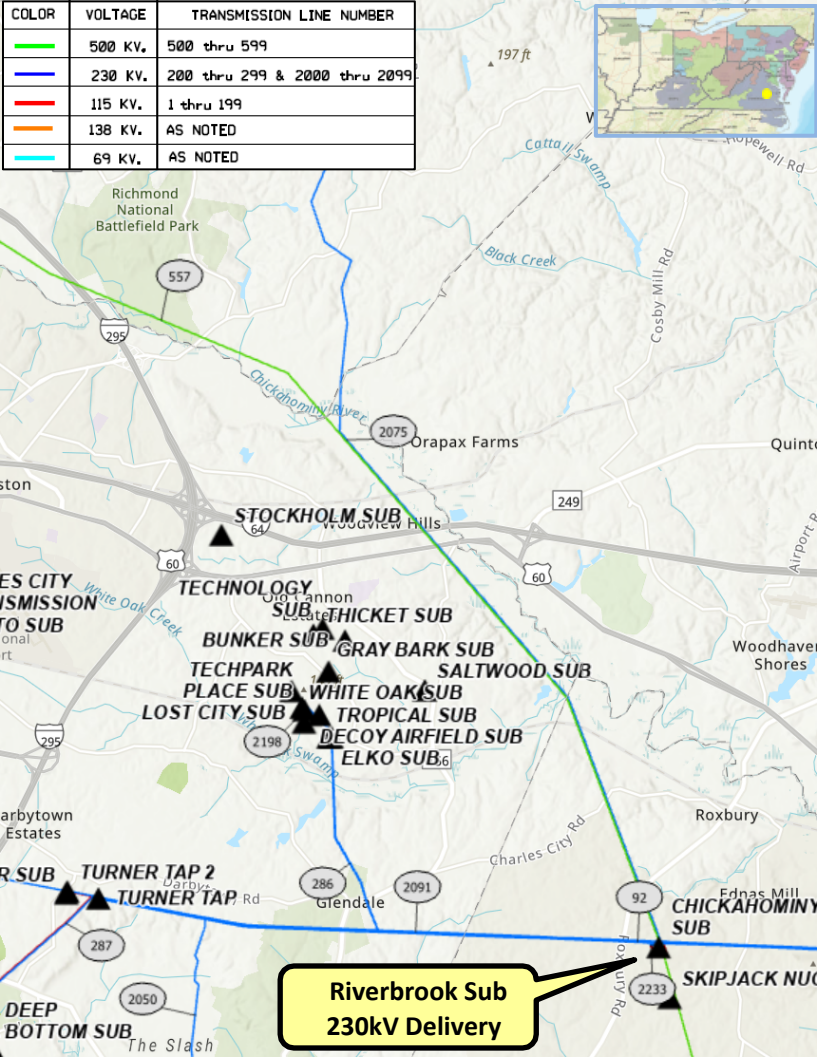
Specific Assumption References:

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 for a new substation (Riverbrook) to serve a data center in Charles City County with a total load in excess of 100 MW. The requested in-service date is 08/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 10.0 MW Winter: 0.0 MW	Summer: 62.0 MW Winter: 26.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0066

Process Stage: Need Meeting 9/13/2024

Project Driver: Customer Service

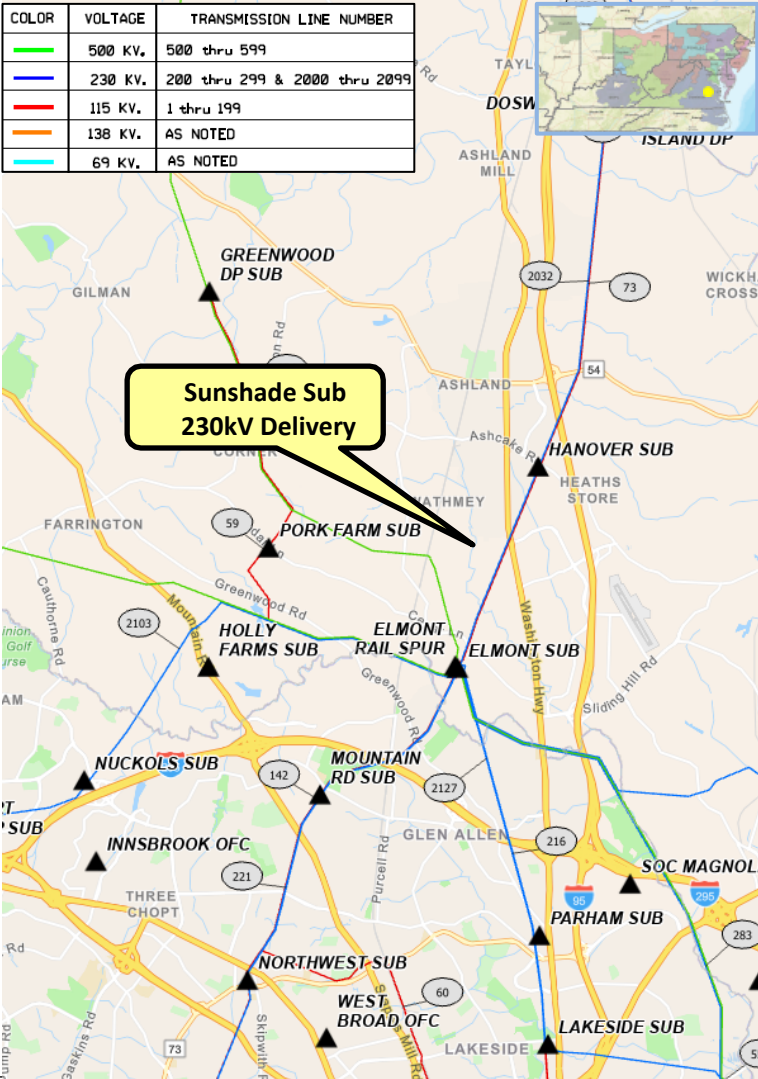
Specific Assumption References:

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 for a new substation (Sunshade) to serve a data center in Hanover County with a total load in excess of 100MW. The requested in-service date is 01/01/2029.

Initial In-Service Load	Projected 2029 Load
Summer: 20.0 MW Winter: 0.0 MW	Summer: 20.0 MW Winter: 0.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0067

Process Stage: Need Meeting 9/13/2024

Project Driver: Customer Service

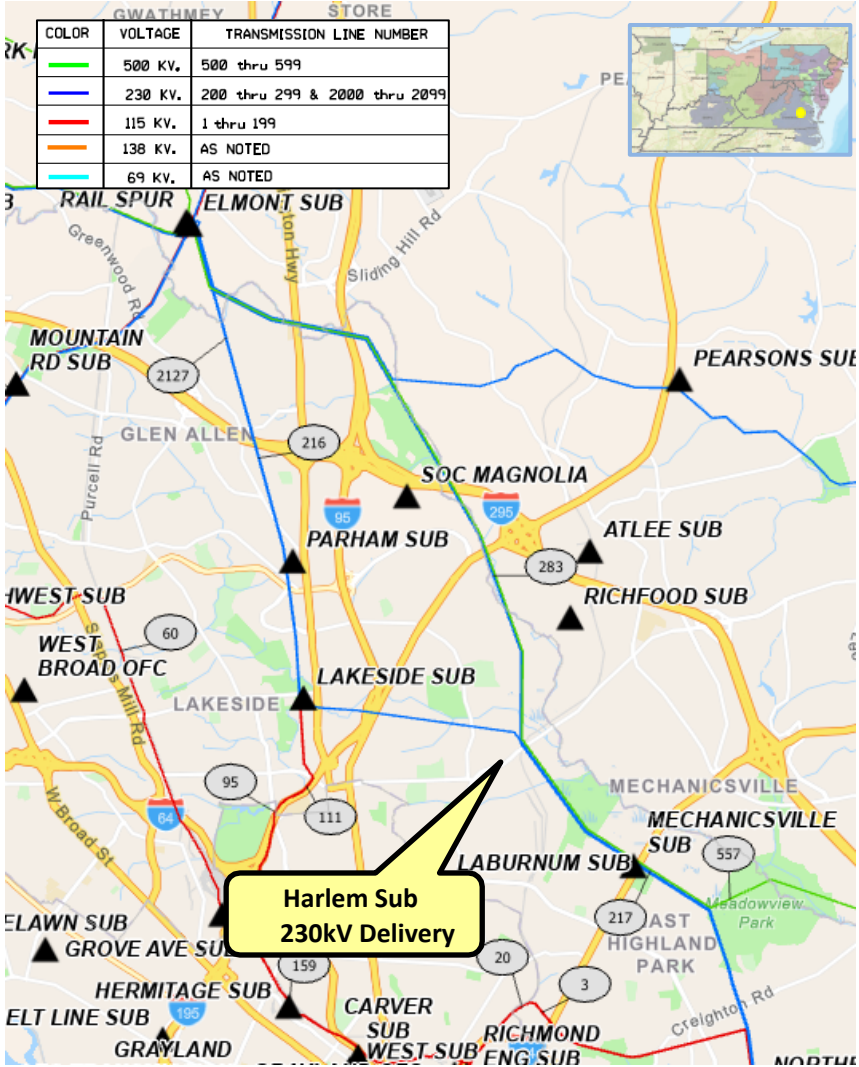
Specific Assumption References:

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 for a new substation (Harlem) to serve a data center in Hanover County with a total load in excess of 100MW. The requested in-service date is 01/01/2029. Load is expected to exceed 100MW around 2032.

Initial In-Service Load	Projected 2029 Load
Summer: 4.5 MW Winter: 3.7 MW	Summer: 4.5 MW Winter: 3.7 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0058

Process Stage: Need Meeting 9/13/2024

Project Driver: Customer Service

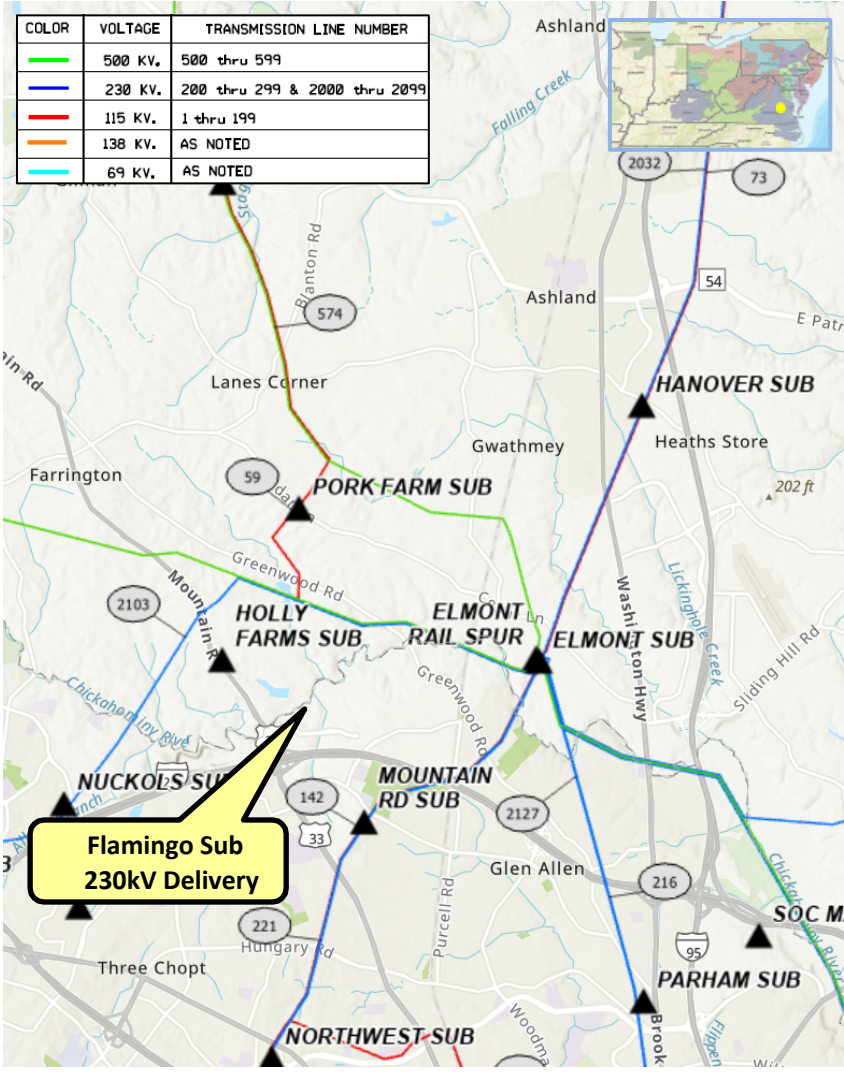
Specific Assumption References:

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 for a new substation (Flamingo) to serve a data center in Hanover County with a total load in excess of 100MW. The requested in-service date is 01/01/2029.

Initial In-Service Load	Projected 2029 Load
Summer: 47.0 MW Winter: 42.5 MW	Summer: 47.0 MW Winter: 42.5 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0059

Process Stage: Need Meeting 09/13/2024

Project Driver: Customer Service

Specific Assumption References:

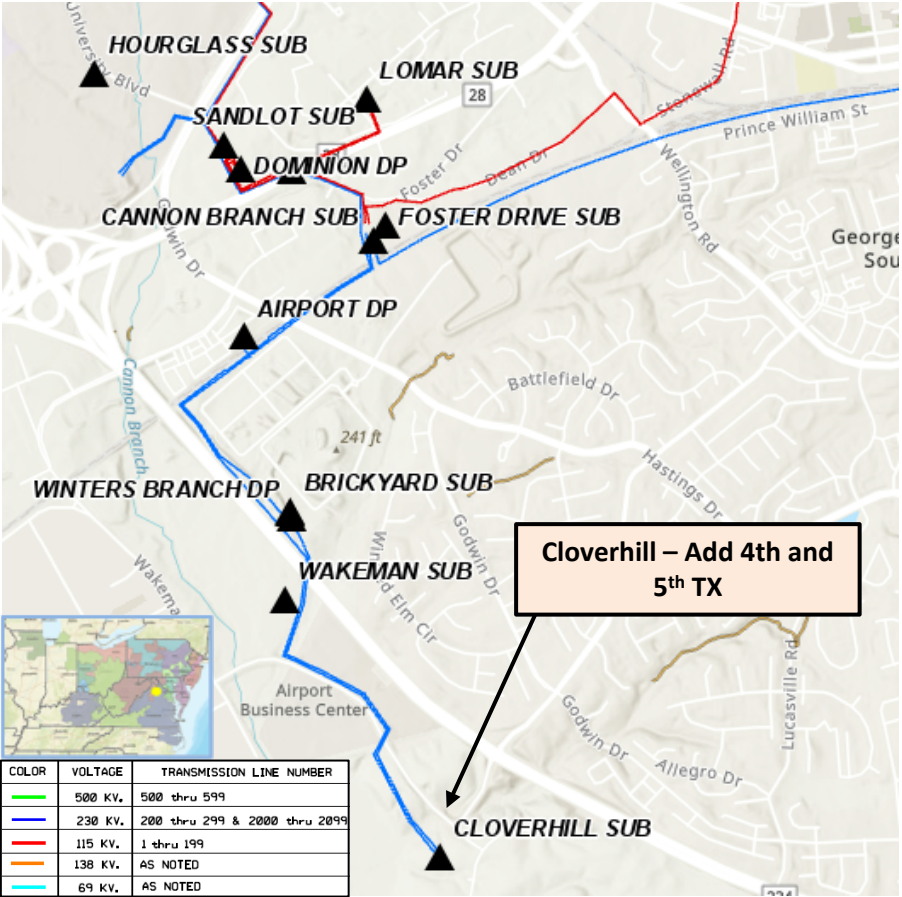
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to add a 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 Customer Load Request

Need Number: DOM-2024-0060

Process Stage: Need Meeting 09/13/2024

Project Driver: Customer Service

Specific Assumption References:

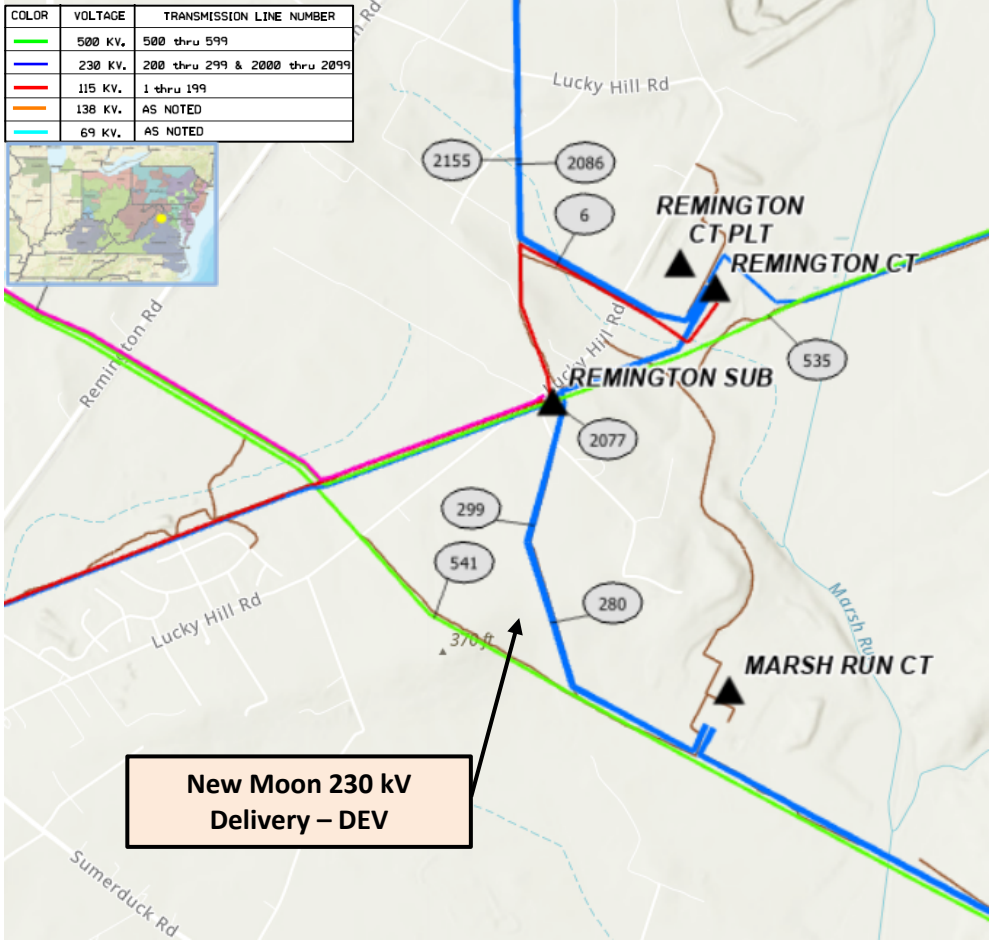
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request for a new substation (New Moon) to serve a data center complex in Fauquier County with a total load in excess of 100 MW.

Requested in-service date is 05/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 24.0 MW Winter: 0.0 MW	Summer: 120.0 MW Winter: 72.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

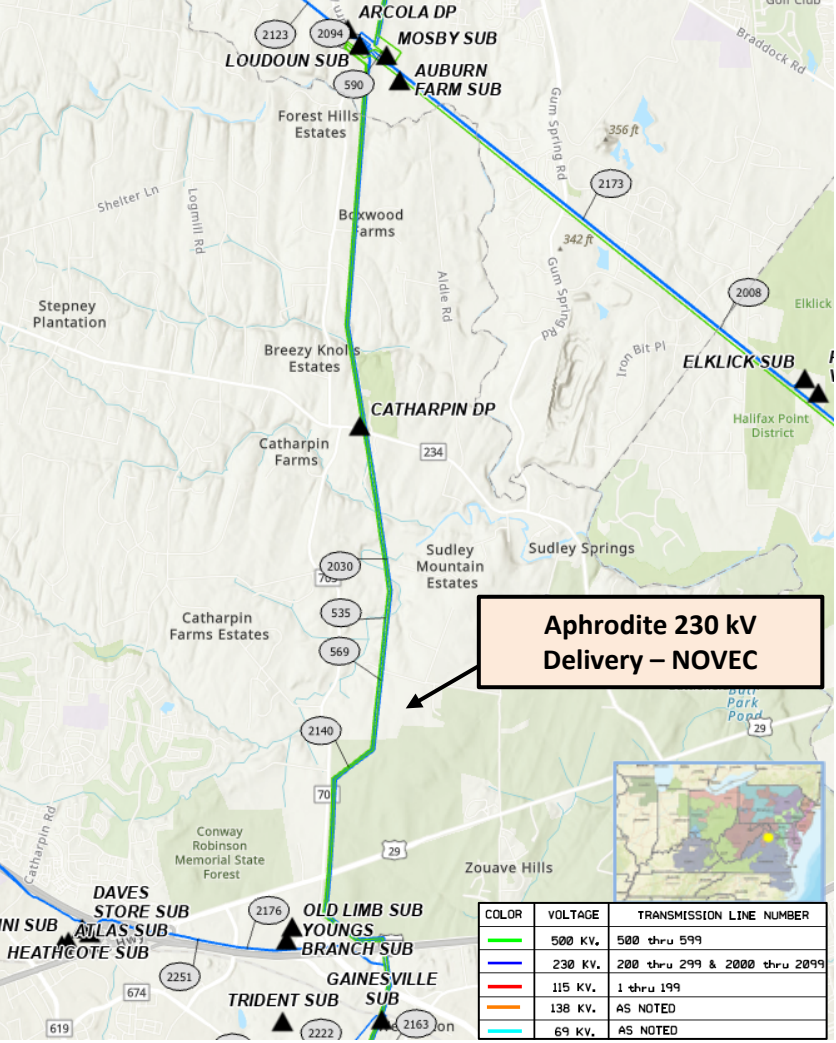
Need Number: DOM-2024-0061
Process Stage: Need Meeting 09/13/2024
Project Driver: Customer Service

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

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

Requested in-service date is 09/01/2027.

Initial In-Service Load	Projected 2029 Load
Summer: 9.9 MW Winter: 1.3 MW	Summer: 149.2 MW Winter: 104.2 MW



Dominion Transmission Zone: Supplemental Customer Load Request

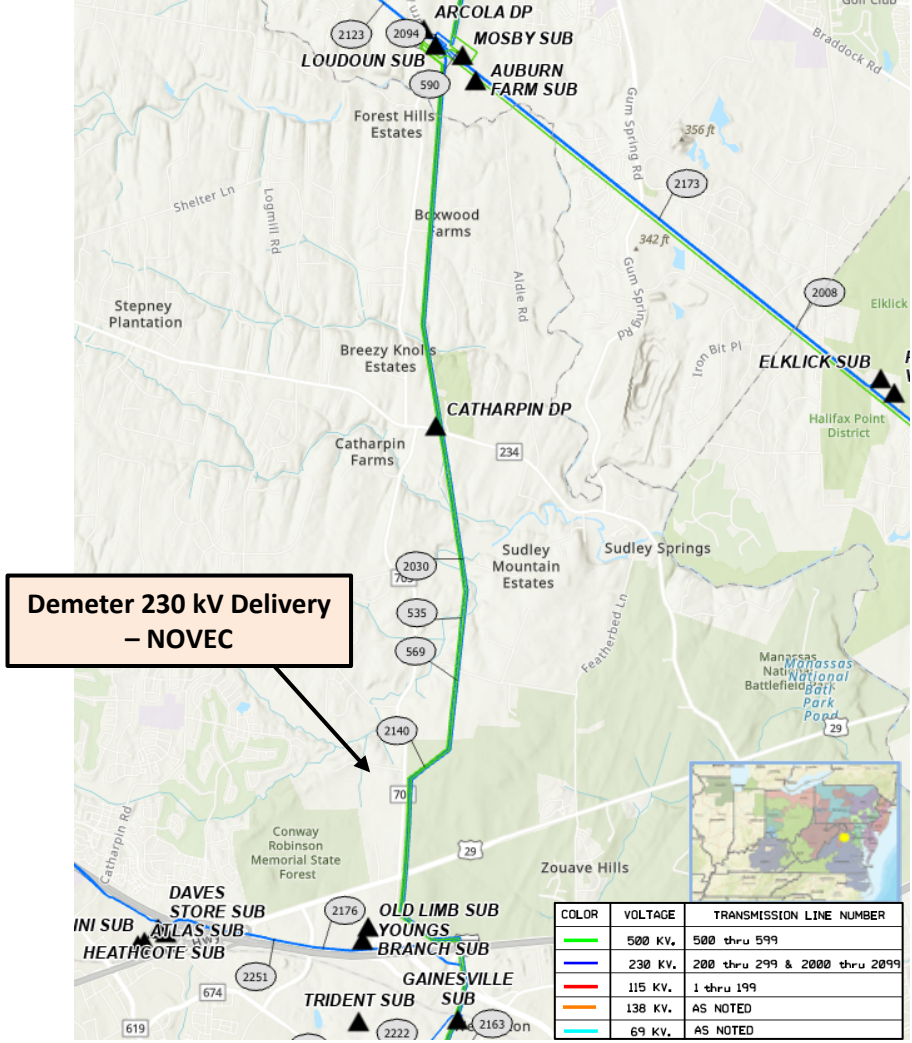
Need Number: DOM-2024-0062
Process Stage: Need Meeting 09/13/2024
Project Driver: Customer Service

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

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

Requested in-service date is 01/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 3.3 MW Winter: 0.0 MW	Summer: 48.3 MW Winter: 16.3 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0063

Process Stage: Need Meeting 09/13/2024

Project Driver: Customer Service

Specific Assumption References:

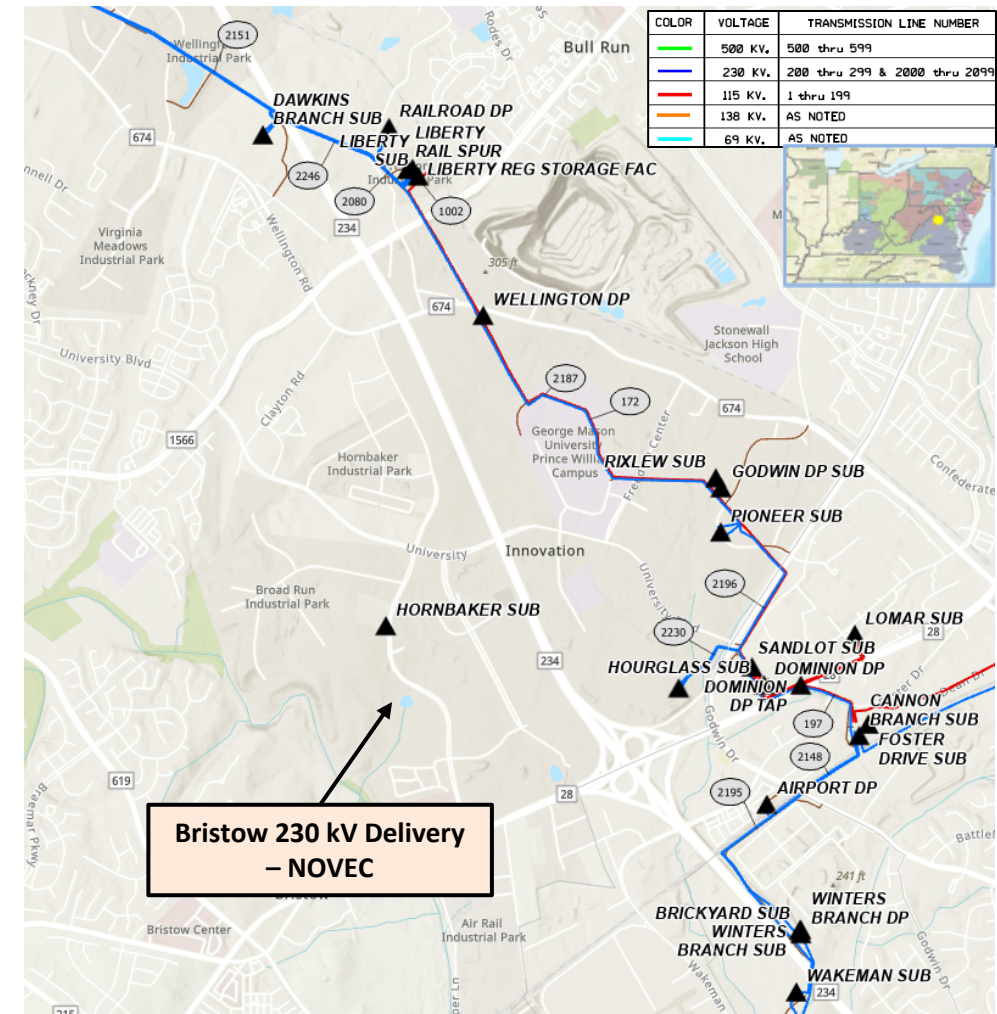
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

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 Customer Load Request

Need Number: DOM-2024-0064

Process Stage: Need Meeting 09/13/2024

Project Driver: Customer Service

Specific Assumption References:

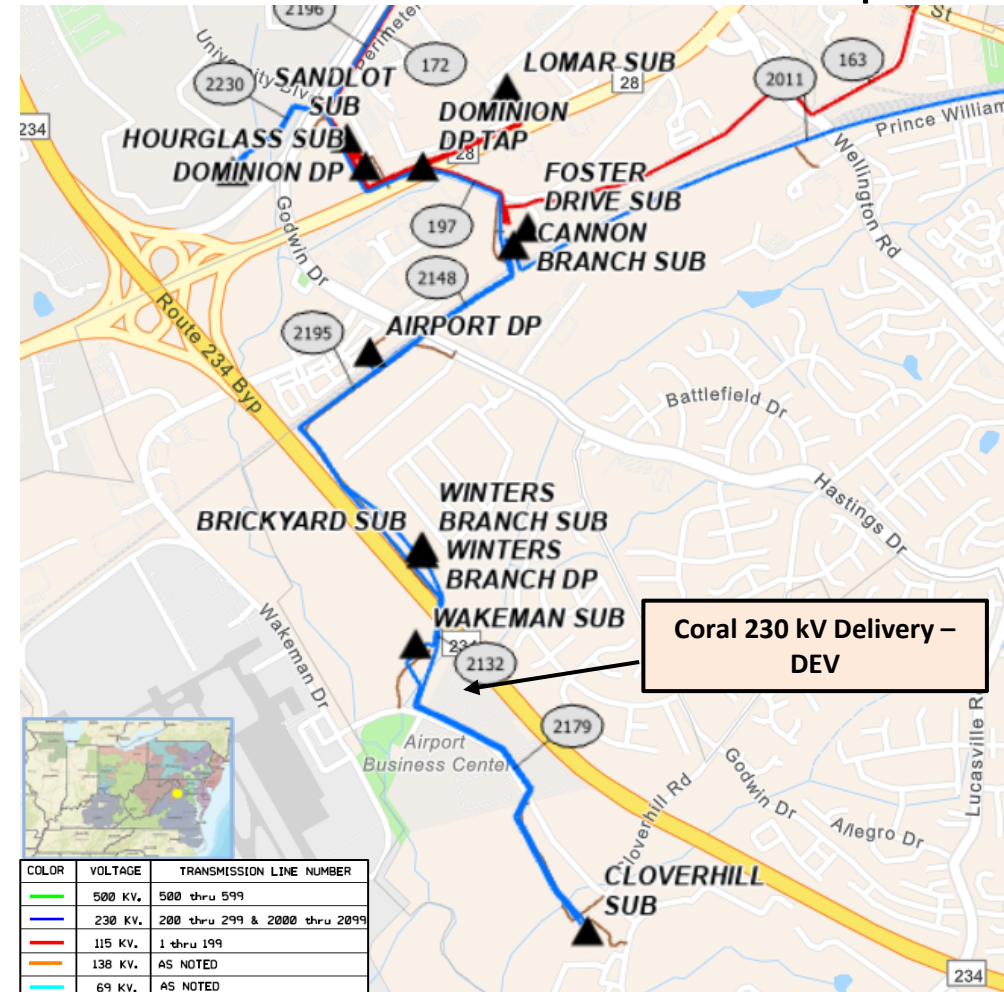
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

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

Requested in-service date is 04/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 149.0 MW Winter: 57.0 MW	Summer: 288.0 MW Winter: 288.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

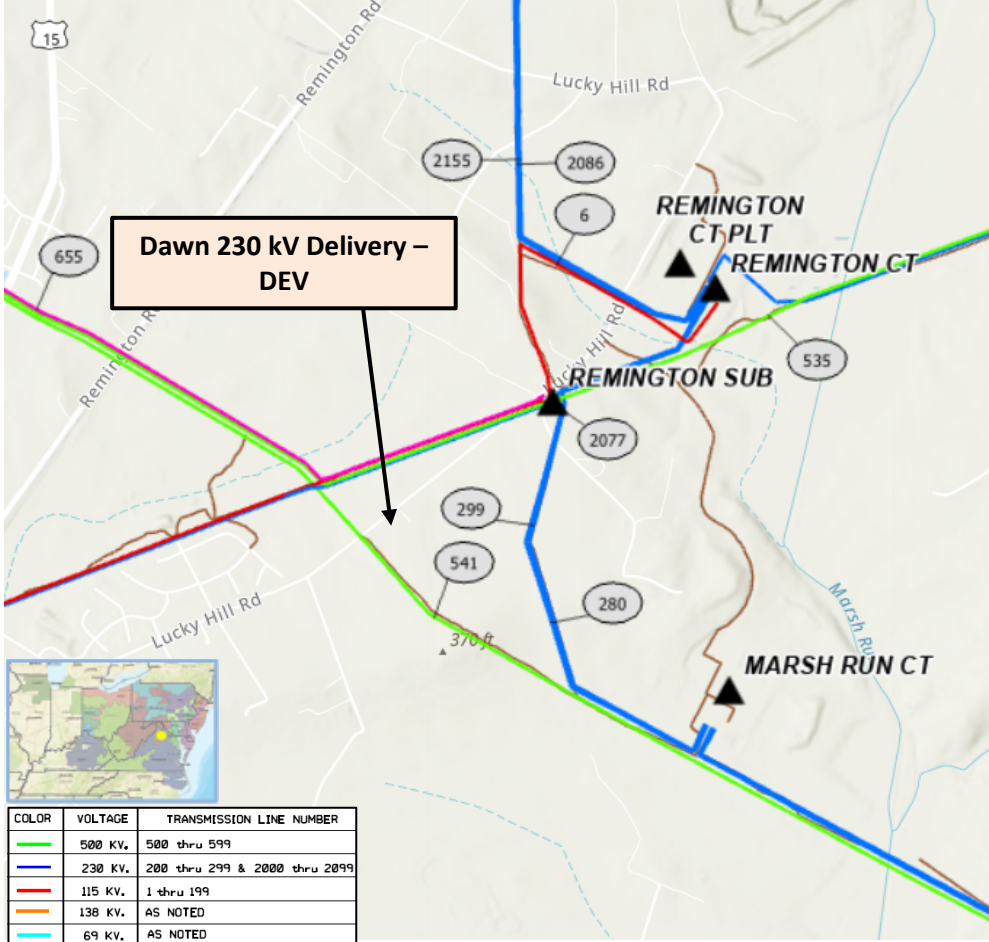
Need Number: DOM-2024-0065
Process Stage: Need Meeting 09/13/2024
Project Driver: Customer Service

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 for a new substation (Dawn) to serve a data center complex in Fauquier County with a total load in excess of 100 MW.

Requested in-service date is 01/01/2028.

Initial In-Service Load	Projected 2029 Load
Summer: 52.0 MW Winter: 6.0 MW	Summer: 148.0 MW Winter: 100.0 MW



Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0015

Process Stage: Solutions Meeting 09/13/2024

Previously Presented: Need Meeting 04/02/2024

Project Driver: Customer Service

Specific Assumption References:

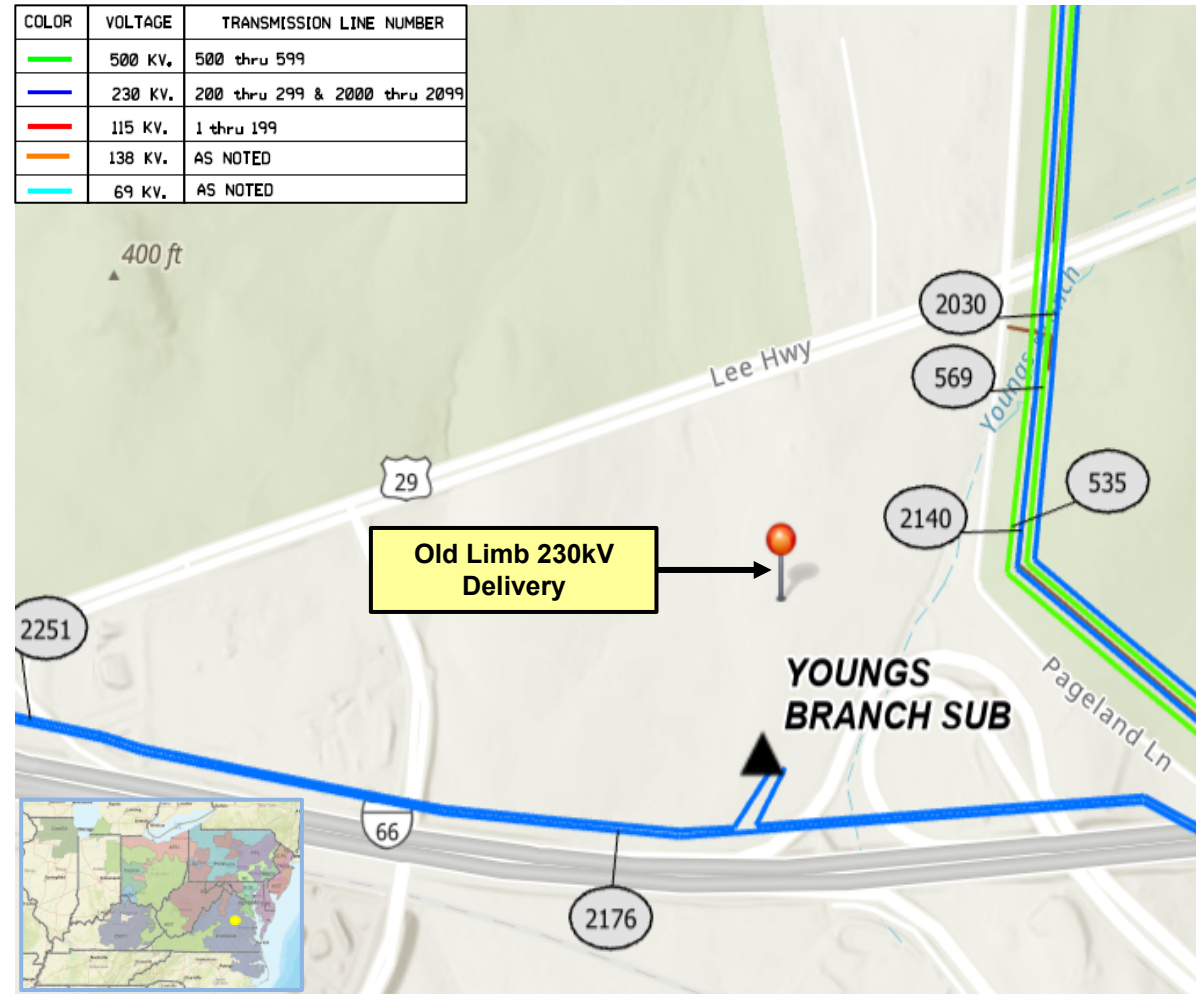
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

DEV 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.

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



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: Solutions Meeting 09/13/2024

Proposed 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

Alternatives Considered:

Cut and extension of Line #2176 (Heathcote - Gainesville) Only

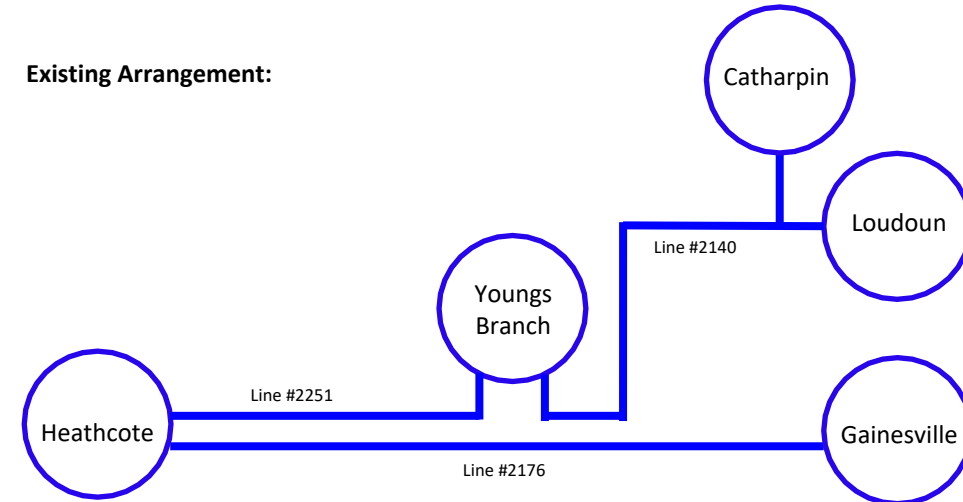
- Existing tower locations and configuration into Youngs Branch require the re-termination of Line #2140 into Old Limb to accommodate the new substation.

Projected In-service Date: 8/01/2027

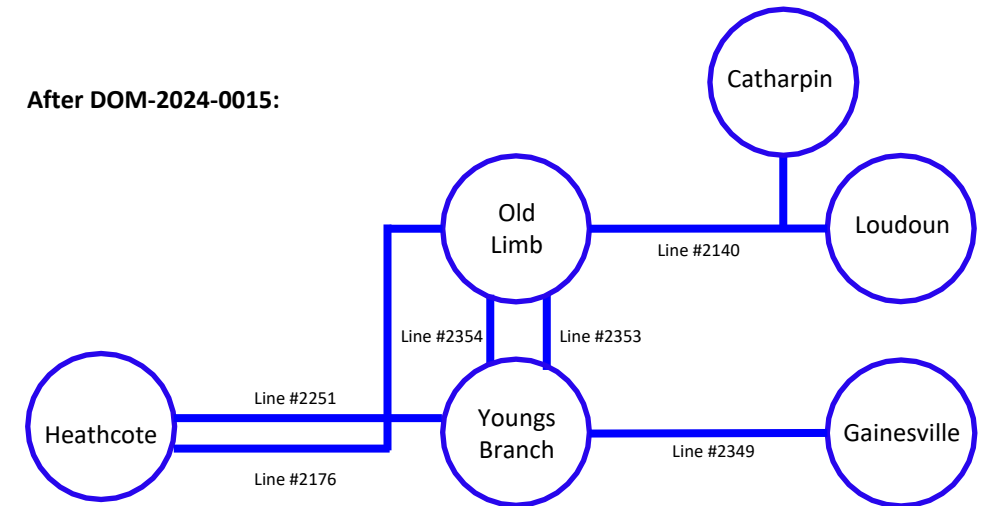
Project Status: Engineering

Model: 2028 RTEP

Existing Arrangement:



After DOM-2024-0015:



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2024-0048

Process Stage: Solutions Meeting 09/13/2024

Previously Presented: Need Meeting 07/09/2024

Project Driver: Customer Service

Specific Assumption References:

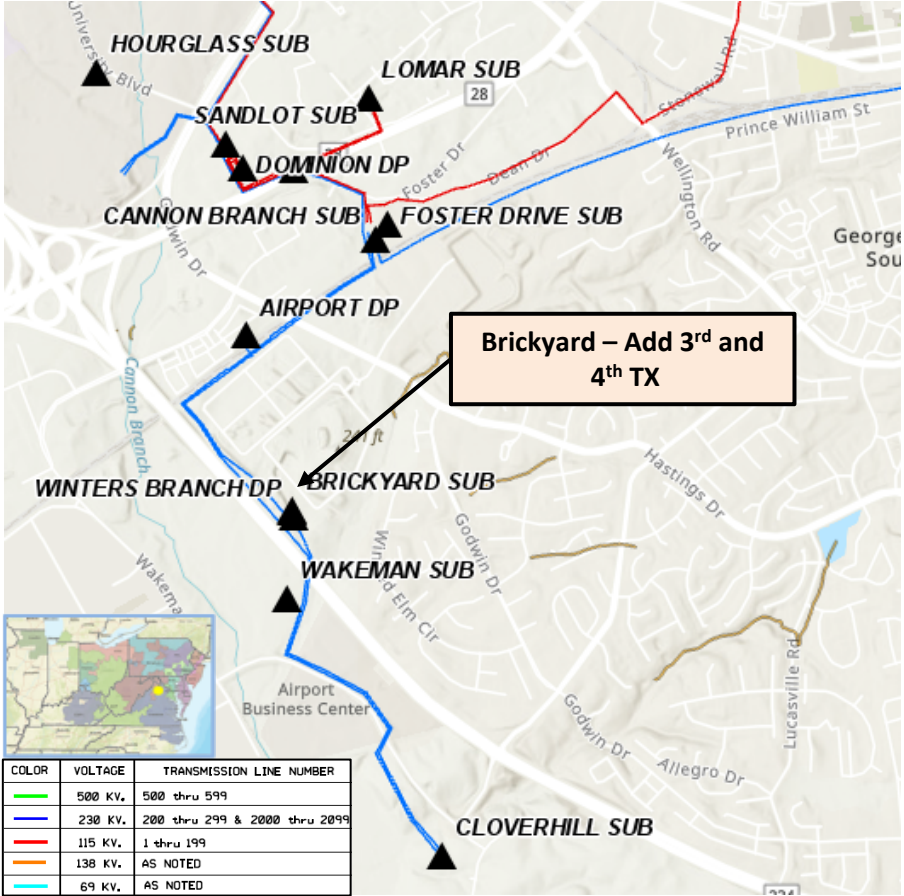
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

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: Solutions Meeting 09/13/2024

Proposed 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

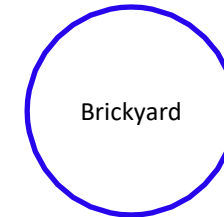
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 12/01/2026

Project Status: Engineering

Model: 2028 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

09/03/2024– V1 – Original version posted to pjm.com