

Dominion Supplemental Projects

Transmission Expansion Advisory
Committee
May 12, 2020

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-2020-0012

Process Stage: Need Meeting 05/12/2020

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 DP Request to add a 3rd, 112 MVA distribution transformer at Waxpool Substation in Loudoun County. The new transformer is being driven by continued load growth in the area. Requested in-service date is 10/01/2021.

Initial In-Service Load	Projected 2025 Load
Summer: 185.5 MW	Summer: 217.5 MW



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2020-0013

Process Stage: Need Meeting 05/12/2020

Project Driver: Customer Service

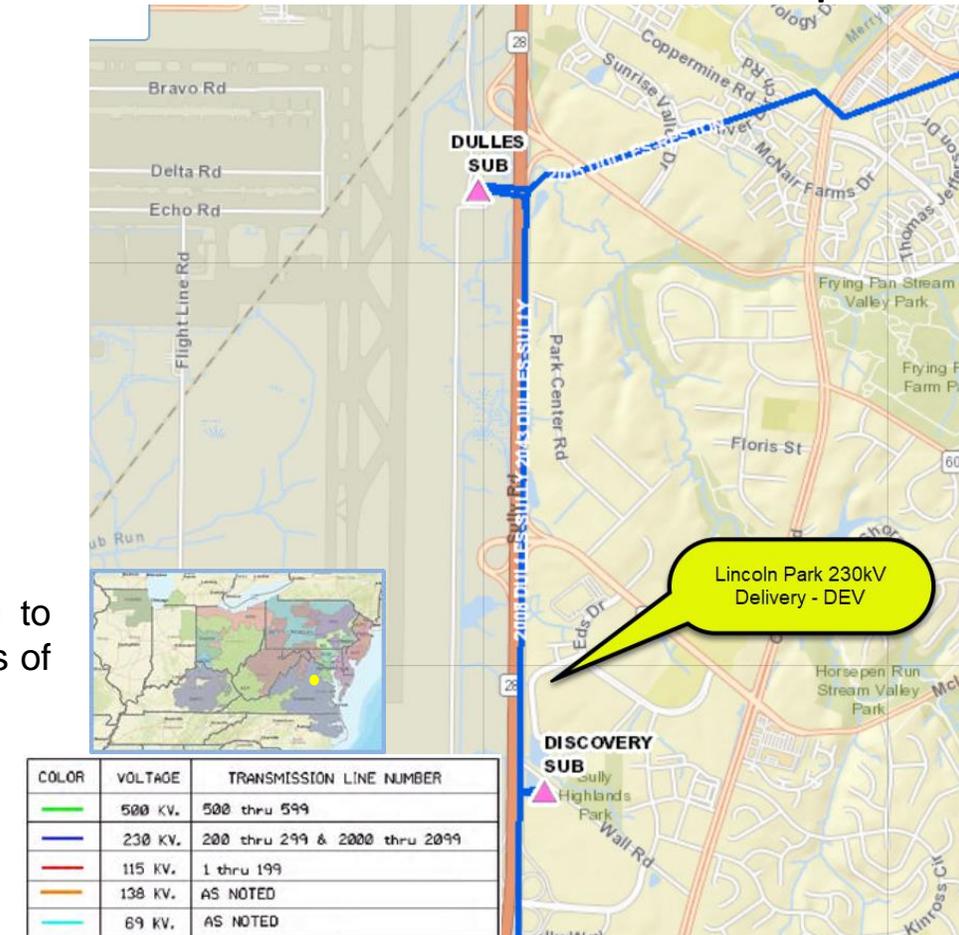
Specific Assumption References:

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 DP Request for a new substation (Lincoln Park) to accommodate a new datacenter campus in Loudoun County with a total load in excess of 100MW. Requested in-service date is 9/01/2023.

Initial In-Service Load	Projected 2025 Load
Summer: 16.0 MW	Summer: 52.0 MW



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

Need Number: DOM-2020-0008 (Canceled)

Process Stage: Need Meeting 04/14/2020

Project Driver: Equipment Material Condition, Performance and Risk

Specific Assumption References:

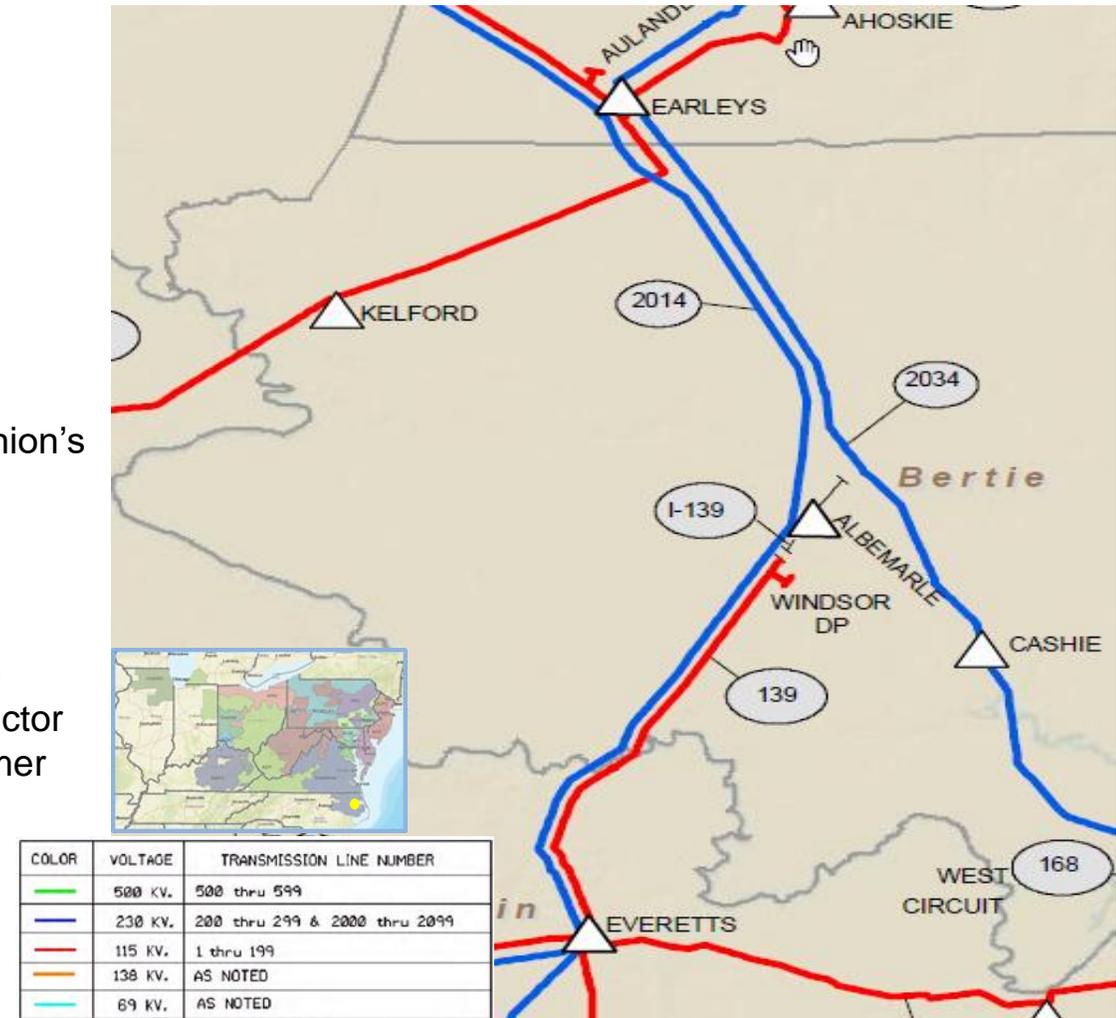
See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2019

Problem Statement:

Dominion Energy has identified a need to replace approximately 160 ft of conductor at Everetts Substation on Line#2014 Earleys – Everetts to improve system performance and increase line capacity. This short segment of conductor is imposing a limit on the remaining sections of the line (existing normal summer line rating is 582 MVA).

Cancellation Statement:

Re-assessment of line/system does not show any concern.



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-2020-0003

Process Stage: Solutions Meeting 05/12/2020

Previously Presented: Need Meeting 04/14/2020

Project Driver: Customer Service

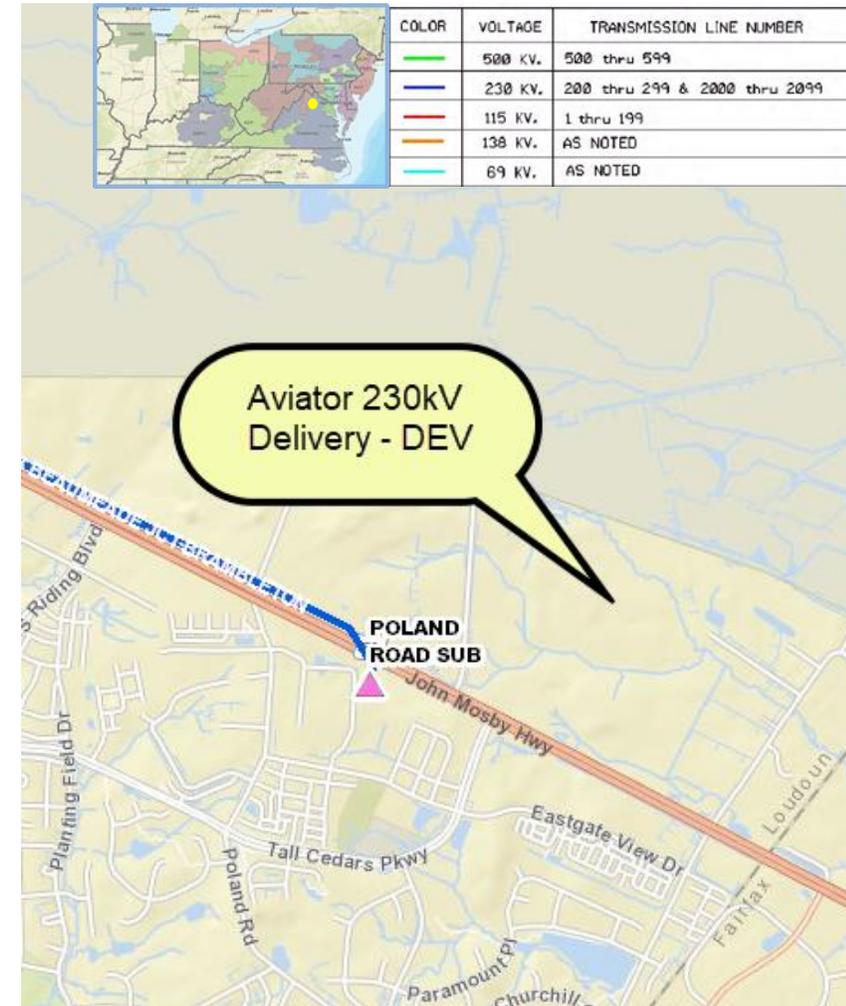
Specific Assumption References:

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 DP Request for a new substation (Aviator) to accommodate a new datacenter campus in Loudoun County with a total load in excess of 100MW. Requested in-service date is 6/01/2023.

Initial In-Service Load	Projected 2025 Load
Summer: 27.0 MW	Summer: 116.0 MW



Dominion Transmission Zone: Supplemental Aviator 230kV Delivery - DEV

Need Number: DOM-2020-0003

Process Stage: Solutions Meeting 05/12/2020

Proposed Solution:

Interconnect the new substation by cutting and extending Line #2137 (Poland-Shellhorn) approximately 0.5 miles to the proposed Aviator Substation. Terminate both ends into a four-breaker ring arrangement to create an Aviator-Poland line and an Aviator-Shellhorn line. Dominion’s standard high ampacity conductor (bundled 768 ACSS; normal summer rating = 1572 MVA) will be used for the line extension.

Estimated Project Cost: \$22.0 M

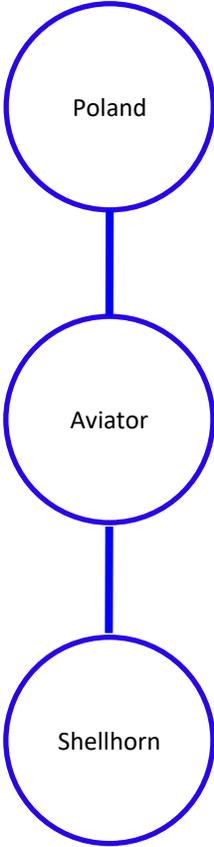
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 06/01/2023

Project Status: Engineering

Model: 2025 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2020-0004

Process Stage: Solutions Meeting 05/12/2020

Previously Presented: Need Meeting 04/14/2020

Project Driver: Customer Service

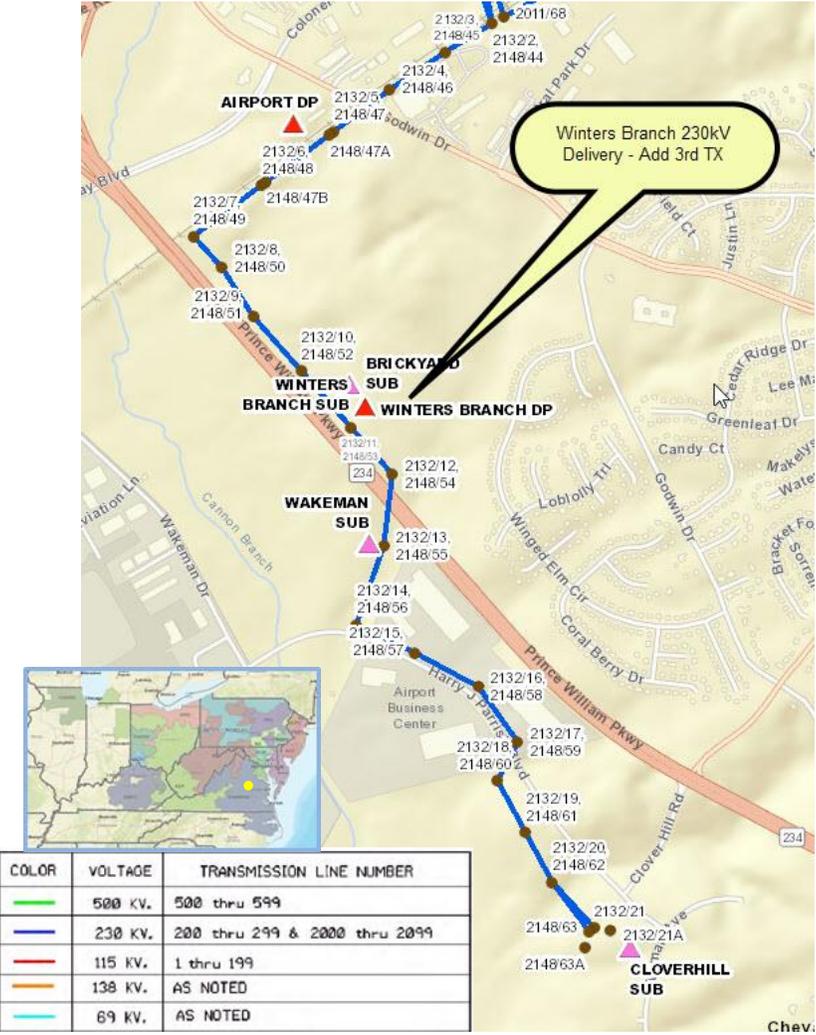
Specific Assumption References:

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 DP Request to add a 3rd, 84 MVA distribution transformer at Winters Branch Substation in Prince William County. The new transformer is being driven by continued datacenter load growth and alternate feed contract reservations. Requested in-service date is 01/01/2022.

Initial In-Service Load	Projected 2025 Load
Summer: 112.0 MW	Summer: 216.5 MW



Dominion Transmission Zone: Supplemental Winters Branch 230kV Delivery- Add 3rd TX - DEV

Need Number: DOM-2020-0004

Process Stage: Solutions Meeting 05/12/2020

Proposed Solution:

Install a 1200 Amp, 50kAIC circuit switcher and associated equipment (bus, switches, relaying, etc.) to feed the new transformer at Winters Branch.

Estimated Project Cost: \$0.25 M

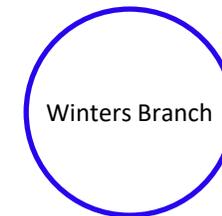
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 01/01/2022

Project Status: Engineering

Model: 2025 RTEP



Dominion Transmission Zone: Supplemental Customer Load Request

Need Number: DOM-2020-0005

Process Stage: Solutions Meeting 05/12/2020

Previously Presented: Need Meeting 04/14/2020

Project Driver: Customer Service

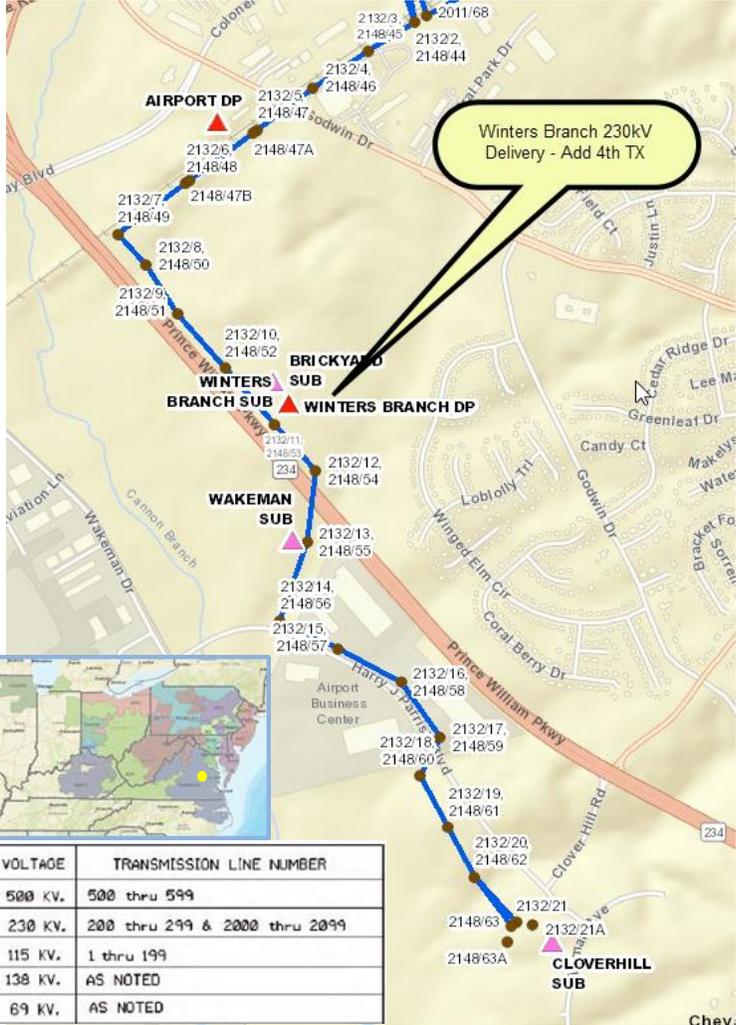
Specific Assumption References:

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 DP Request to add a 4th, 84 MVA distribution transformer at Winters Branch Substation in Prince William 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 03/01/2023.

Initial In-Service Load	Projected 2025 Load
Summer: 179.5 MW	Summer: 216.5 MW



Dominion Transmission Zone: Supplemental Winters Branch 230kV Delivery- Add 4th TX - DEV

Need Number: DOM-2020-0005

Process Stage: Solutions Meeting 05/12/2020

Proposed Solution:

Install a 1200 Amp, 50kAIC circuit switcher and associated equipment (bus, switches, relaying, etc.) to feed the new transformer at Winters Branch.

Estimated Project Cost: \$0.25 M

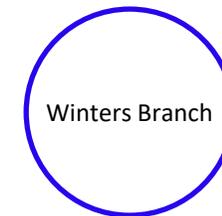
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 03/01/2023

Project Status: Engineering

Model: 2025 RTEP



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

Need Number: DOM-2020-0006

Process Stage: Solutions Meeting 05/12/2020

Previous Presented: Need Meeting 03/10/2020

Project Driver: Performance and Risk

Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2019.

Problem Statement:

North Anna Station 500 kV Breakers 57302 & H602 are live tank breakers with external CTs and continue to have ongoing reliability issues. They were built in 2002.

No internal breaker condition monitoring is available with these type of breakers.



Dominion Transmission Zone: Supplemental Equipment Material Condition, and Performance

Need Number: DOM-2020-0006

Process Stage: Solutions Meeting 05/12/2020

Proposed Solution:

Replace breaker 57302 and H602 with current standard 500 kV Breakers.

No Ratings Change.

Estimated Project Cost: \$3.4 M

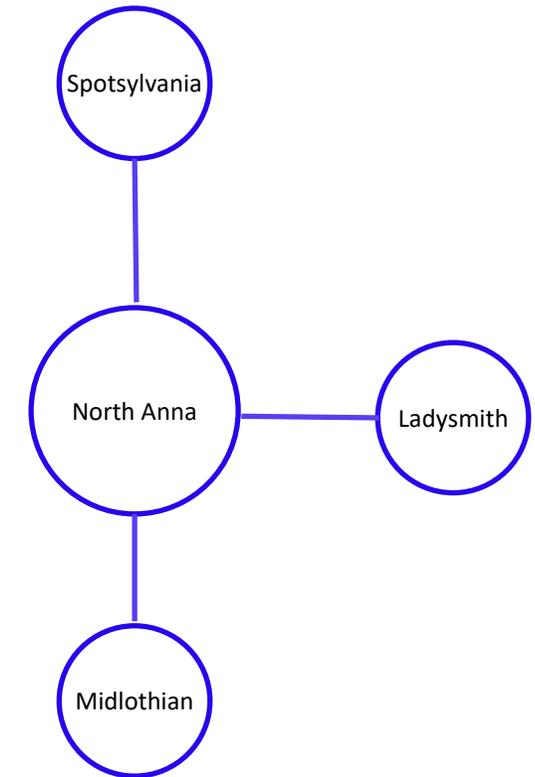
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 11/27/2020

Project Status: Engineering

Model: 2025 RTEP



Dominion Transmission Zone: Supplemental Other Request

Need Number: DOM-2020-0010

Process Stage: Solutions Meeting 5/12/2020

Previously Presented: Need Meeting 04/14/2020

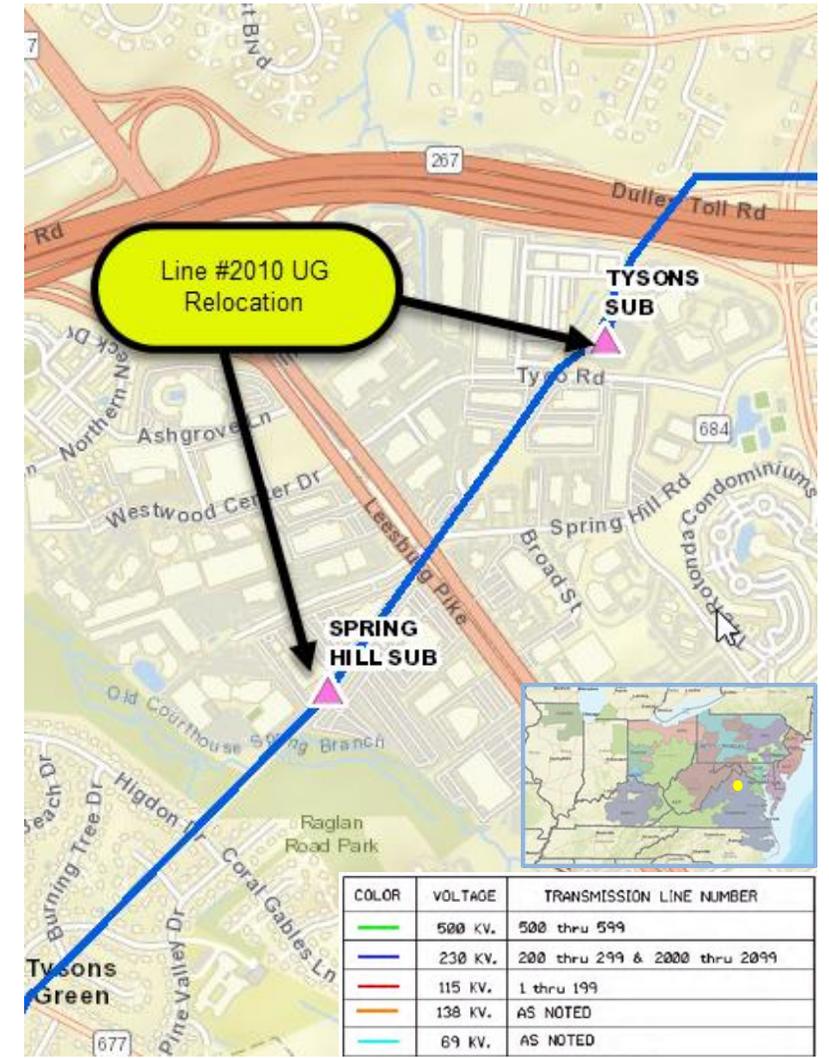
Project Driver: Other – Legislative requirement

Specific Assumption References:

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

Problem Statement:

Section 56-585.1:5 of the Virginia Code, which was enacted as part of the 2018 Grid Transformation and Security Act was amended recently by the General Assembly of Virginia and signed into Law by the Governor on March 4th 2020 to allow for additional projects to qualify for the underground transmission line pilot program authorized therein. Pursuant to this amendment, a Customer and Fairfax County have requested that the Company relocate a portion of Transmission Line #2010 between Spring Hill substation and Tysons Substation underground to enable construction of a planned mixed use development which currently encroaches on the existing overhead transmission line.



Dominion Transmission Zone: Supplemental Line #2010 Underground Relocation

Need Number: DOM-2020-0010

Process Stage: Solutions Meeting 05/12/2020

Proposed Solution:

In accordance with the legislation described, construct one 230kV underground (UG) line from Tysons Substation to a new substation named Springhill Substation to replace the portion of existing OH Line #2010. Install a 230kV, 50-100MVAR Variable Shunt Reactor at Tysons substation.

Estimated Project Cost: \$40. M

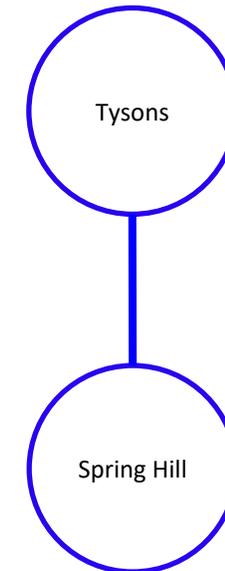
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 12/31/2025

Project Status: Conceptual

Model: 2025 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

5/1/2020 – V1 – Original version posted to pjm.com.