

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
June 7, 2022

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-2022-0017

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

Specific Assumption References:

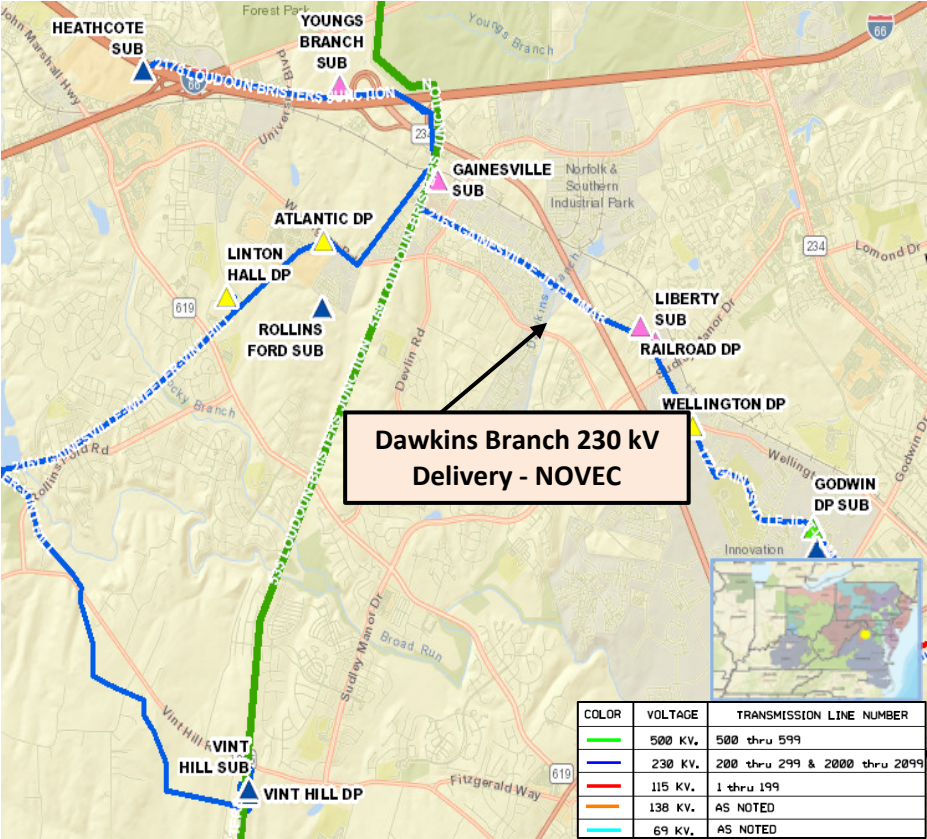
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

NOVEC has submitted a DP Request for a new substation (Dawkins Branch) to serve a data center complex in Prince William County with a total load in excess of 60 MW by 2026.

Requested in-service date is 07/01/2023.

Initial In-Service Load	Projected 2027 Load
Summer: 10.0 MW	Summer: 73.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0019

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

Specific Assumption References:

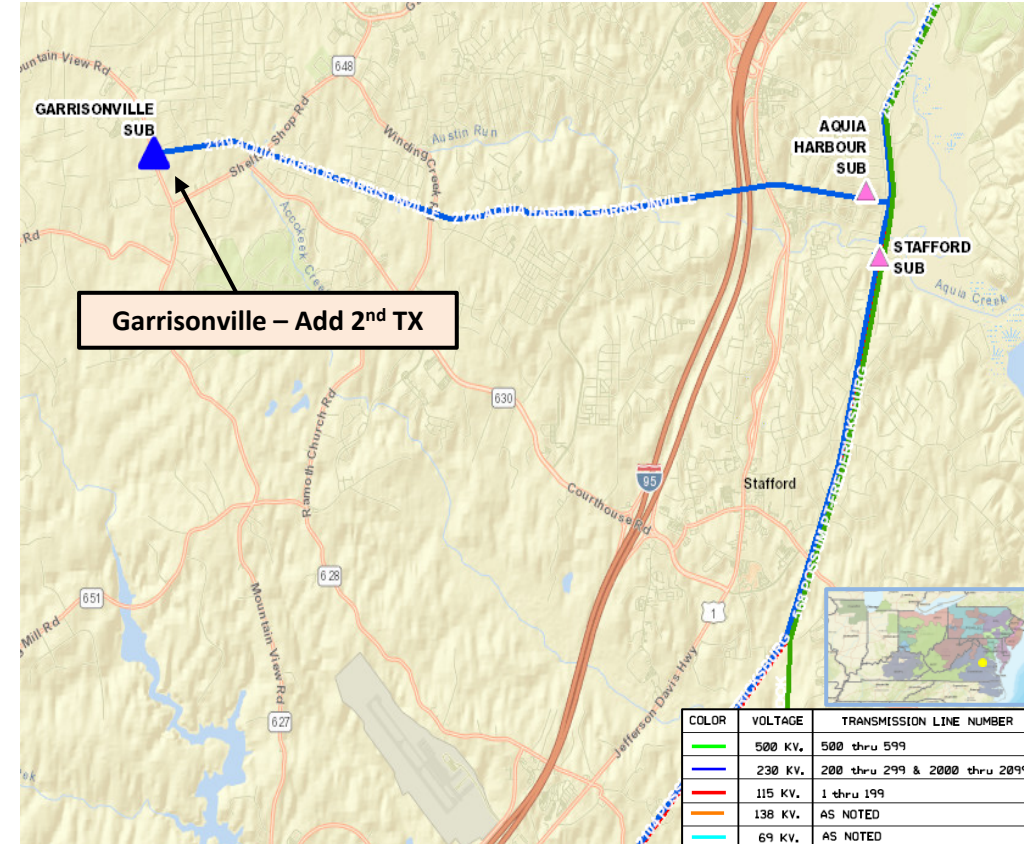
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to add a 2nd distribution transformer at Garrisonville Substation in Stafford County. The new transformer is being driven by significant area load growth.

Requested in-service date is 12/31/2023.

Initial In-Service Load	Projected 2027 Load
Winter: 68.5 MW	Winter: 74.4 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0020

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

Specific Assumption References:

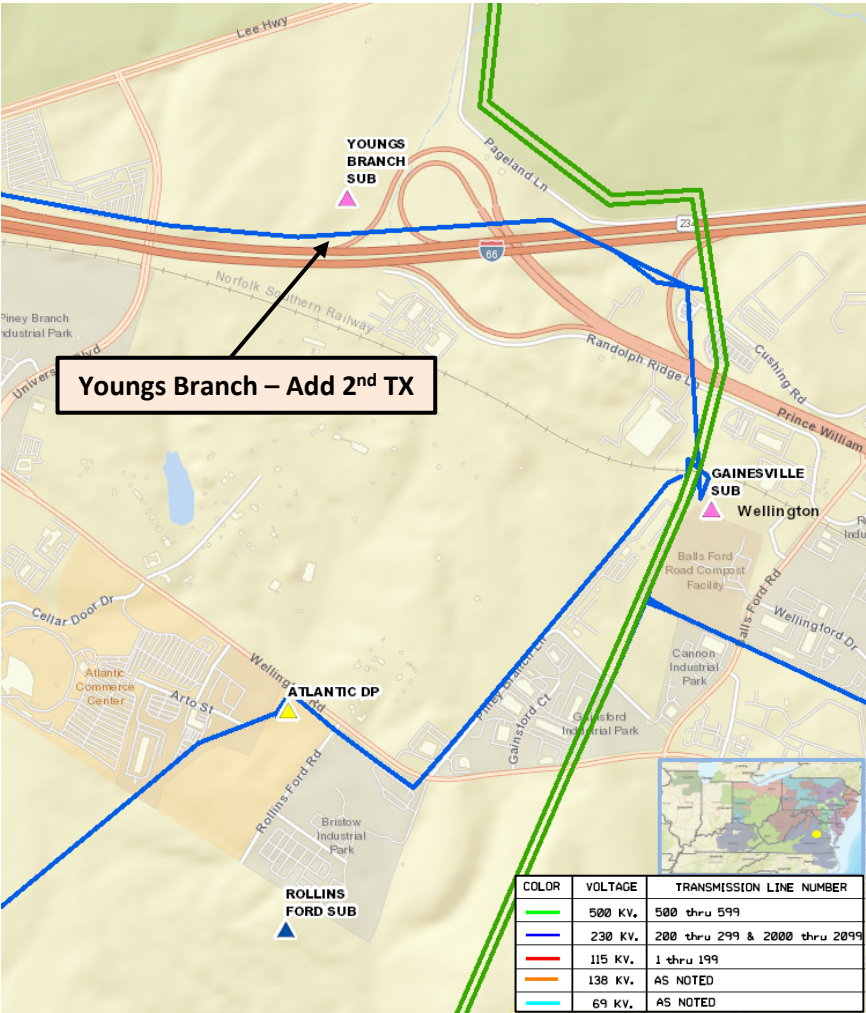
Customer load request will be evaluated per Dominion’s Facility Interconnection Requirements Document and Dominion’s Transmission Planning Criteria.

Problem Statement:

DEV Distribution has submitted a DP Request to add a 2nd distribution transformer at Youngs Branch Substation in Prince William County. The new transformer is being driven by datacenter load growth.

Requested in-service date is 10/15/2023.

Initial In-Service Load	Projected 2027 Load
Winter: 19.8 MW	Winter: 124.5 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0033

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

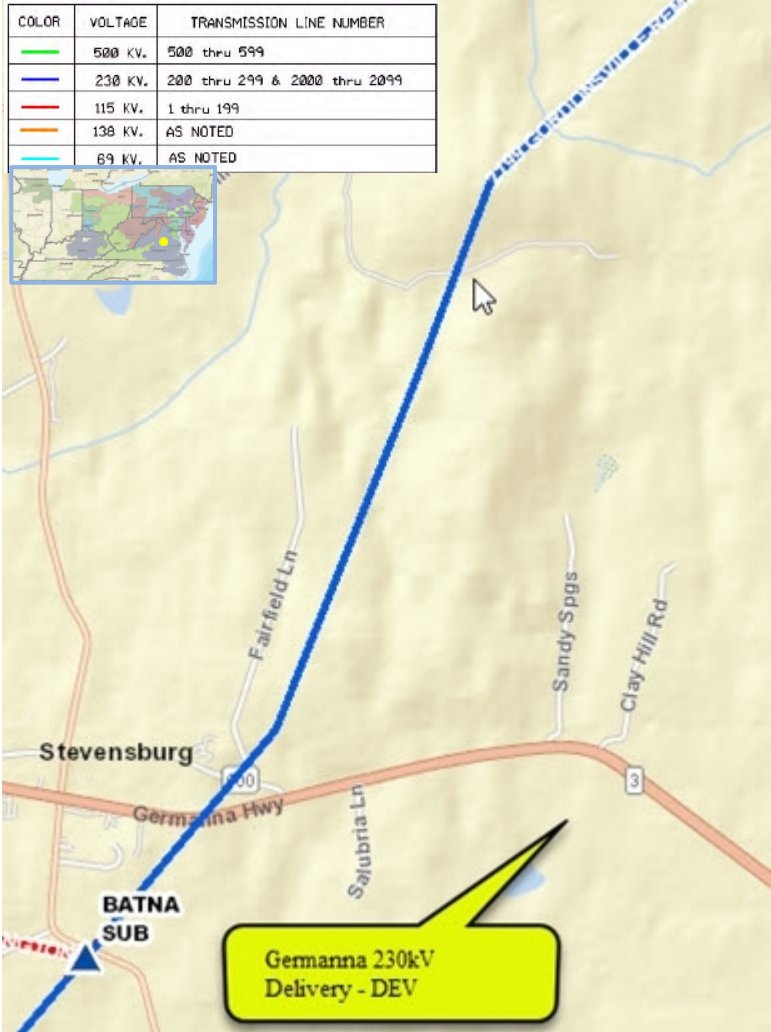
Specific Assumption References:

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 230kV substation (Germanna) to serve a data center complex in Culpeper County with a total projected load of 139 MW. Requested in-service date is 01/01/2025.

Initial In-Service Load	Projected 2027 Load
Summer: 78 MW	Summer: 124.6 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0034

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

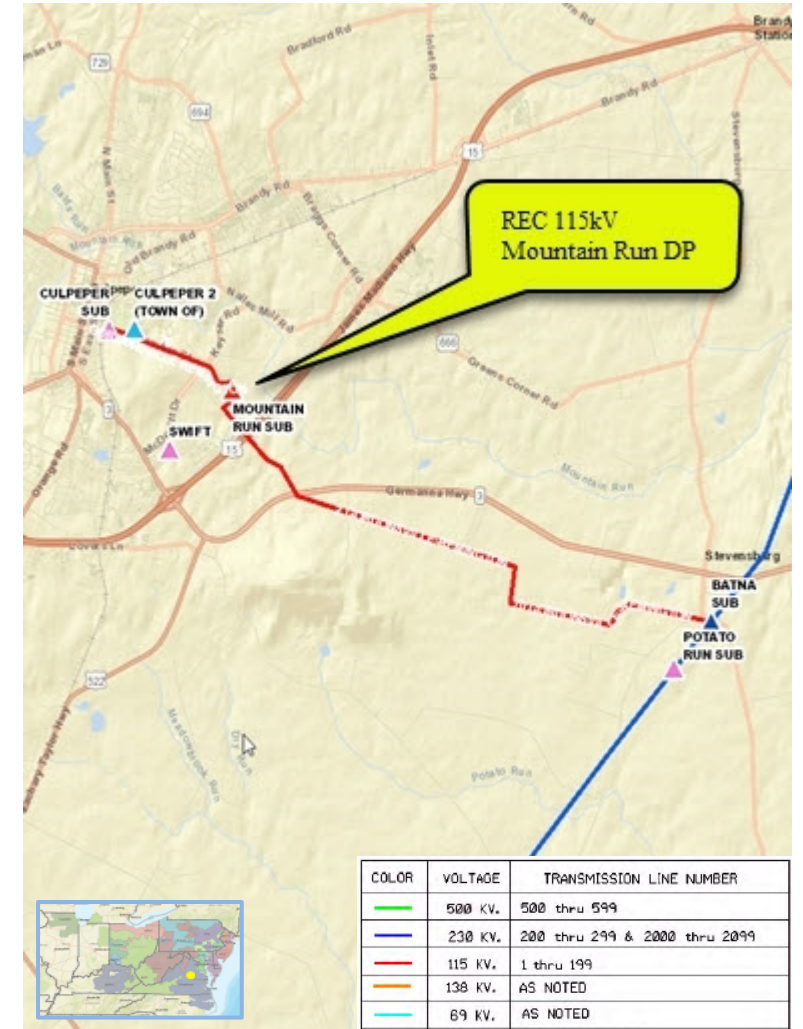
Specific Assumption References:

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 increase capacity at their existing 115kV Mountain Run DP to serve a new data center complex in Culpeper County with a total projected load of 242 MW. The requested in-service date is 06/01/2024.

Initial In-Service Load	Projected 2027 Load
Summer: 39.2 MW	Summer: 111.5 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0001

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

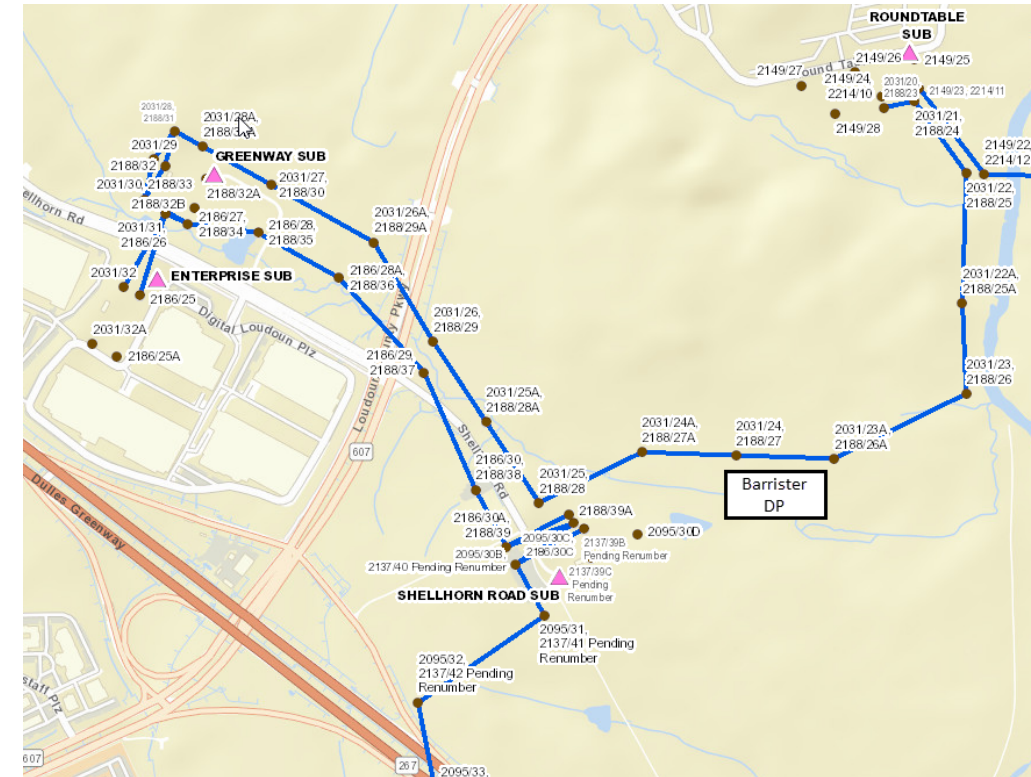
Specific Assumption References:

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 (Barrister) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 8/15/2023.

Initial In-Service Load	Projected 2027 Load
Summer: 2.0 MW	Summer: 147.0 MW



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

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0002

Process Stage: Need Meeting 06/07/2022

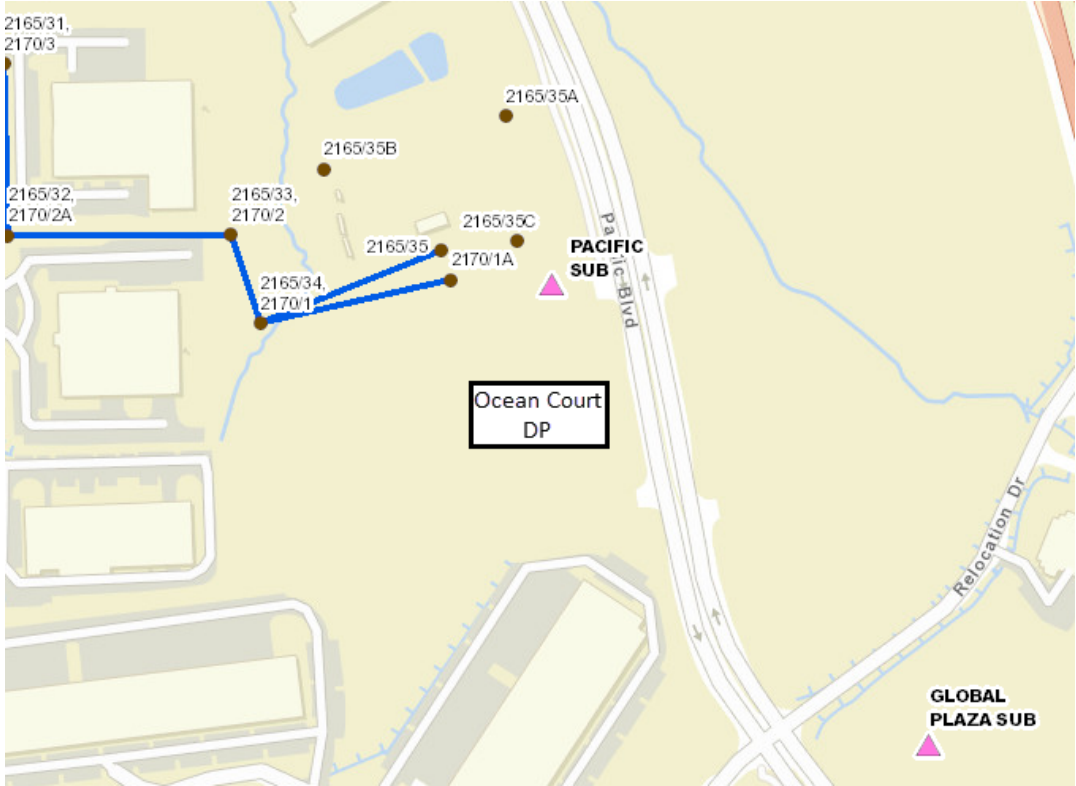
Project Driver: Customer Service

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 (Ocean Court) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 6/30/2024.



Initial In-Service Load	Projected 2027 Load
Summer: 56.0 MW	Summer: 158.0 MW

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

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0003

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

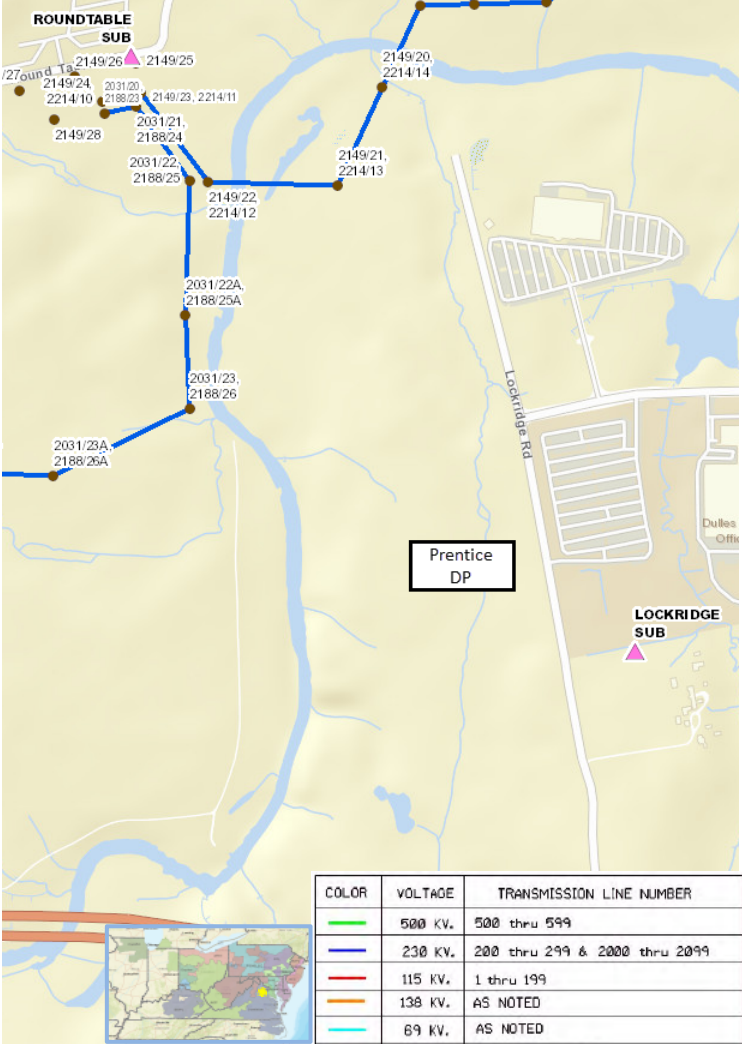
Specific Assumption References:

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 (Prentice) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 6/30/2024.

Initial In-Service Load	Projected 2027 Load
Summer: 5.0 MW	Summer: 88.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0035

Process Stage: Need Meeting 06/07/2022

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 (Northstar) in Loudoun County with a total load in excess of 100MW by 2026. Requested in-service date is 01/01/2025.

Initial In-Service Load	Projected 2027 Load
Summer: 60.0 MW	Summer: 124.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0036

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

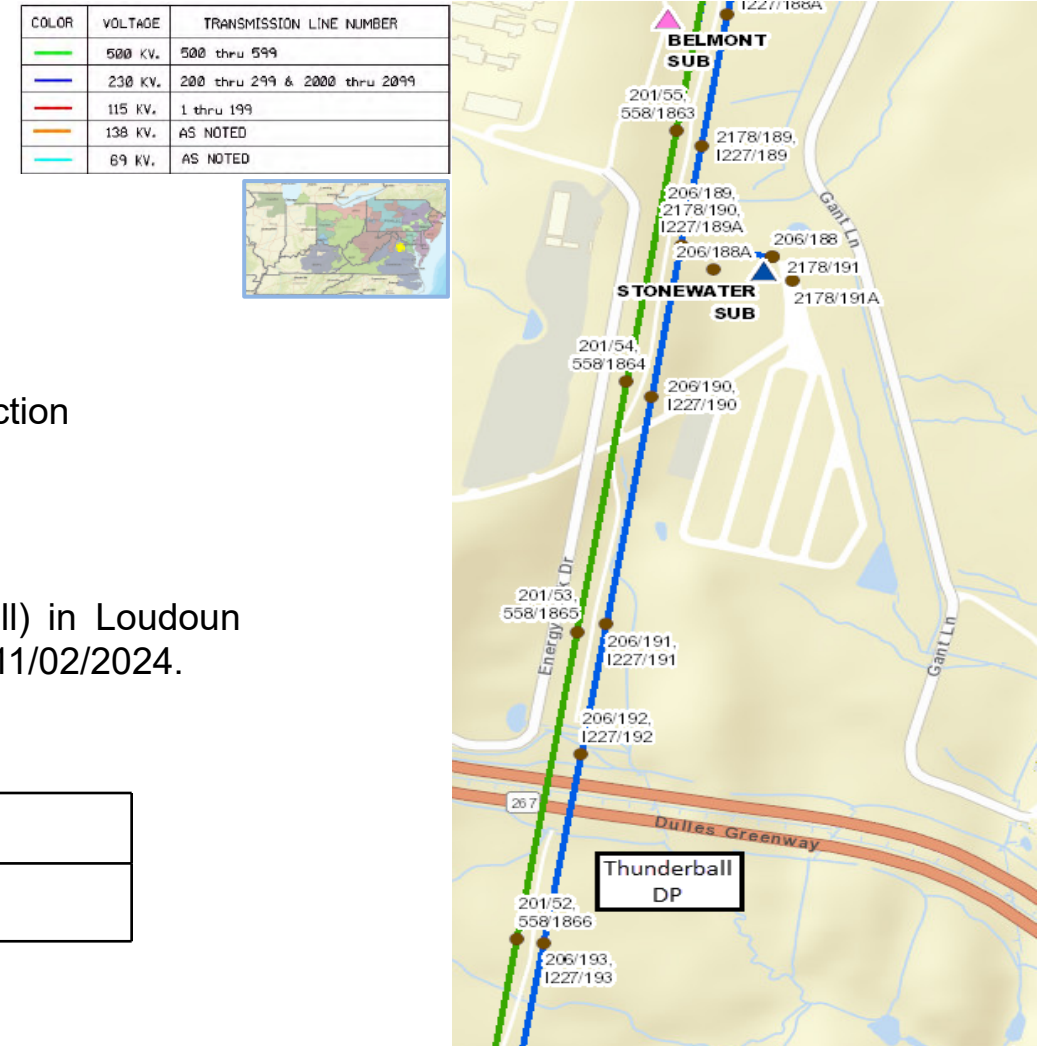
Specific Assumption References:

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 (Thunderball) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 11/02/2024.

Initial In-Service Load	Projected 2027 Load
Summer: 20.0 MW	Summer: 60.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0037

Process Stage: Need Meeting 06/07/2022

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 (Trappe Rock) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 9/02/2024.

Initial In-Service Load	Projected 2027 Load
Summer: 10.0 MW	Summer: 90.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0040

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

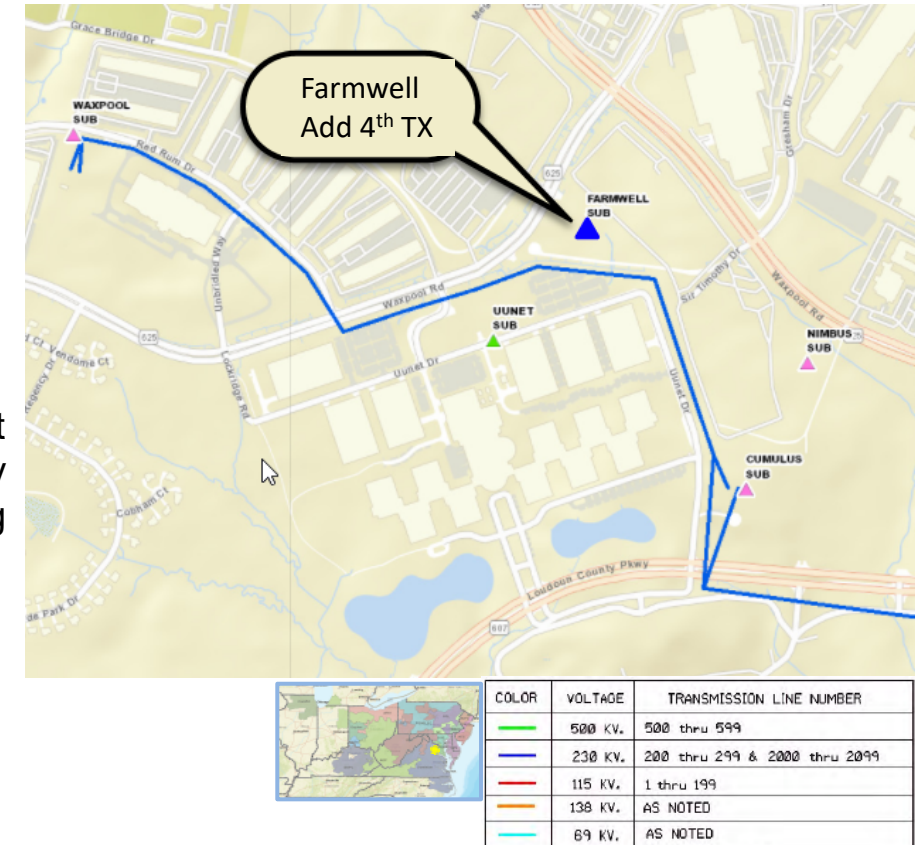
Specific Assumption References:

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 distribution transformer at Farmwell Substation in Loudoun County. The new transformer is being driven by continued load growth in the area and contingency loading for loss of one of the existing transformers. Requested in-service date is 08/01/2023.

Initial In-Service Load	Projected 2027 Load
Summer: 185.0 MW	Summer: 292.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0041

Process Stage: Need Meeting 06/07/2022

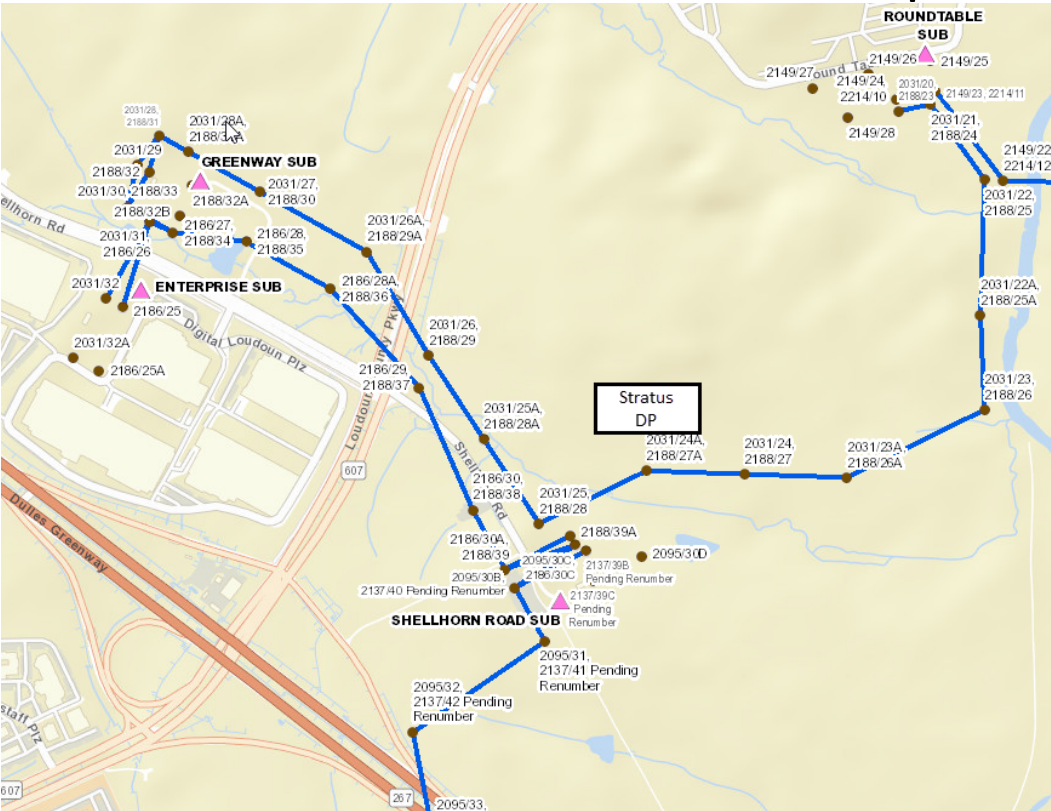
Project Driver: Customer Service

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 (Stratus) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 12/31/2024.



Initial In-Service Load	Projected 2027 Load
Summer: 113.0 MW	Summer: 185.0 MW

COLOR	VOLTAQE	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

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0042

Process Stage: Need Meeting 06/07/2022

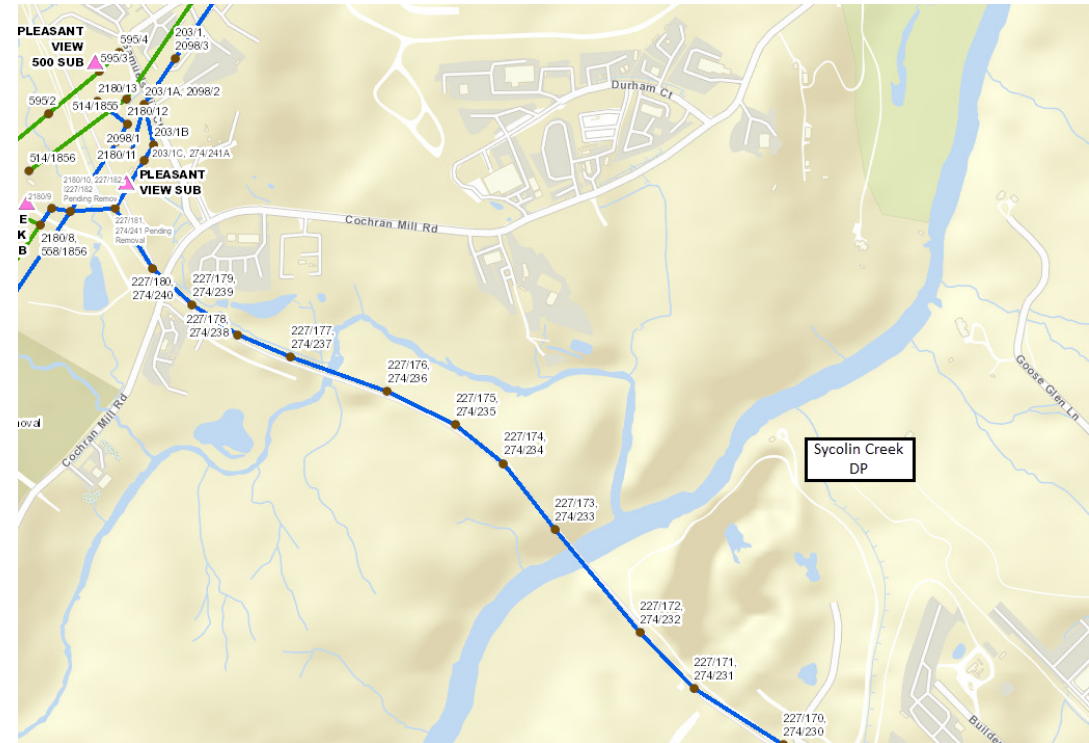
Project Driver: Customer Service

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 (Sycolin Creek) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 10/31/2023.



Initial In-Service Load	Projected 2027 Load
Summer: 12.0 MW	Summer: 76.0 MW

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

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0043

Process Stage: Need Meeting 06/07/2022

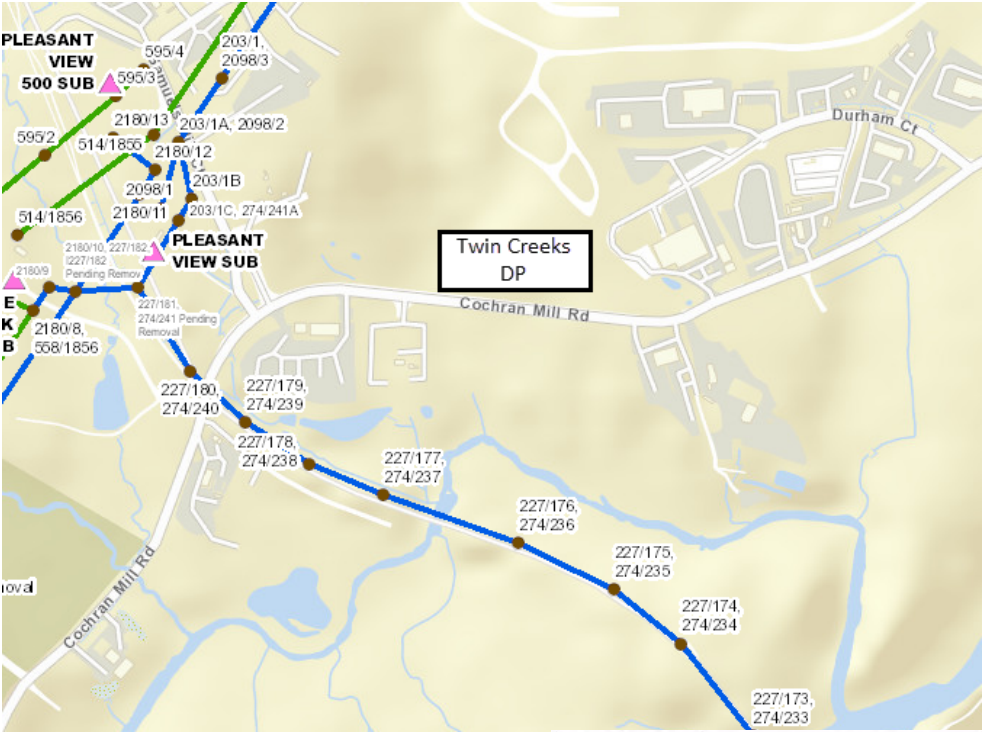
Project Driver: Customer Service

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 (Twin Creeks) in Loudoun County with a total load in excess of 100MW. Requested in-service date is 12/31/2024.



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 2027 Load
Summer: 84.0 MW	Summer: 202.0 MW

Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0044

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

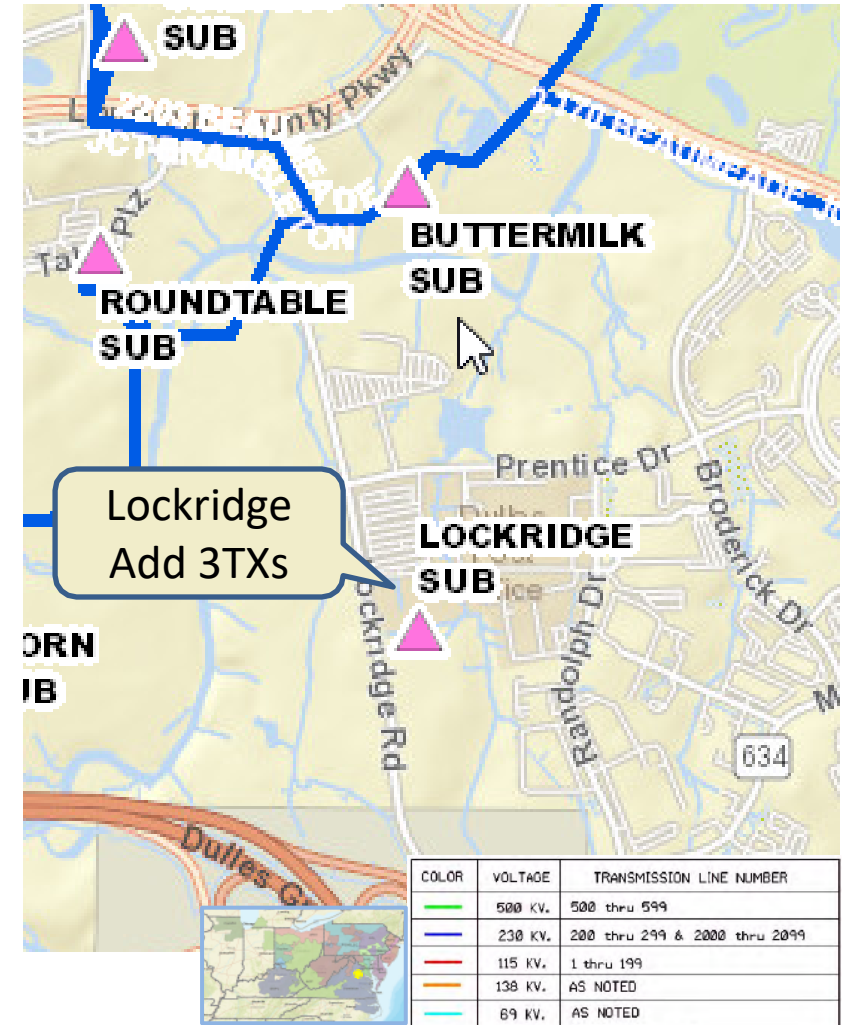
Specific Assumption References:

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 three additional distribution transformers at Lockridge Substation in Loudoun County. The new transformers are being driven by continued load growth in the area and contingency loading for loss of one of the existing transformers. Requested in-service date is 01/01/2023.

Initial In-Service Load	Projected 2027 Load
Summer: 214.0 MW	Summer: 288.0 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2022-0032

Process Stage: Need Meeting 06/07/2022

Project Driver: Customer Service

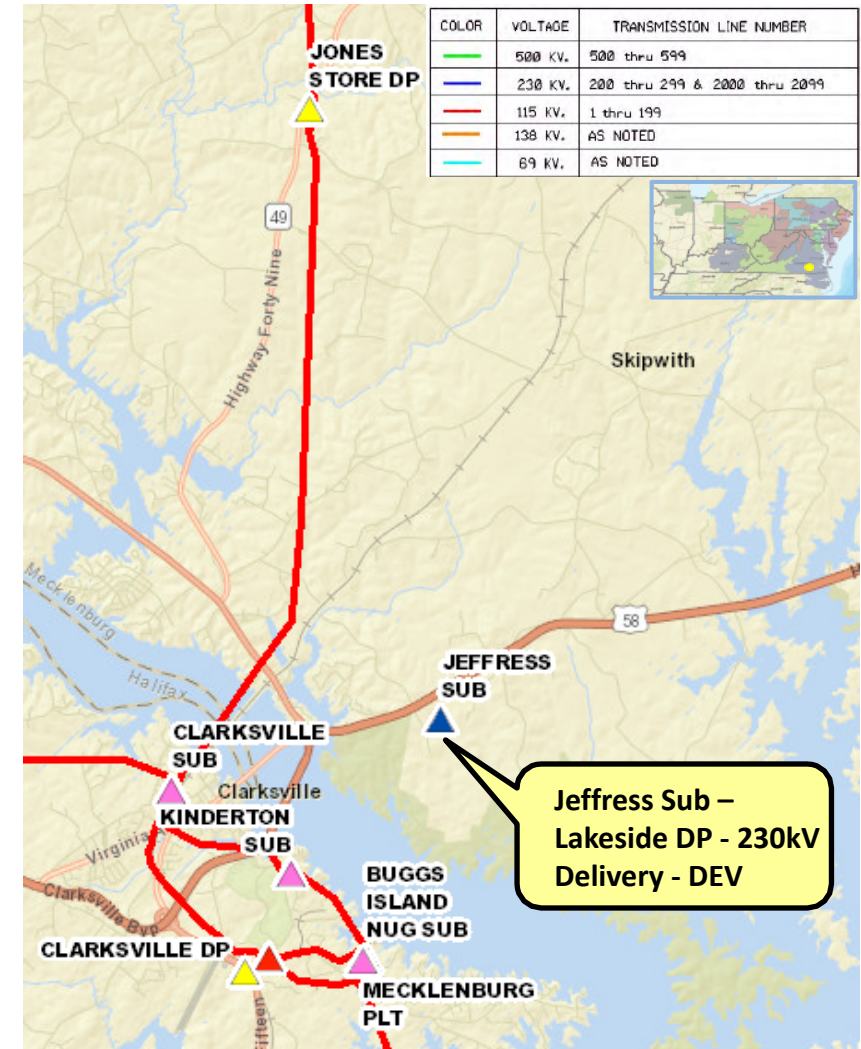
Specific Assumption References:

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 (Lakeside DP) for a new delivery point to serve a data center customer in Clarksville, VA. The total load is in excess of 100 MW. The customer requests service by July 1, 2026.

Initial In-Service Load	Projected 2027 Load
Summer: 70.0 MW	Summer: 123.0 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-2022-0026

Process Stage: Solutions Meeting 06/07/2022

Previously Presented: Need Meeting 05/10/2022

Project Driver: Customer Service

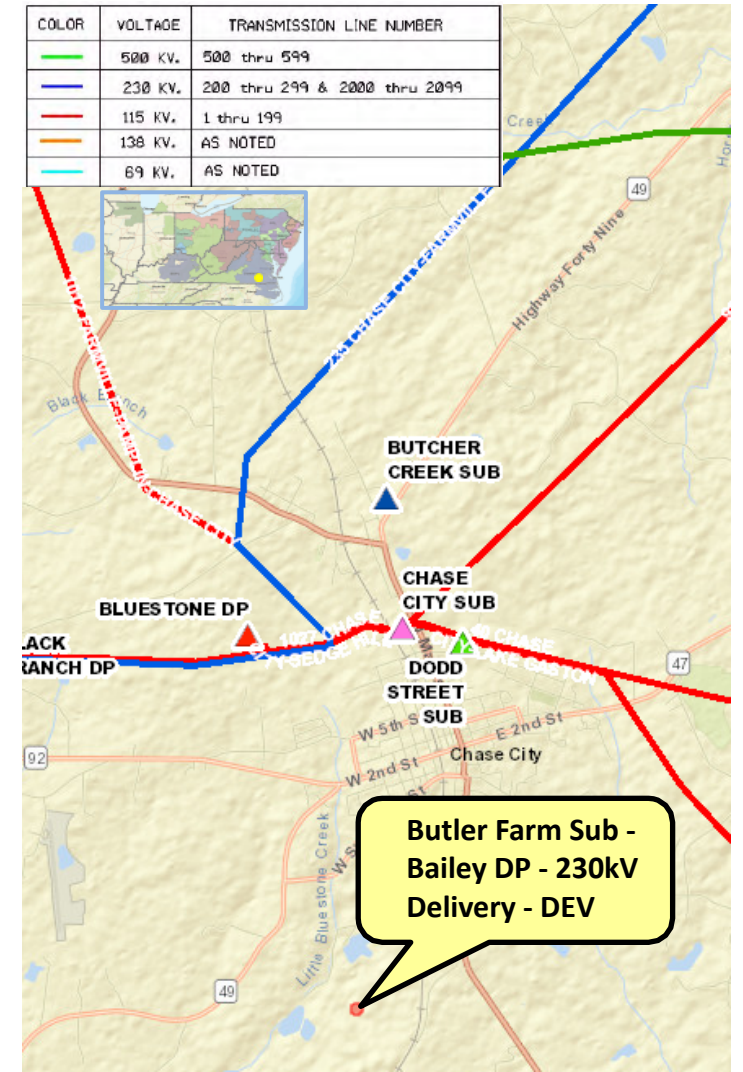
Specific Assumption References:

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 (Bailey DP) for a new delivery point to serve a data center customer in Chase City, VA. The total load is in excess of 100 MW. The customer requests service by July 1, 2025.

Initial In-Service Load	Projected 2027 Load
Summer: 1.0 MW	Summer: 74.8 MW



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

Need Number: DOM-2022-0026

Process Stage: Solutions Meeting 06/07/2022

Proposed Solution:

- Obtain land and build a new 500/230kV Finneywood switching station at the intersection of Line #556 (Clover-Rawlings) and Line #235 (Cloud – Farmville).
- Cut and terminate Line #556 into Finneywood 500/230kV switching station. Cut and terminate Line #235 into Finneywood 500/230kV switching station. In the new Finneywood switching station, install two 840 MVA 500/230kV transformers, a 230kV breaker and half bus with 12 breakers and a 500kV ring bus with 6 breakers.
- Construct Butler Farm 230kV substation with four 230kV breaker ring bus to terminate two 230kV lines. Construct one new 230kV transmission line for approximately 20 miles from Clover Sub to Butler Farm Substation. Construct one new 230kV transmission line for approximately 10 miles from Finneywood Sub to Butler Farm Substation.
- New right-of-way will be needed for both transmission lines. New conductor to have a minimum summer normal rating of 1573 MVA.

Estimated Project Cost: \$180.0 M (Total)

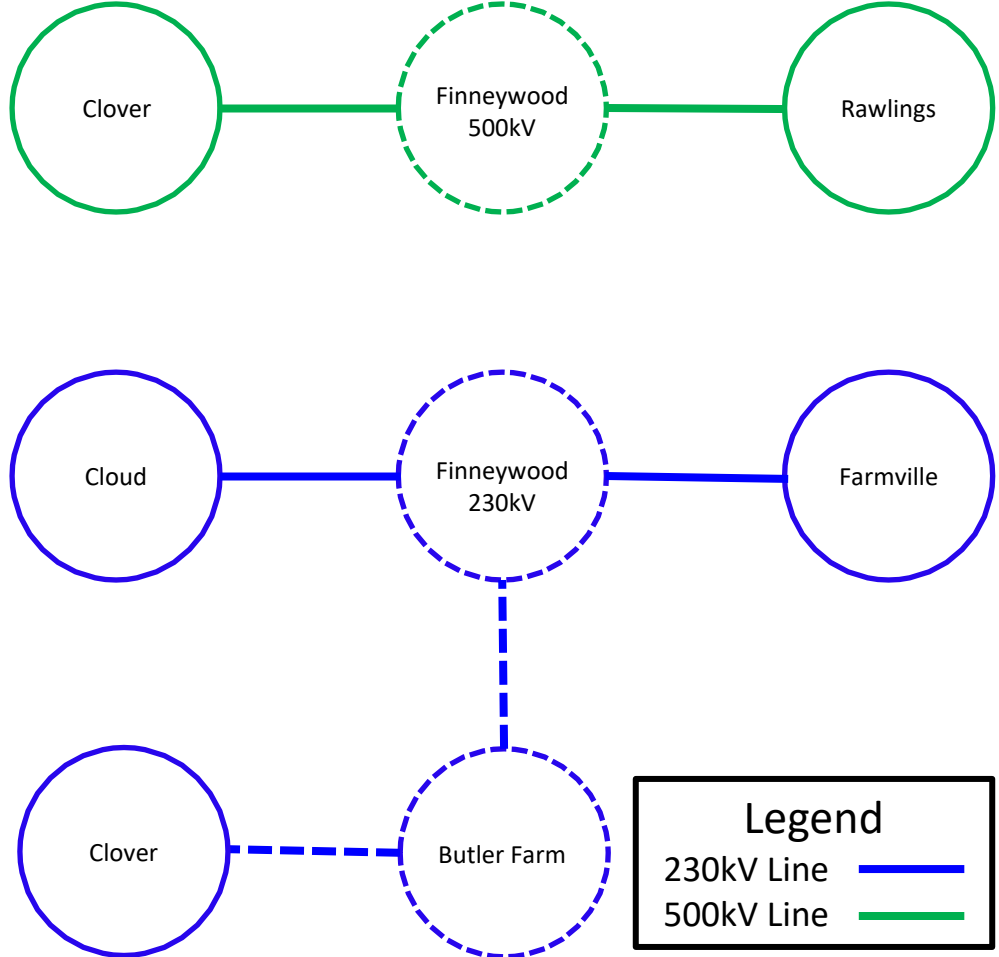
Transmission Line	\$60M
500kV Substation	\$100M
230kV Substation	\$20M

Alternatives Considered:

No feasible alternatives

Projected In-service Date: 07/01/2025

Project Status: Engineering



Appendix

High level M-3 Meeting Schedule

Assumptions	Activity	Timing
	Posting of TO Assumptions Meeting information	20 days before Assumptions Meeting
	Stakeholder comments	10 days after Assumptions Meeting
Needs	Activity	Timing
	TOs and Stakeholders Post Needs Meeting slides	10 days before Needs Meeting
	Stakeholder comments	10 days after Needs Meeting
Solutions	Activity	Timing
	TOs and Stakeholders Post Solutions Meeting slides	10 days before Solutions Meeting
	Stakeholder comments	10 days after Solutions Meeting
Submission of Supplemental Projects & Local Plan	Activity	Timing
	Do No Harm (DNH) analysis for selected solution	Prior to posting selected solution
	Post selected solution(s)	Following completion of DNH analysis
	Stakeholder comments	10 days prior to Local Plan Submission for integration into RTEP
	Local Plan submitted to PJM for integration into RTEP	Following review and consideration of comments received after posting of selected solutions

Revision History

05/27/2022 – V1 – Original version posted to pjm.com

06/07/2022 – V2 – Moved slide #8 Lakeside DP to slide #19.