Sub Regional RTEP Committee
PJM South

October 14, 2021

First Review
Baseline Reliability Project

Dominion Transmission Zone: Baseline

Process Stage: First Review

Criteria: Summer Generator Deliverability

Assumption Reference: 2026 RTEP assumption

Model Used for Analysis: 2026 RTEP Summer case

Proposal Window Exclusion: Below 200 kV exclusion

Problem Statement:

115 kV Line #126 segment from Earleys to Kelford is overloaded for a tower contingency under generator deliverability. (FG: GD-S710)

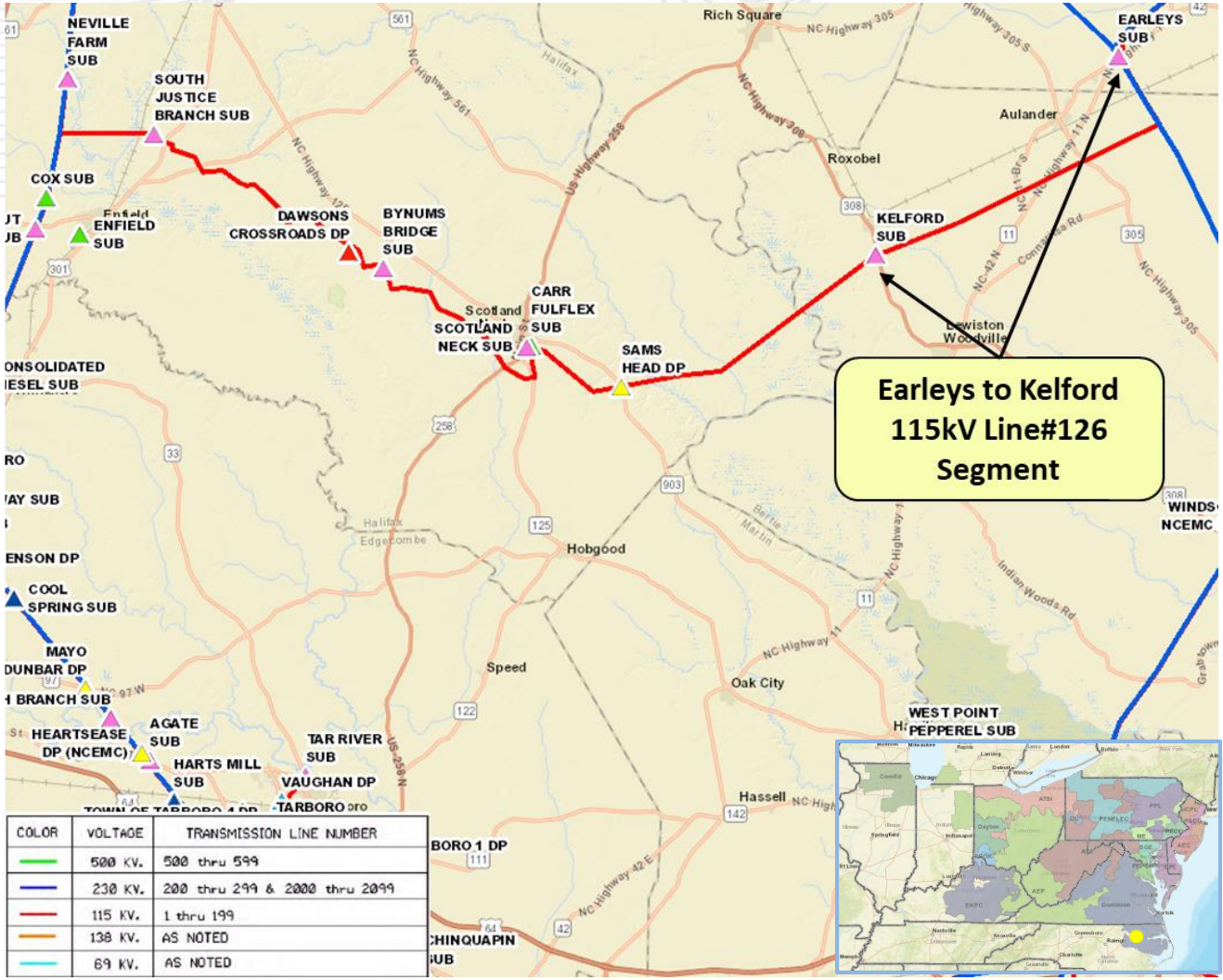
Existing Facility Rating: 152SN/152SE/175SLD,192WN/192WE/221WLD MVA

Proposed Facility Rating: 262SN/262SE/301SLD, 290WN/290WE/334WLD MVA

Proposed Solution:
Rebuild 12.4 miles of Line #126 segment from Earleys to Kelford with a summer emergency rating of 262 MVA. Replace structures as needed to support the new conductor. Upgrade breaker switch 13668 at Earleys from 1200 A to 2000 A.

Estimated Cost: $18.75 M

Alternatives: N/A
Required In-Service: 6/1/2026



Dominion Transmission Zone: Baseline

Process Stage: First Review

Criteria: FERC Form 715

Assumption Reference: 2026 RTEP assumption

Model Used for Analysis: 2026 RTEP Summer & Winter cases

Proposal Window Exclusion: Below 200 kV exclusion

Problem Statement:

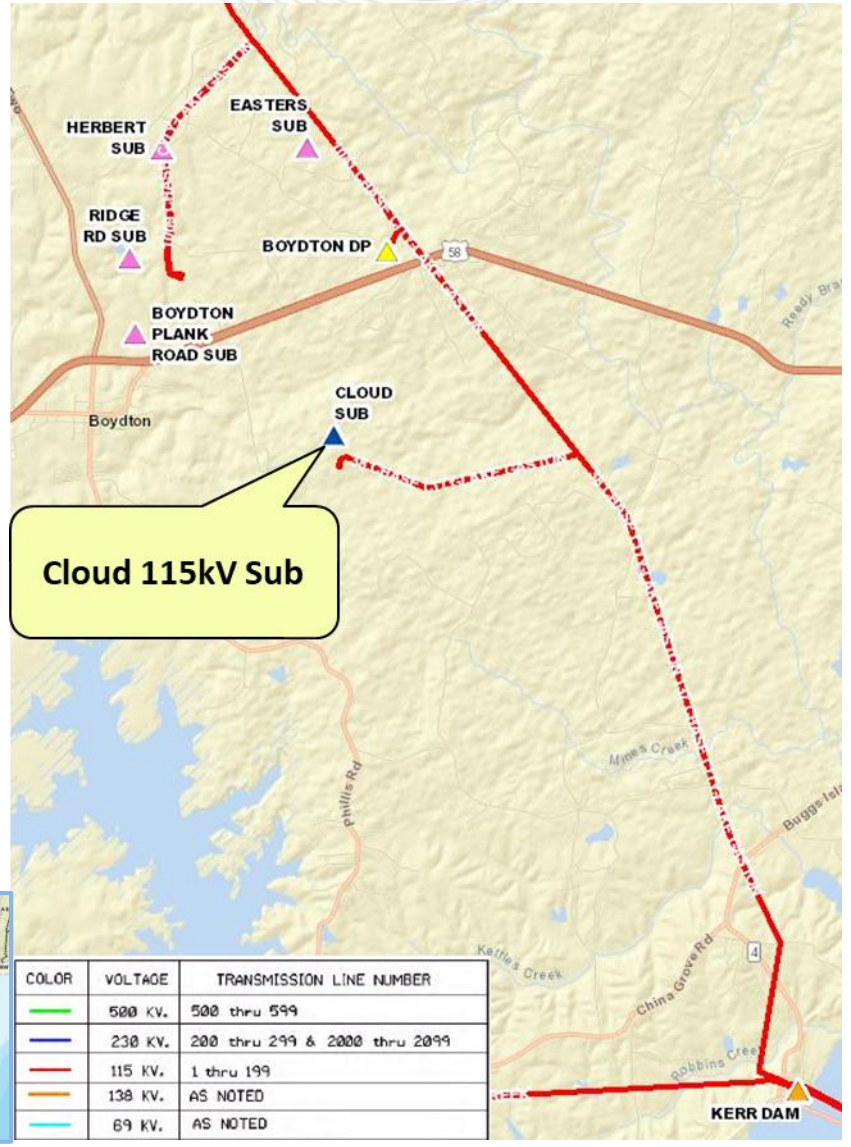
Low voltage violations at Cloud 115kV Bus and Boydton 115kV Bus under N-1-1 contingency conditions.

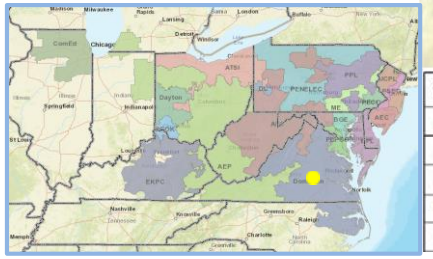
(FG: DOM-VM20, DOM-VM25, DOM-VM32, DOM-V33)

Proposed Solution:
Install a 33 MVAR cap bank at Cloud 115kV bus along with a 115kV breaker. Add 115kV circuit breaker for 115kV Line #38.

Estimated Cost: $1.5 M

Alternatives: N/A
Required In-Service: 6/1/2026





Dominion Transmission Zone: Baseline

Process Stage: First Review

Criteria: FERC Form 715 - Radial Transmission Line (700MW-Mile Exposure)

Assumption Reference: 2026 RTEP assumption

Model Used for Analysis: 2026 RTEP Winter case

Proposal Window Exclusion: Below 200 kV exclusion

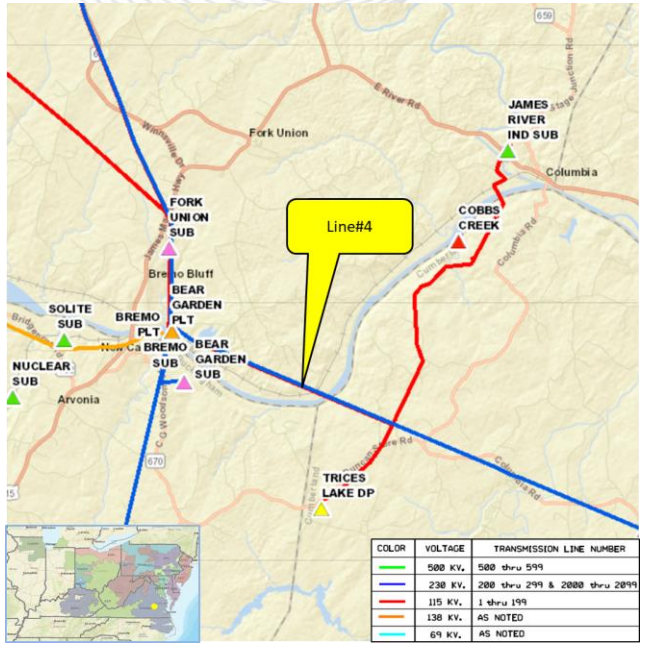
Problem Statement:

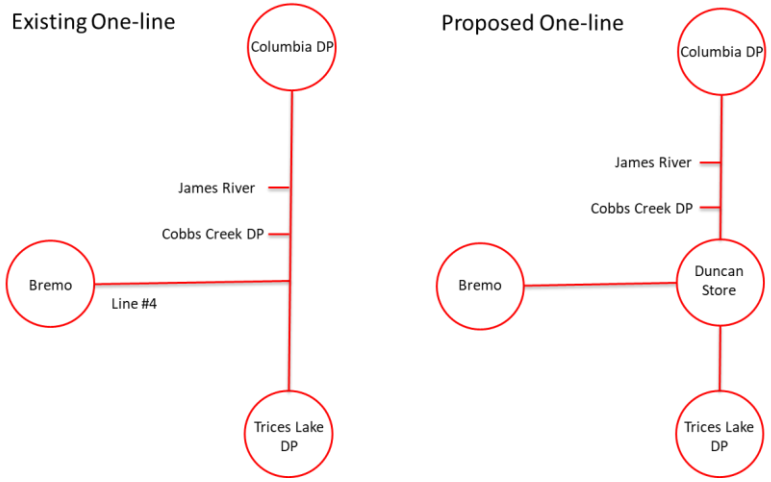
115kV Line #4 is a radial transmission line from Bremo to Columbia DP. This line exceeds the 700MW-Mile threshold under FERC Form 715-TO Criteria. (FG: DOM-O1)

Proposed Solution:
Purchase land close to the bifurcation point of Line #4 (where the line is split into two sections) and build a new 115kV switching station called Duncan Store. The new switching station will require space for an ultimate transmission interconnection consisting of a 115kV six-breaker ring bus (with three breakers installed initially).

Estimated Cost: $16 M
Substation cost: $11 M
Transmission cost: $ 5 M

Alternatives: N/A
Required In-Service: 12/1/2026





Dominion Transmission Zone: Baseline

Process Stage: First Review

Criteria: Summer Generator Deliverability, N-1, N-1-1 & FERC Form 715

Assumption Reference: 2026 RTEP assumption

Model Used for Analysis: 2026 RTEP Summer case

Proposal Window Exclusion: Below 200 kV exclusion

Problem Statement:

Bristers 230/115kV transformer is overloaded for a single contingency under generator deliverability & for Dominion Stress Case (FERC Form 715).

115kV Line #183 Sowego – Independent Hill segment is overloaded for a single contingency under generator deliverability, N-1 (single & line fault stuck breaker contingencies), N-1-1 & Dominion Stress Case (FERC Form 715).

(FG: DOM-T1, DOM-VM14, DOM-VM15, DOM-VM16, DOM-VM17, DOM-VM18, DOM-VM19, DOM-VM21, DOM-VM22, DOM-VM23, DOM-VM24, DOM-VM7, DOM-VM8, DOM-VM9, GD-S11, GD-S34, N1-ST47, N1-ST48, DOM-T2, GD-S34, N1-ST129)

Existing Facility Rating (Bristers 230/115kV transformer): 239SN/239SE/287.1SLD, 275WN/277WE/351WLD MVA

Existing Facility Rating (Ox-Minnieville): 319SN/319SE/446SLD,367WN/370WE/468WLD MVA

Existing Facility Rating (Minnieville-Bristers): 179SN/179SE/206SLD,226WN/226WE/260WLD MVA

Proposed Facility Rating (Bristers 230/115kV transformer): 248.7N/260.2SE/287.1SLD, 319WN/330.8WE/358.4WLD MVA

Proposed Facility Rating (Ox-Minnieville): 523N/523SE/601SLD, 580WN/580WE/667WLD MVA

Proposed Facility Rating (Minnieville-Bristers): 786SN/786SE/904SLD, 824WN/823WE/947WLD MVA

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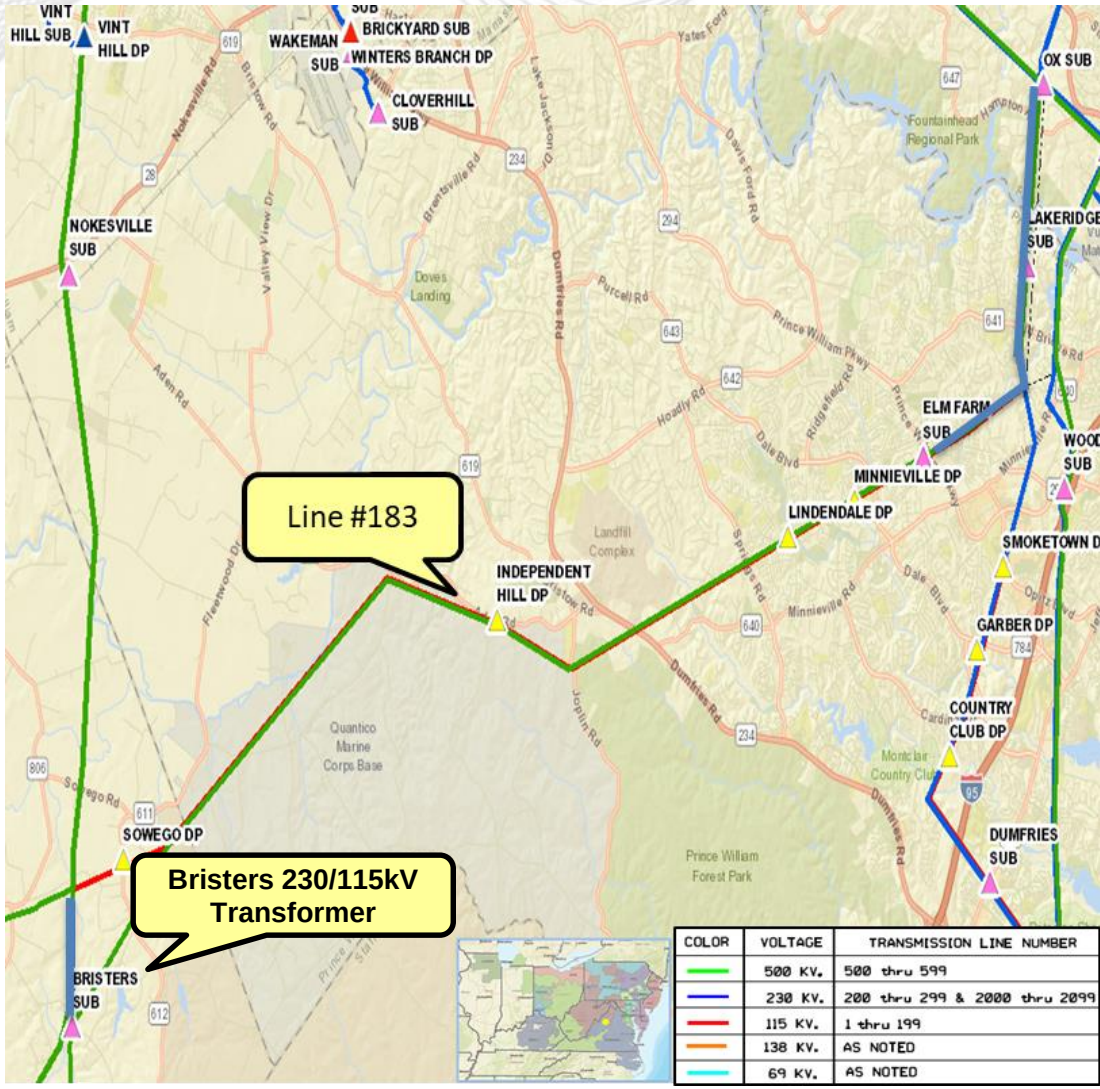


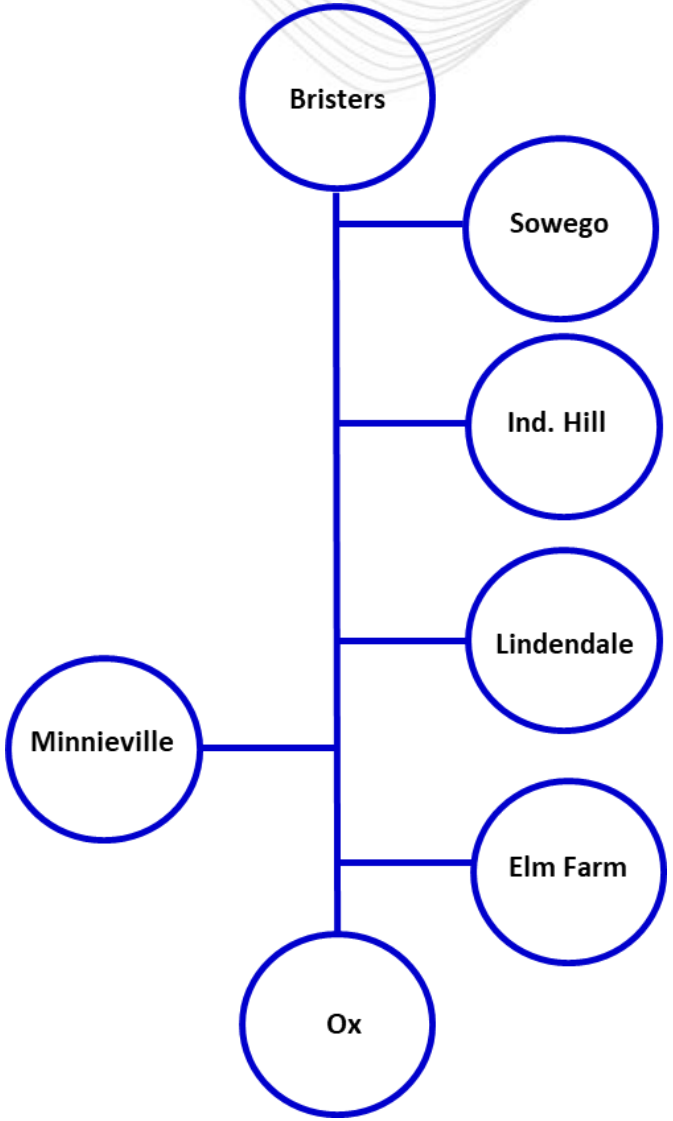
Dominion Transmission Zone: Baseline

Proposed Solution:
This project will require the full rebuild of the approximately 15.1-mile-long line segment between Bristers and Minnieville DP with 2-768 ACSS and 4000 A supporting equipment from Bristers to Ox to allow for future 230 kV capability of 115kV Line #183. The continuous summer normal rating will be 523 MVA from Ox – Minnieville. The continuous summer normal rating will be 786 MVA from Minnieville – Bristers.

Note: Approximately 1.65 miles of the Bristers – Sowego, as well as approximately 6.86 miles from Ox – Minnieville, had been previously rebuilt with 2-636 ACSR to support future 230 kV capability.

Estimated Cost: $30 M

Alternatives: N/A
Required In-Service: 6/1/2026



Questions?

Upcoming SRRTEP Meetings

2021

- The remaining 2021 SRRTEP-S meetings are as follows:
- 11/18 & 12/20

Revision History

V1 – 10/7/2021 – Original slides posted