

SRRTEP Committee Southern Dominion Supplemental Projects

August 13, 2021

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-2021-0057

Process Stage: Need Meeting 08/13/2021

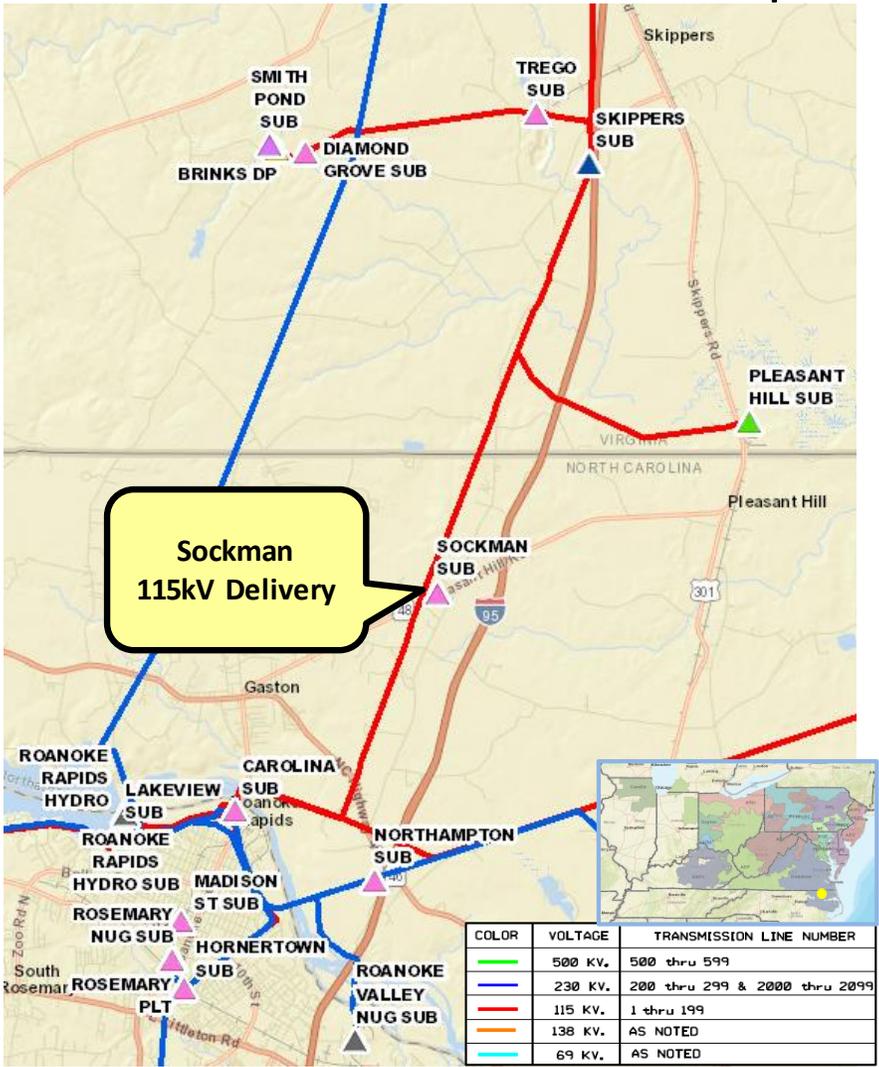
Project Driver: Customer Service

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 115kV substation (Sockman) to install 115/34.5 kV Transformer and connect 20 MW of Distributed Generation (DG) to Line #130 near structure 154 in Northampton County. The DG cannot be accommodated on existing distribution circuit. This request is for a State Queue Project NC16089. Requested in-service date is 03/31/2022.



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-2021-0033

Process Stage: Solution Meeting 08/13/2021

Previously Presented: Need Meeting 05/20/2021

Project Driver: Customer Service

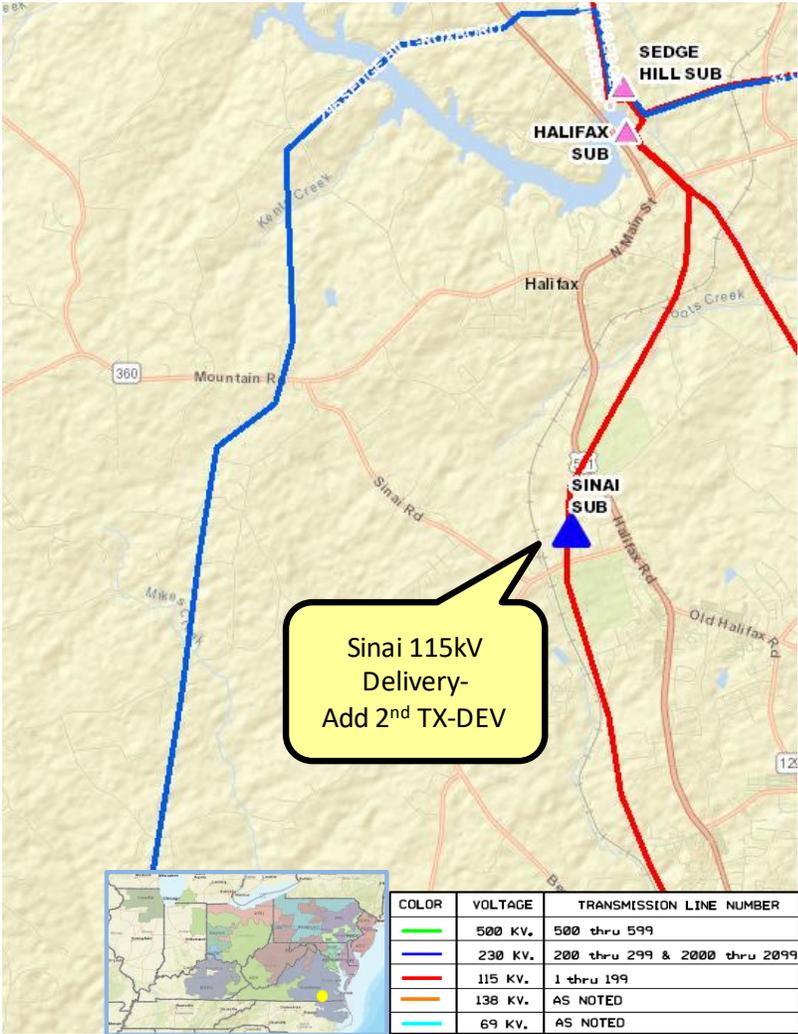
Specific Assumption References:

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, 33.6 MVA distribution transformer at Sinai Substation in Halifax County, Virginia. The new transformer is needed for load growth as well as to mitigate load loss for a transformer contingency. Requested in-service date is 11/15/2022.

Initial In-Service Load	Projected 2026 Load
Summer: 18.0 MW	Winter: 25.2 MW



Dominion Transmission Zone: Supplemental Sinai 115kV Delivery- Add 2nd TX - DEV

Need Number: DOM-2021-0033

Process Stage: Solutions Meeting 08/13/2021

Proposed Solution:

Install a 1200 Amp, 25kAIC circuit switcher and associated equipment (bus, switches, relaying, etc.) to feed the new transformer at Sinai.

Estimated Project Cost: \$0.5 M

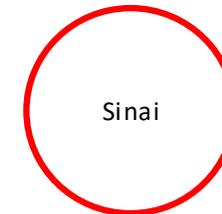
Alternatives Considered:

No feasible alternatives

Projected In-service Date: 11/15/2022

Project Status: Engineering

Model: 2025 RTEP



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

Need Number: DOM-2021-0029

Process Stage: Solutions Meeting 08/13/2021

Previously Presented: Need Meeting 05/20/2021

Project Driver: Equipment Material Condition, Performance and Risk

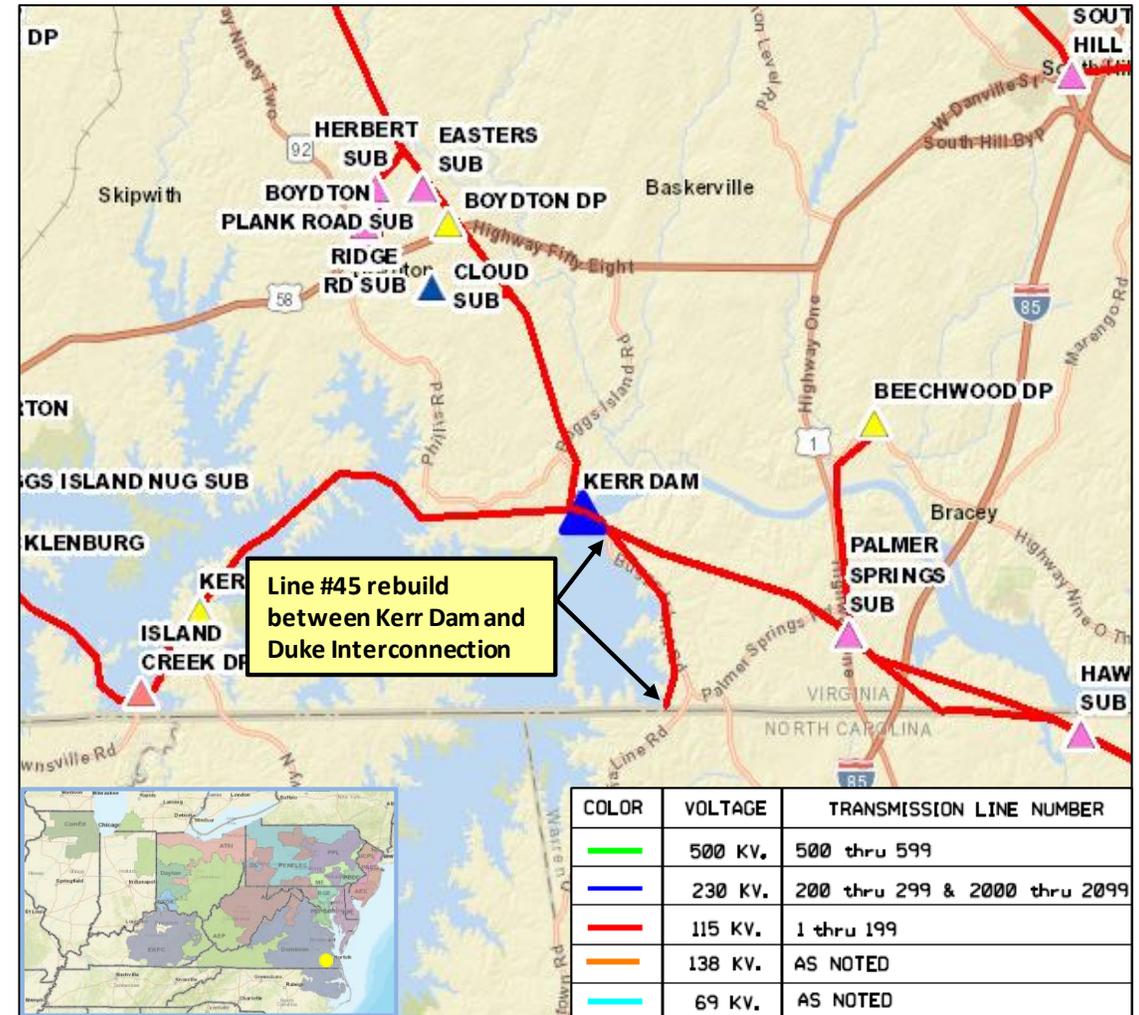
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2020.

Problem Statement:

Dominion Energy has identified a need to replace approximately 4.7 miles of 115kV Line #45 (Kerr Dam to Duke Interconnection) based on the Company's End of Life criteria.

- Line #45 constructed on wood H-frame structures in 1930 (90+ years old). The line has ACSR conductor and 3/8 inch static steel.
- 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.



Dominion Transmission Zone: Supplemental Line #45 Rebuild

Need Number: DOM-2021-0029

Process Stage: Solutions Meeting 08/13/2021

Proposed Solution:

Rebuild approximately 4.7 miles Line #45 between Kerr Dam to Duke Interconnection with current 115kV standards construction practices. New conductor with a minimum normal summer rating of 262 MVA will be used.

Estimated Project Cost: \$11 M

Alternatives Considered:

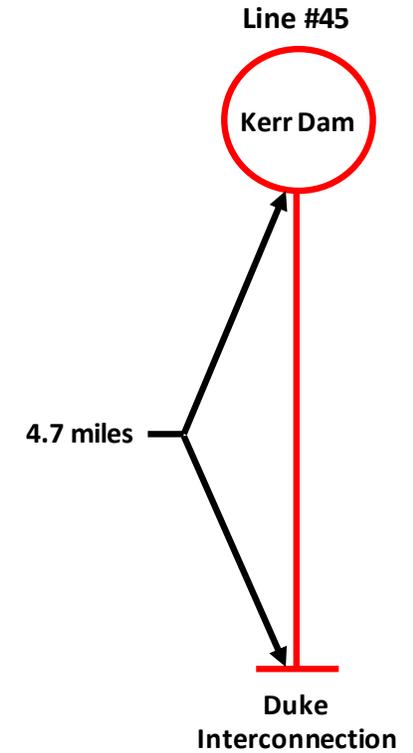
No feasible alternatives

Dominion Energy has a contractual agreement with Duke to maintain Line #45.

Project Target In-service Date: 12/31/2022

Project Status: Conceptual

Model: 2025 RTEP



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

Need Number: DOM-2021-0030

Process Stage: Solutions Meeting 08/13/2021

Previously Presented: Need Meeting 04/14/2021

Project Driver: Equipment Material Condition, Performance and Risk

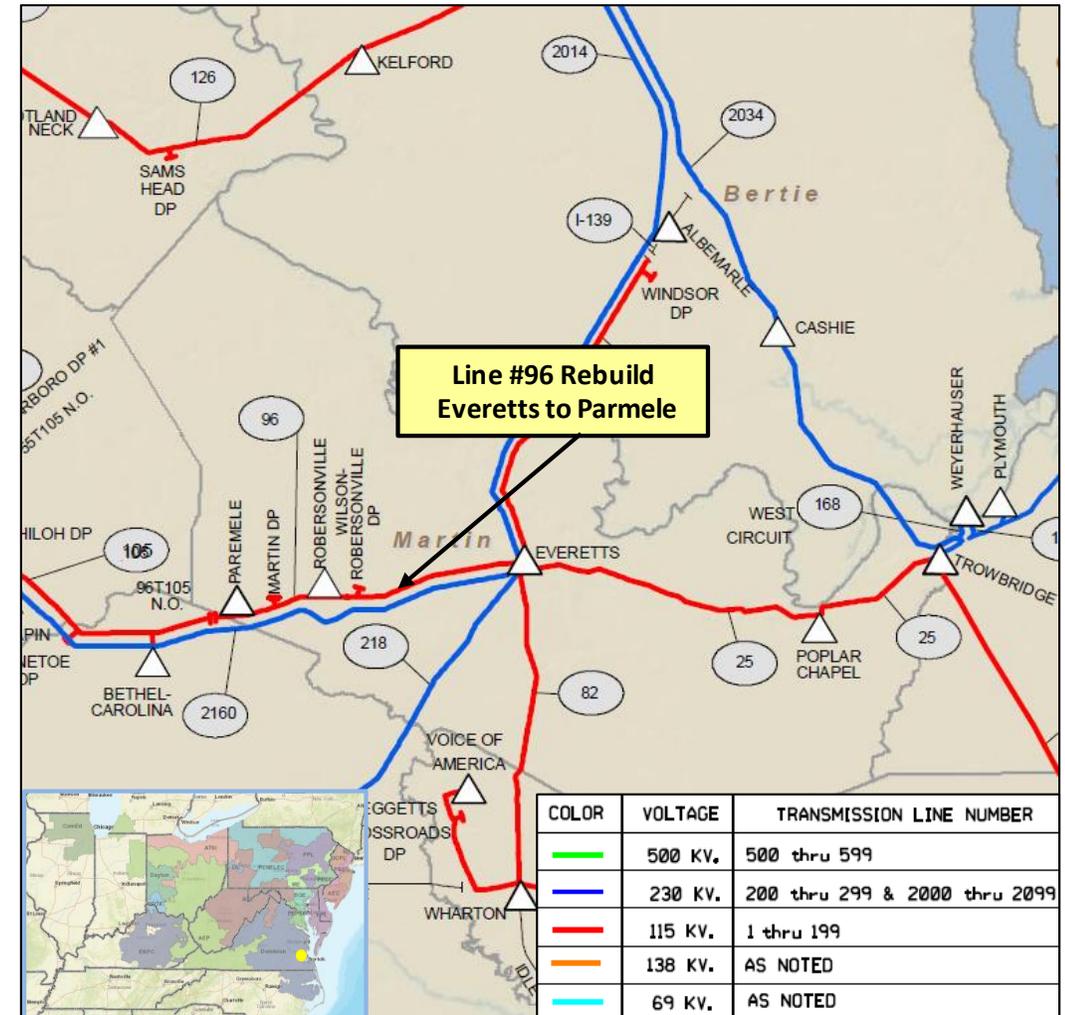
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion's Planning Assumptions presented in December 2020.

Problem Statement:

Dominion Energy has identified a need to replace approximately 12.4 miles of 115kV Line #96 (Everetts to Parmele) based on the Company's End of Life criteria.

- Line #96 was constructed on wood pole structures dating back to 1963.
- A number of structures have been replaced and continue to experience deterioration. Conductor failure has occurred over the last 10 years.
- 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.



Dominion Transmission Zone: Supplemental Line #96 Rebuild

Need Number: DOM-2021-0030

Process Stage: Solutions Meeting 08/13/2021

Proposed Solution:

Rebuild approximately 12.4 miles Line #96 between Everetts and Parmele with current 115kV standards construction practices. New conductor with a minimum normal summer rating of 262 MVA will be used.

Estimated Project Cost: \$27 M

Alternatives Considered:

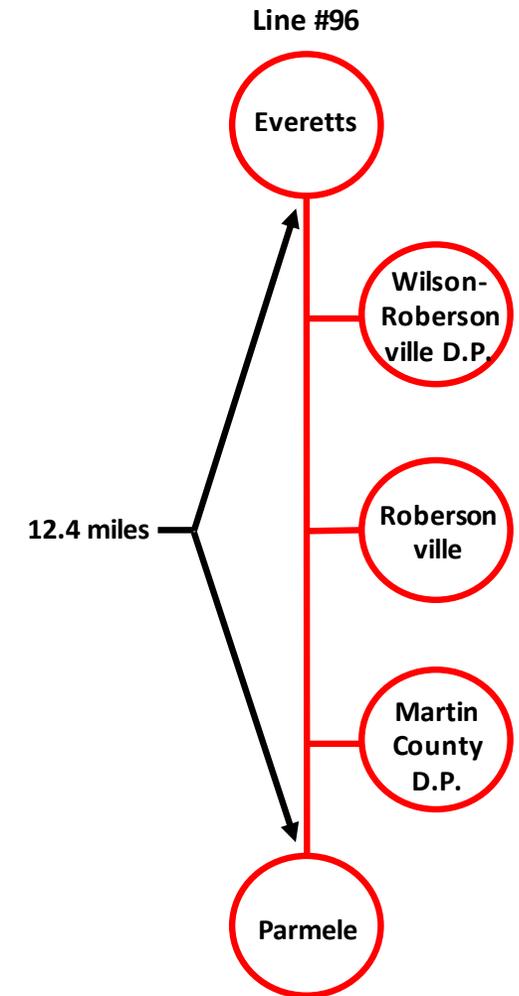
No feasible alternatives

Line #96 provides service to Wilson-Robersonville D.P., Robersonville and Martin County D.P. substations.

Project Target In-service Date: 12/31/2022

Project Status: Conceptual

Model: 2025 RTEP



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

Need Number: DOM-2021-0027

Process Stage: Solution Meeting 08/13/2021

Previously Presented: Need Meeting 04/14/2021

Project Driver: Equipment Material Condition, Performance and Risk

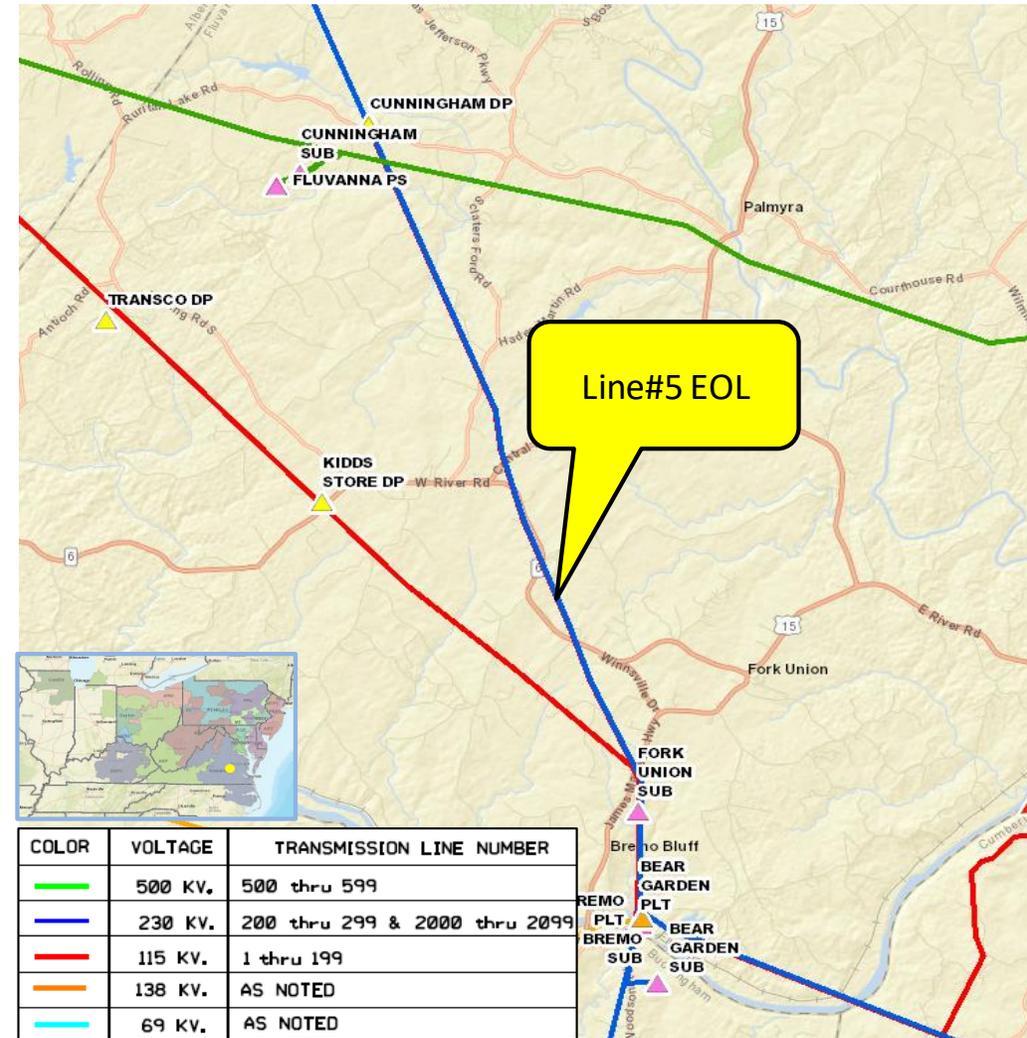
Specific Assumption References:

See details on Equipment Material Condition, Performance and Risk in Dominion’s Planning Assumptions presented in December 2020.

Problem Statement:

Dominion Energy has identified a need to replace the entire 12.6 miles of 115kV Line #5 (Bremo to Cunningham DP) based on the Company’s End of Life criteria.

- The line was constructed on mostly wood H-Frame structures all dating back to 1930. The ACSR conductor was installed in the 1950’s.
- A number of structures have been replaced and continued deterioration is expected.
- 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.



Dominion Transmission Zone: Supplemental New Station to Retire Line #5 Fork Union to Cunningham DP Segment

Need Number: DOM-2021-0027

Process Stage: Solutions Meeting 08/13/2021

Proposed Solution:

Phase I:

- Build a new 230/115kV switching station connecting to 230kV network Line #2028 (Fork Union to Charlottesville), and provide a 115kV source from the new station to serve Cunningham DP.
- After Cunningham DP is moved to the new source, the 11-mile segment of 115kV Line #5 from Fork Union to Cunningham DP will be retired.

Phase II:

- Re-evaluate the 1.6-miles segment of 115kV Line #5 from Brema to Fork Union for future end-of-life rebuild.

Estimated Project Cost (Phase I): \$16.3 M

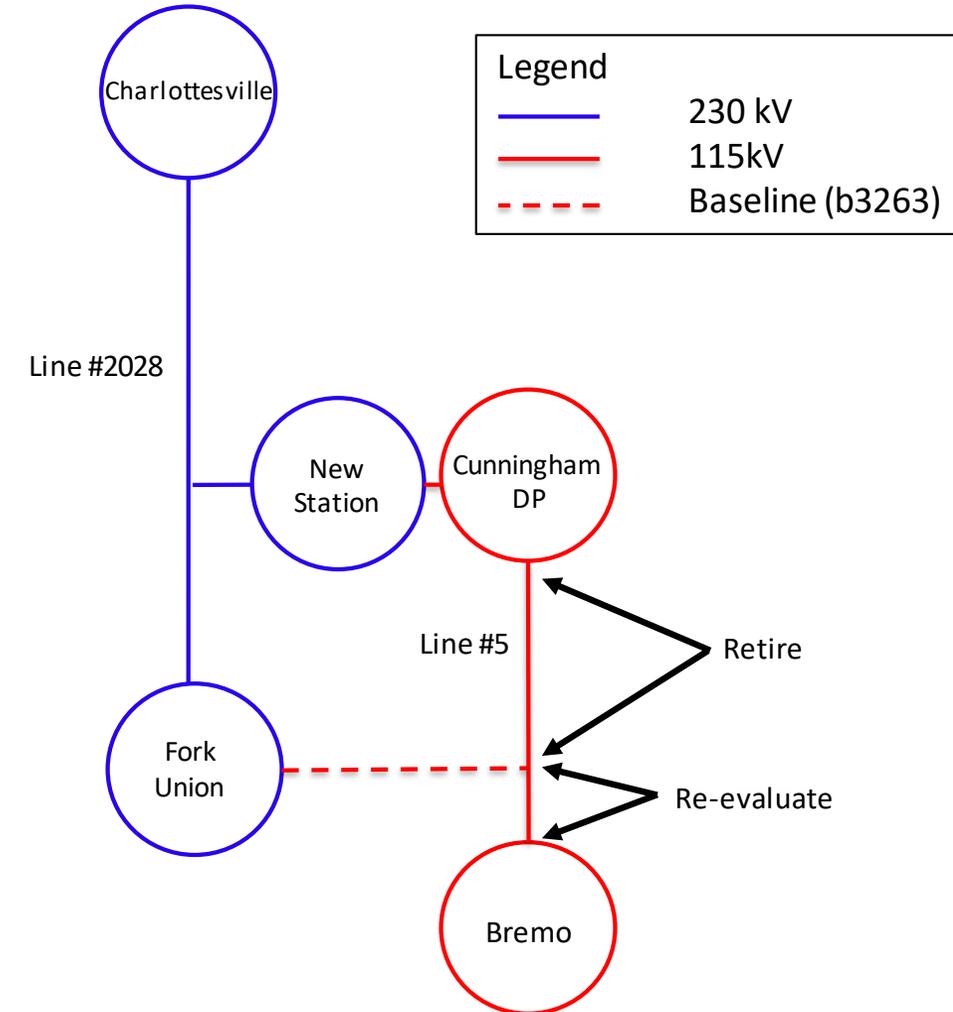
Alternatives Considered:

Rebuild the 11-mile segment of Line #5 from Fork Union to Cunningham DP using new conductor with a normal summer rating of 262 MVA (\$17.4M).

Projected In-service Date: 06/30/2023

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

08/03/2021 – V1 – Original version posted to pjm.com

08/12/2021 – V2 – Corrected meeting date on slide 3 & clarified proposed solution on slide 12.