

# SRRTEP Committee Southern Dominion Supplemental Projects

December 20, 2021

# 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-2021-0021

**Process Stage:** Solutions Meeting 12/20/2021 (Update)

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

**Previously Presented:** Solutions Meeting 06/15/2021

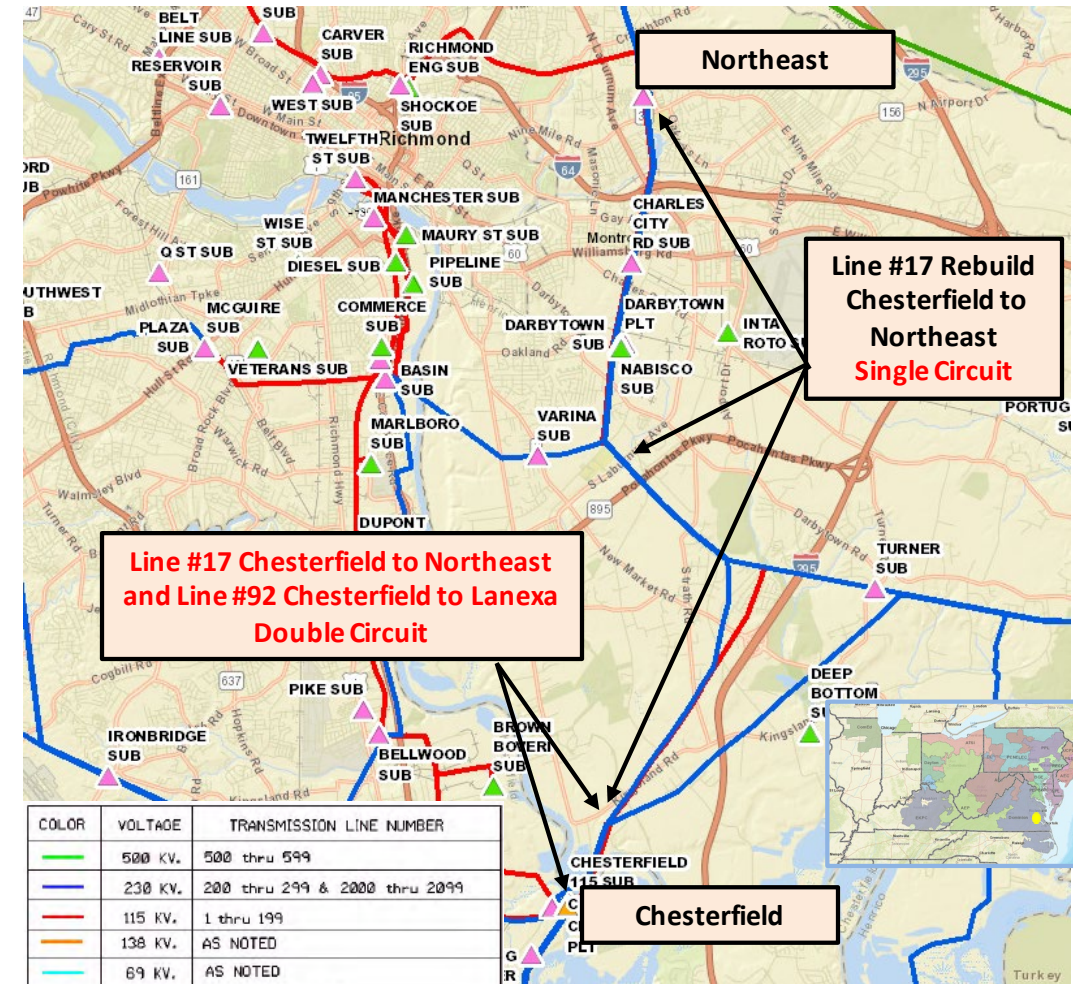
## Specific Assumption References:

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

## Problem Statement:

Dominion Energy has identified the need to replace the entire 14.0 miles of 115kV Line#17 (Chesterfield to Northeast) including the 0.5 mile double circuit section with 115kV Line #92 (Chesterfield to Lanexa) based on the Company's end of life criteria.

- Line #17 is built mostly on wood H-frame structures installed between 1941 and 1972. The line has ACSR conductor and 3/8 inch static steel.
- Line #17 and #92 double circuit section is on steel lattice structures installed in 1947.
- Several structures have been replaced and assets/structures continue to experience deterioration.
- 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 EOL Rebuild 115kV Line #17 – Chesterfield to Northeast And Partial 115kV Line #92 – Chesterfield to Lanexa

**Need Number:** DOM-2021-0021

**Process Stage:** Solutions Meeting 12/20/2021 (Update)

## Proposed Solution:

Rebuild all wood H-frame structures, **replace three double circuit steel lattice structures** and reconductor the entire 14.0 miles **of Line# 17 (Chesterfield to Northeast)** and **0.5 miles of Line# 92 (Chesterfield to Lanexa)** with current 115 kV standard construction practices. Upgrade terminal equipment as needed.

## Estimated Project cost:

\$18.2 M

## Alternative Considered:

Allow the line to fail in place. This option is not acceptable because the line serves as critical outlets for Chesterfield Power Plant.

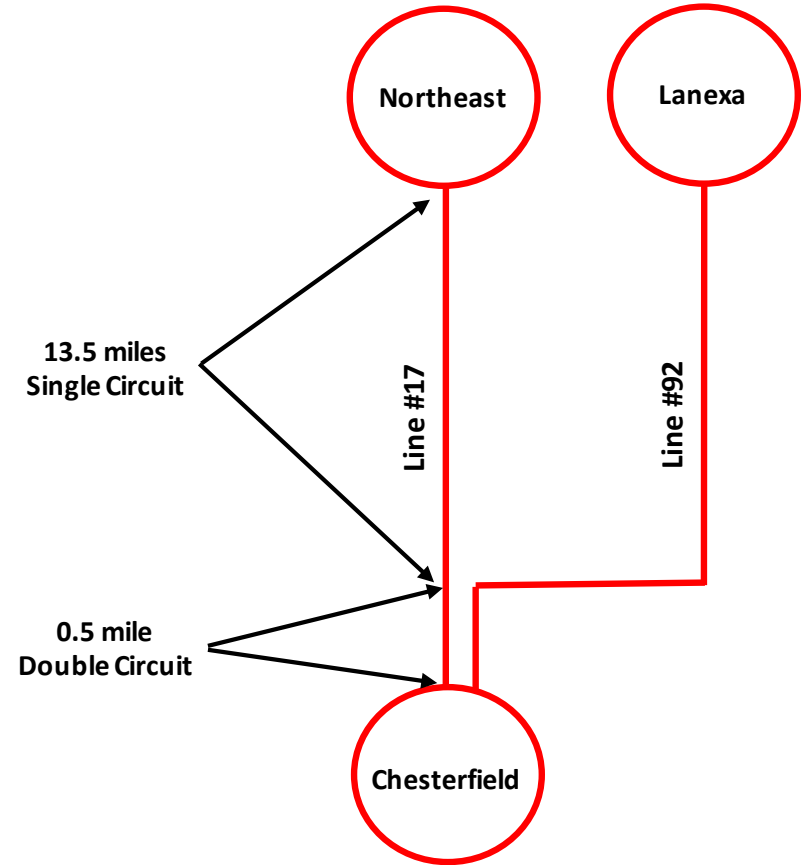
## Projected In-service Date:

12/31/2022

## Project Status:

Conceptual

**Model:** 2025 RTEP



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

**Need Number:** DOM-2021-0036

**Process Stage:** Solution Meeting 12/20/2021

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

**Previously Presented:** 06/15/2021

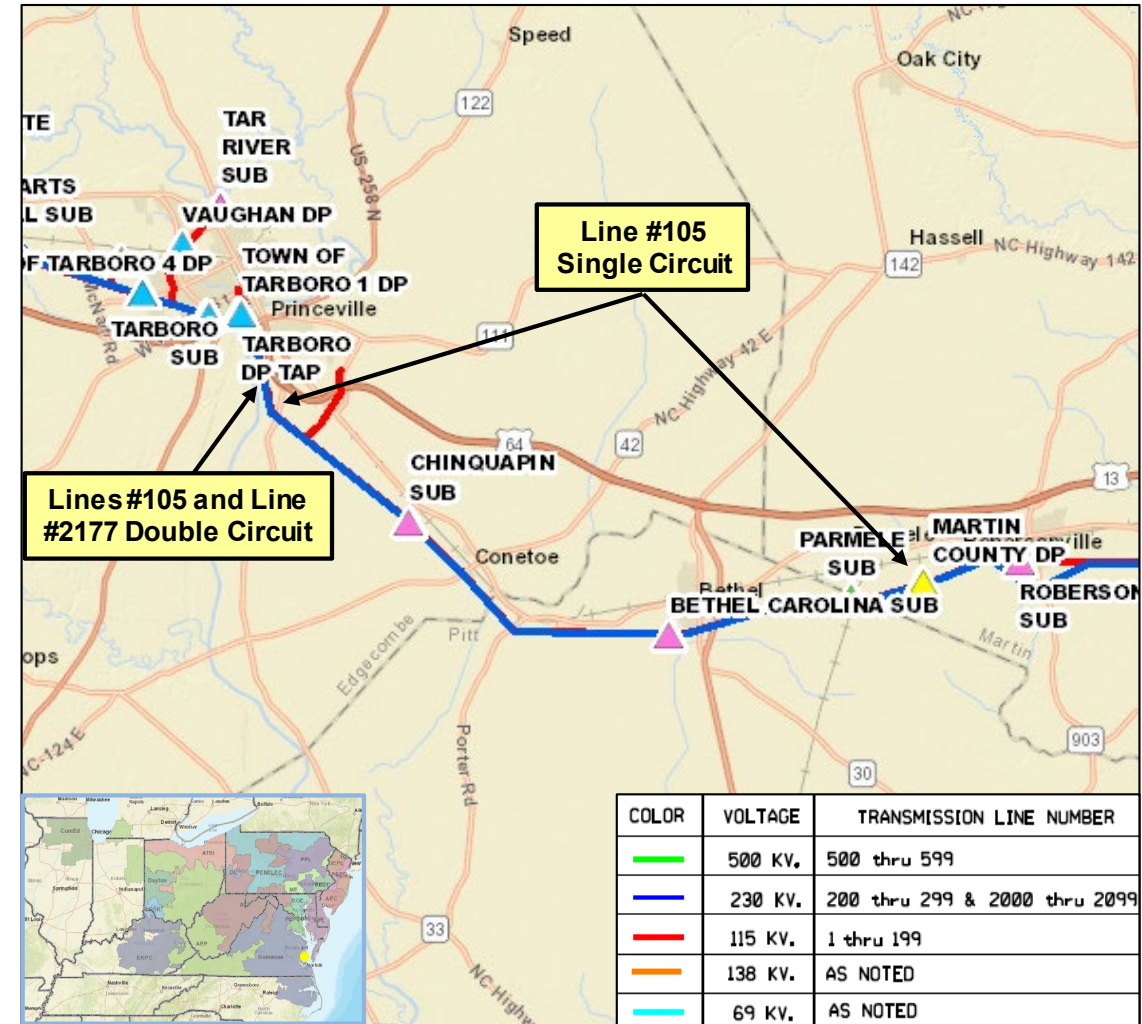
## Specific Assumption References:

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 15.7 miles of 115kV Line #105 (Tarboro to Parmele) which includes the double circuit segment with Line #2177 (Tarboro to Chinquapin) based on the Company's End of Life criteria.

- Double circuit is on COR-TEN® towers built in 1967. Single circuit is on wood pole structures dating back to 1963. Conductor is 2/0 Copper.
- 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.



# Dominion Transmission Zone: Supplemental EOL Rebuild 115kV Line #105 – Tarboro to Switch 96T105

**Need Number:** DOM-2021-0036

**Process Stage:** Solutions Meeting 12/20/2021

## Proposed Solution:

Rebuild approximately 15.7 miles of Line #105 Tarboro to normally open switch 96T105 with current 115kV standard construction practices. This includes replacing four COR-TEN® double circuit towers and excludes the double circuit tap to Shiloh DP. The new conductor will have a minimum normal summer rating of 393 MVA. Terminal equipment will be upgraded as needed.

## Estimated Project cost:

\$24.5 M

## Alternative Considered:

No feasible alternatives

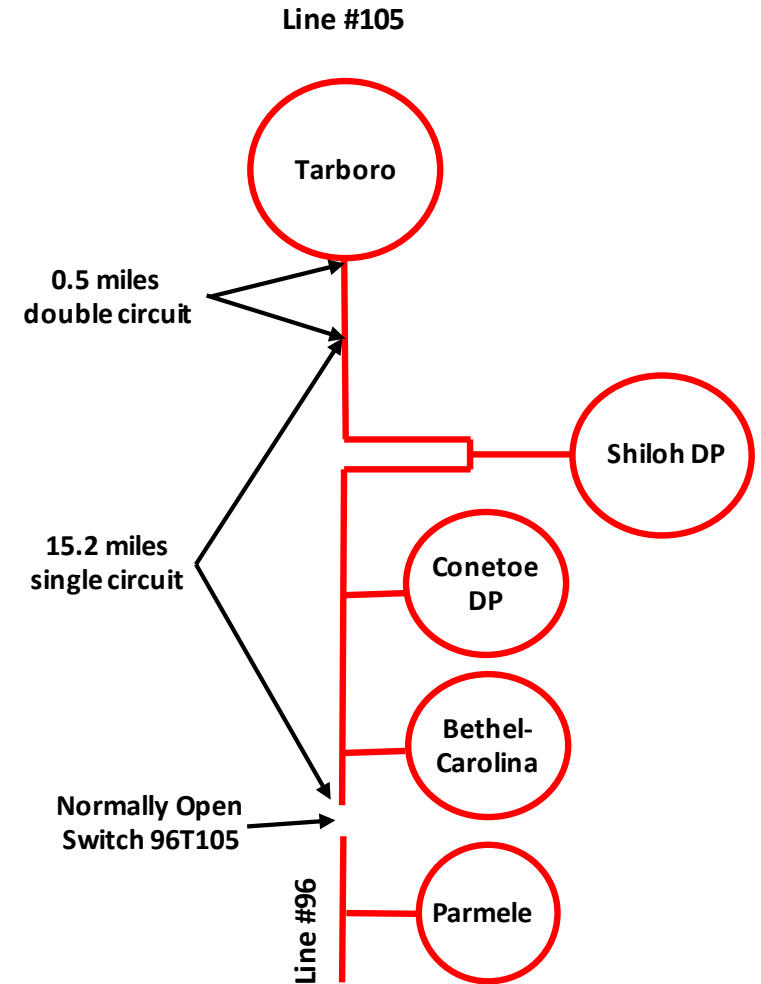
## Projected In-service Date:

3/1/2024

## Project Status:

Conceptual

**Model:** 2025 RTEP



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

**Need Number:** DOM-2021-0037

**Process Stage:** Solution Meeting 12/20/2021

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

**Previously Presented:** 06/15/2021

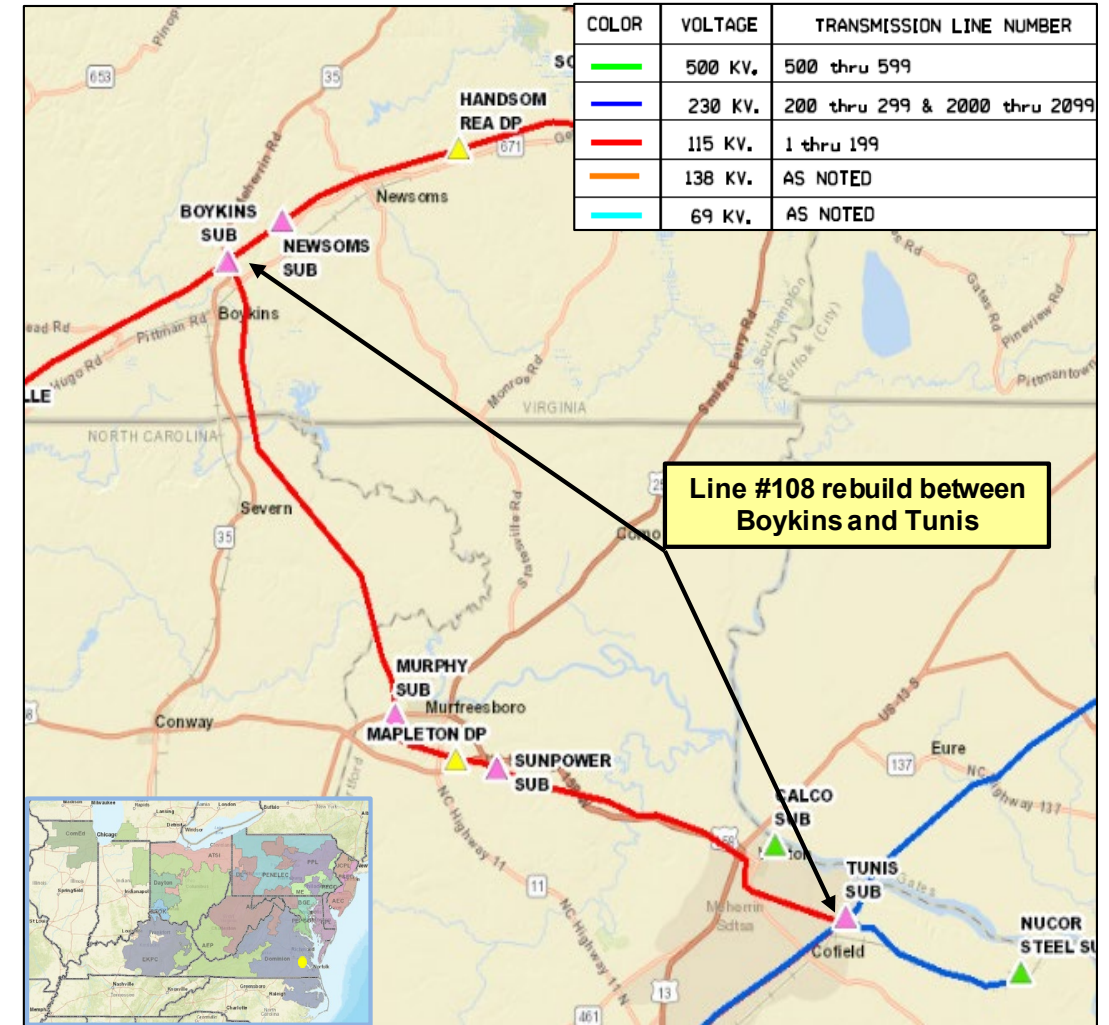
## Specific Assumption References:

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 26.5 miles of 115kV Line #108 (Boykins to Tunis) based on the Company's End of Life criteria.

- Line #108 was constructed on wood pole structures in 1967.
- A field-condition assessment indicated damage to several poles from woodpeckers, rotting and cracking.
- 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 EOL Rebuild 115kV Line #108 – Boykins to Tunis

**Need Number:** DOM-2021-0037

**Process Stage:** Solutions Meeting 12/20/2021

**Proposed Solution:**

Rebuild the entire Line #108 from Boykins to Tunis, approximately 26.5 miles, using current 115kV standard construction practices. The new conductor will have a minimum normal summer rating of 393 MVA. Terminal equipment will be upgraded as needed.

**Estimated Project cost:**

\$46 M

**Alternative Considered:**

No feasible alternatives

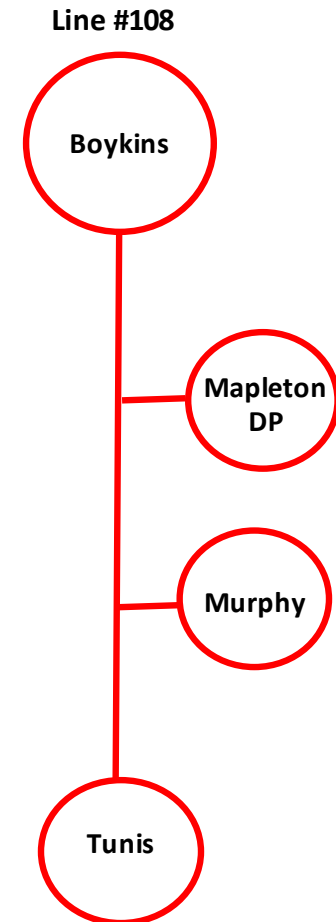
**Projected In-service Date:**

12/31/2024

**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

12/06/2021 – V1 – Original version posted to pjm.com

12/22/2021 – V2 – Updated the projected in-service date for DOM-2021-0037 from 12/31/2023 to 12/31/2024.