

# SRRTEP Committee Southern Dominion Supplemental Projects

July 12, 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 Equipment Material Condition, Performance and Risk

**Need Number:** DOM-2021-0038

**Process Stage:** Need Meeting 07/12/2021

**Project Driver:** Equipment Material Condition, Performance and Risk

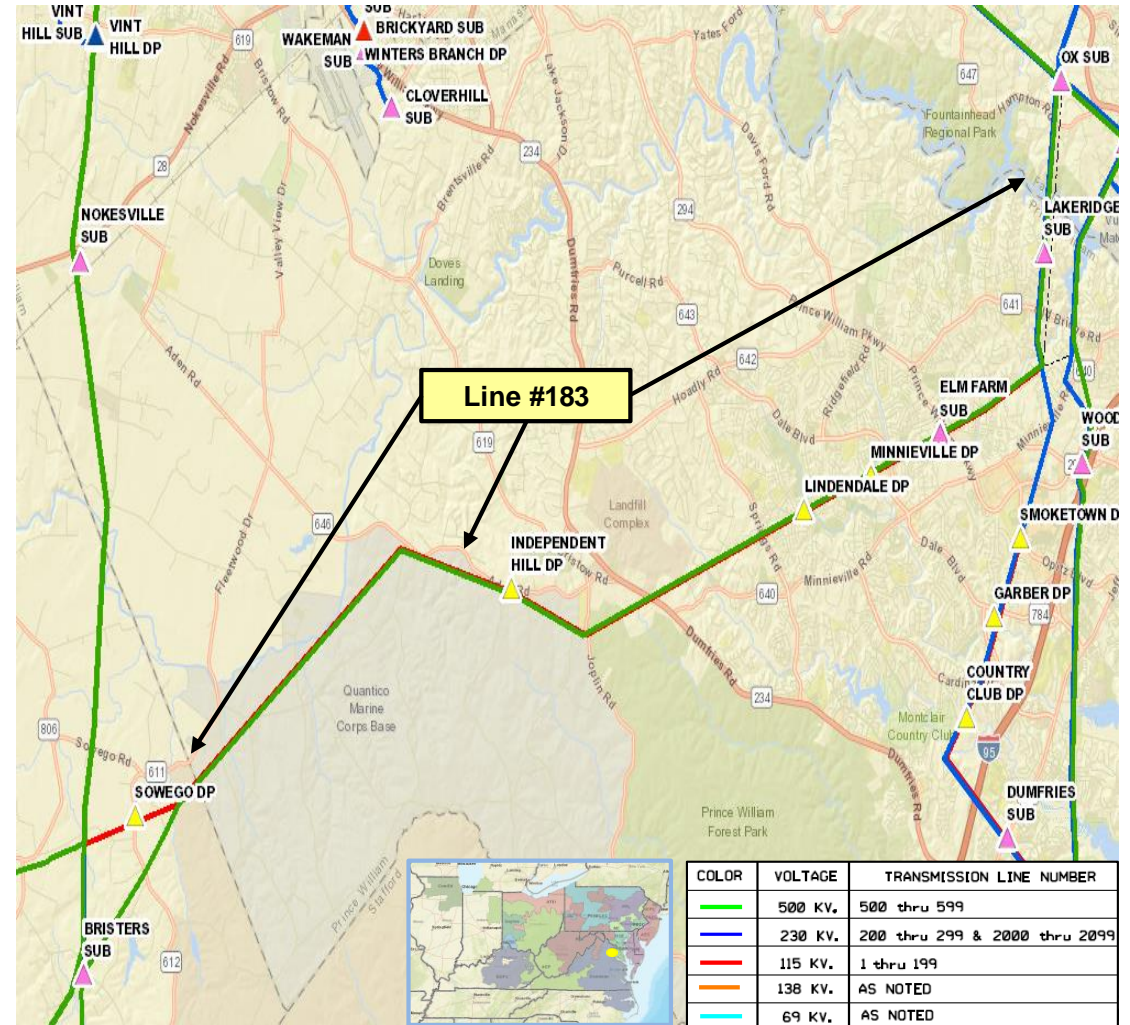
## Specific Assumption References:

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 15.1 miles of 115 kV Line #183 (Bristers - Ox). The need for replacement is based on the Company's End of Life criteria.

- This line segment between Bristers and Minnieville DP consists of COR-TEN® towers that were constructed in 1967, as well as wood pole structures dating back to 1948.
- The COR-TEN® towers have inherent corrosion problems causing continuous deterioration to the steel members thereby jeopardizing the reliability of this line.
- The vintage wood pole structures along this ROW have also reached the end of their useful life and are a high priority for replacement.
- 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.



# 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 Equipment Material Condition, Performance and Risk

**Need Number:** DOM-2021-0024

**Process Stage:** Solution Meeting 07/12/2021

**Process Stage:** Need Meeting 03/18/2021

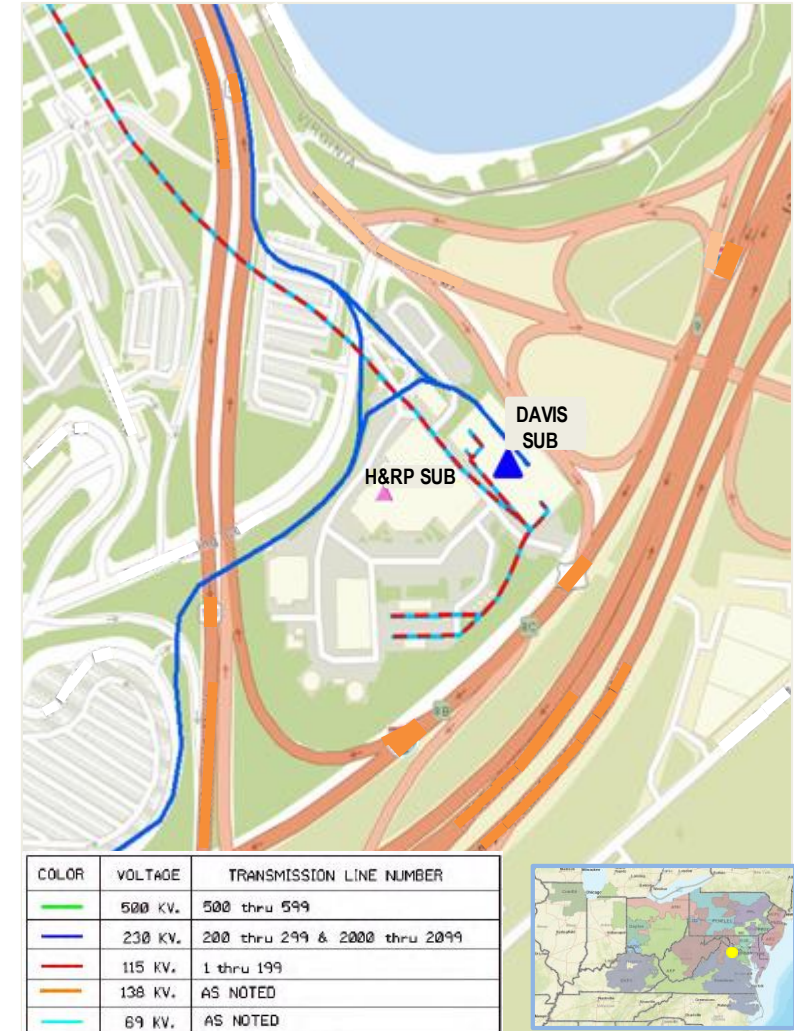
**Project Driver:** Equipment Material Condition, Performance and Risk

**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 twelve 69kV breakers at Davis Substation due to age and increasing maintenance issues. The breakers in question were manufactured in 1990 and several of this type have experienced the arcing tip breaking and falling off the main moving contact assembly. There is no way to detect this issue without a failure unless it is caught during maintenance. This condition can lead to a catastrophic failure if the arcing tip falls into the breaker and creates a flash or unsuccessful fault interruption.



# Dominion Transmission Zone: Supplemental Replace Twelve 69kV Breakers at Davis Substation - DEV

**Need Number:** DOM-2021-0024

**Process Stage:** Solutions Meeting 07/12/2021

**Proposed Solution:**

Replace the existing twelve 69kV breakers with new 69kV, 3000 Amp, 40kA units.  
Include other ancillary equipment (arresters, switches, relays, etc.) as needed.

**Estimated Project Cost:** \$4.5 M

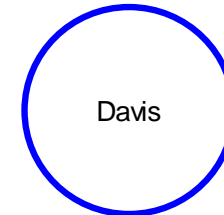
**Alternatives Considered:**

None

**Projected In-service Date:** 12/02/2021

**Project Status:** Engineering

**Model:** 2025 RTEP





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

**Need Number:** DOM-2021-0026

**Process Stage:** Solution Meeting 07/12/2021

**Previously Presented:** Need Meeting 04/14/2021

**Project Driver:** Equipment Material Condition, Performance and Risk

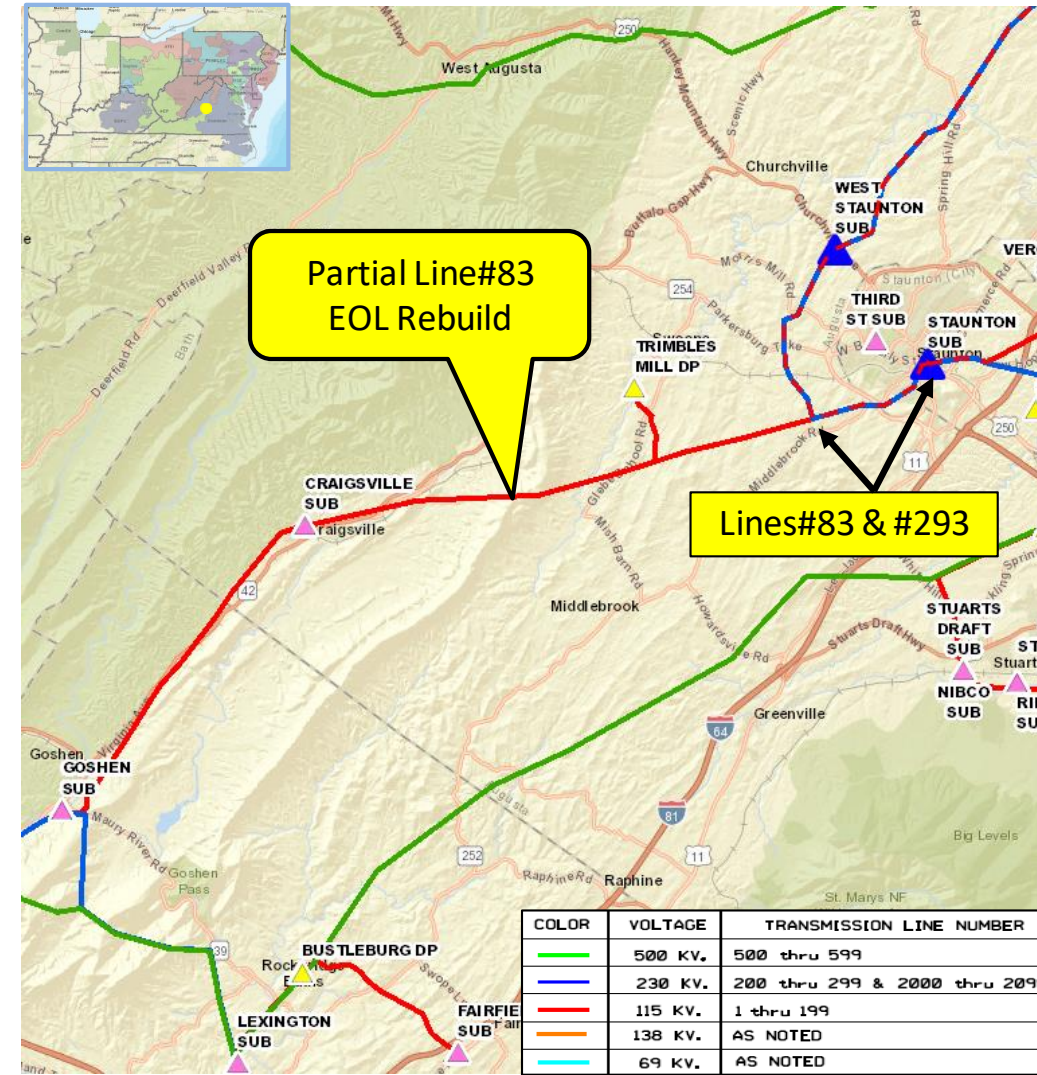
**Specific Assumption References:**

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 approx. 14.6 miles of 115kV Line #83 from Craigsville to the junction where 115kV Line #83 transitions to double-circuit with 230kV Line #293.

- Line #83 was originally constructed in 1925 consisting of lattice steel towers, ACSR conductor and 3/8” static wire.
- Line #83 has a history of poor operational performance with many operations and lock-outs.
- The remaining segment of Line #83 that shares a common structure with Line #293 will be rebuilt as a part of project DOM-2020-0028.
- Industry guidelines indicate equipment life for steel structures 40-60 years, wood structures is 35-55 years, conductor and connectors are 40-60 years, and porcelain insulators are 50 years.



# Dominion Transmission Zone: Supplemental 115 kV Partial Line #83 – EOL Rebuild

**Need Number:** DOM-2021-0026

**Process Stage:** Solutions Meeting 07/12/2021

**Proposed Solution:**

Approximately 14.6 miles consisting of lattice steel towers will be replaced with appropriate structures. New conductor with a normal summer rating of 262 MVA will be used.

**Estimated Project Cost:** \$23 M

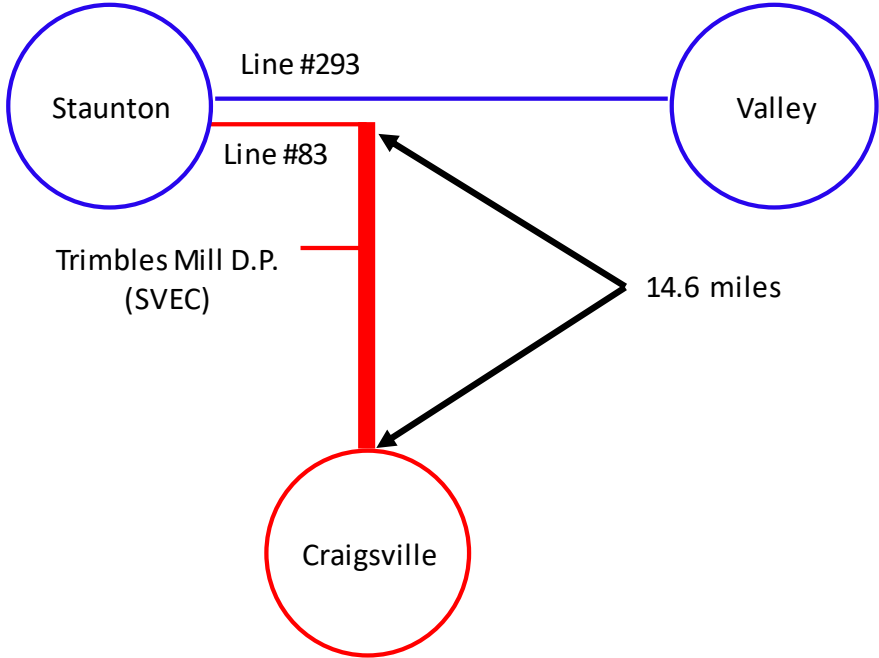
**Alternatives Considered:**

No feasible alternatives.  
Line #83 provides service to Trimbles Mill D.P. (SVEC).

**Projected In-service Date:** 12/31/2023

**Project Status:** Conceptual

**Model:** 2025 RTEP



Legend	
	230 kV
	115kV
	Partial Rebuild 115kV



# 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

7/2/2021 – V1 – Original version posted to pjm.com