
Dominion Virginia Power

PROJECT PROPOSAL

2016_1-3F_Rawlings-Dabney 500kV Line and
Dabney Switching Station

for:

2016 RTEP Proposal Window 1

March 31, 2016

PUBLIC VERSION

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A. Executive Summary

A.1. Name of proposing entity

This proposal is submitted by Dominion Virginia Power (Dominion).

A.2. Proposal window and associated violations/issues addressed

2016 RTEP Proposal Window 1

A.2.a. Reliability violation(s) addressed by project

This solution addresses the following violations that were identified by PJM as a result of generator deliverability analysis and posted at the opening of this window.

- Flowgate 102: Rogers Rd – Carson 500kV Line overloaded for the loss of LN 511.
- Flowgates 60, 61, 62, 66, 68: Chesterfield – Messer 230kV Line overloaded for the losses of LNs 576, 259, 563, 284, 228.
- Flowgates 70, 71, 72, 76, 78: Messer – Charles City Rd 230kV Line overloaded for the losses of LNs 576, 259, 563, 284, 228.
- Flowgates 248, 249: Chesterfield – Messer – Charles City Rd 230kV Line overloaded for the loss of LN 208-259.
- End-of-Life criteria violation on Line 217

A.2.b. Violations caused by proposal/nearby violations not addressed by this proposal

There are no new violations caused by this proposal and no nearby violations not addressed by this proposal.

A.3. Project interrelation with other entities

This project does not span between two PJM Transmission Owner zones or between PJM and a neighboring Balancing Authority.

A.4. Intention to construct/own/operate/maintain

For this proposal, Dominion seeks to be the designated entity to construct, own, operate, maintain and finance the Project.

A.5. Description of the proposed solution and corresponding violation(s) it resolves

To resolve the violations noted in section A.2. above, Dominion proposes to construct **2016_1-3F_Rawlings-Dabney 500kV Line and Dabney Switching Station** (the "Project") in Virginia. The Project includes the following facilities:

- **New Dabney Switching Station:** Build a new 500 kV switching station called Dabney by splitting the Carson - Midlothian 500 kV line (Line 563) approximately 15.5 miles from Carson.
- **New 500 kV Line:** Connect Rawlings 500 kV substation to the Dabney station with a 25-mile 500 kV line.
- **Line retirement:** Retire the 230 kV line from Chesterfield to Lakeside (Line 217).
- **Charles City Road Substation Modification:** Tap the 230 kV line from Darbytown to Northeast (Line 2053), 1.23 miles away from Darbytown, and connect Charles City Road load to the line.

- **Line upgrade:** Upgrade a 0.14-mile section on the Chesterfield - Basin 230 kV line (Line 259).

For the purpose of this proposal, Dominion developed a feasible route (the “Conceptual Route”) based on a desktop review of publicly available data. The Conceptual Route was used as the basis for the designs and estimates contained in this proposal. However, the Conceptual Route is not intended to represent a preferred, alternate or final route for purposes of the applicable siting, permitting and other regulatory approval processes.

A geographic map of the Project study area is provided as Appendix A. The map shows two possible routes: Option 1 and Option 2. This proposal is based on “Option 2” in order to leverage existing Dominion right-of-way and corridors and to avoid the complexities associated with the historic battlefield encountered in Option 1.

A.6. How this project should be considered

This project should be considered as a whole.

A.7. Cost and cost commitment overview

The estimated total capital cost in today’s dollars for all components of the Project, including components that PJM may consider as upgrades, is approximately \$58.8 million.

PJM can have confidence in the reasonableness of this cost estimate. Dominion, the incumbent Transmission Owner in the PJM Southern region of the Project, has extensive knowledge and experience developing, constructing, operating and maintaining similar facilities in Virginia. These estimates were derived using actual cost from recent projects.