

SRRTEP Committee Southern Dominion Supplemental Projects

March 16, 2023

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 Operational Flexibility and Efficiency

Need Number: DOM-2022-0061

Process Stage: Solution Meeting 3/16/2023

Previously Presented: Need Meeting 12/14/2022

Project Driver: Operational Flexibility and Efficiency

Specific Assumption References:

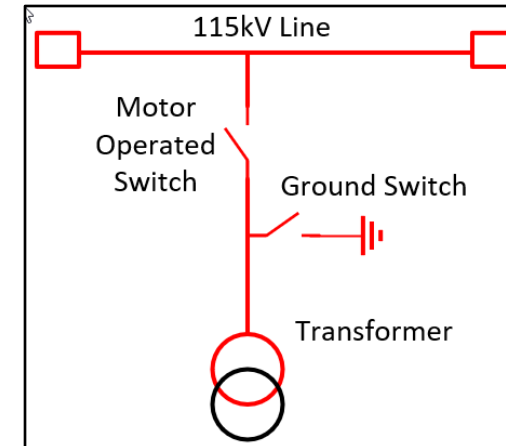
See details on Operational Flexibility and Efficiency in Dominion’s Planning Assumptions presented in December 2021.

Problem Statement:

Dominion has identified 7 **5** substations that have legacy protection schemes on the 115kV high side of distribution transformers. These protection schemes utilize a ground switch and a motor operated switch on the high side of each transformer. For a fault in the transformer protection zone:

- The ground switch closes resulting in a bolted fault on the 115kV line
- This causes the transmission line breakers to open at the substation terminal ends
- The transformer motor operated high side switch opens isolating the transformer from the 115kV line and the terminal end breakers reclose to re-energize the 115kV line

These schemes are no longer standard protection due to the stress on the transmission equipment from the fault applied by the ground switch and the operation of the 115kV line interrupting service to all customers served by the line.



Substation	Tx #
Quantico	1 & 2
Princess Anne	1
Deep Creek	1 & 2
Creswell	2
Alexander Corner	1
Tunis	2
Brown Boveri	1

Dominion Transmission Zone: Supplemental Operational Flexibility and Efficiency

Need Number: DOM-2022-0061

Process Stage: Solution Meeting 3/16/2023

Proposed Solution:

Remove the ground switches and install circuit switchers at 5 substations –

- Quantico Tx# 1 & 2
- Deep Creek Tx# 1 & 2
- Alexander Corner Tx# 1
- Tunis Tx# 2
- Brown Boveri Tx# 1

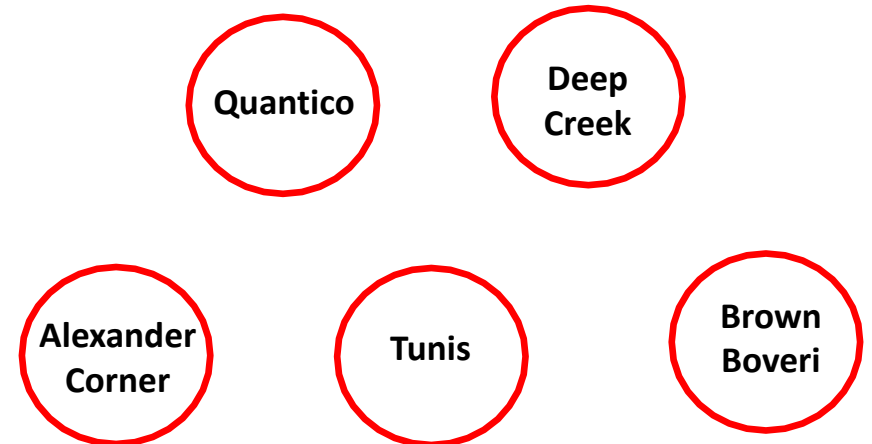
Estimated Project Costs: \$ 2.5M

Alternatives Considered: No other alternatives were considered. The protection schemes at these locations are being upgraded to Dominion's current substation standard.

Projected In-Service Date: 4/30/2024

Project Status: Engineering

Model: 2027 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

03/06/2023 – V1 – Original version posted to pjm.com.