

Waxpool Loop - Loop Line #2031 Option

General Information

Proposing entity name	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Company proposal ID	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
PJM Proposal ID	376
Project title	Waxpool Loop - Loop Line #2031 Option
Project description	Cut line #2031 (Enterprise to Roundtable) and extend double circuit 230kV line and cut into line #2149 (Roundtable to Waxpool). Rearrange 230kV terminations into Farmwell Substation to create new Line #2031 (Enterprise-Waxpool), Line #9247(Farmwell-Roundtable), Line #2149 (Farmwell-Roundtable), and Line #2190 (Cumulus-Farmwell). See the Additional Comments of the Transmission Line Upgrade Component section for overall ratings.
Project in-service date	12/2025
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Project Components

1. New double circuit 230kV line to loop between Line# 2031 and Line #2149;...
2. Farmwell 230kV Line Terminations
3. Enterprise Substation - Relay resets and documentation
4. Roundtable Substation - Relay resets and documentation
5. Waxpool Substation - Relay resets and documentation
6. Cumulus Substation - Relay resets

Greenfield Transmission Line Component

Component title	New double circuit 230kV line to loop between Line# 2031 and Line #2149; Create new Lines #2031, #2149, and #9247; Rearrange Line #2190 termination at Farmwell	
Point A	Enterprise (Line #2031), Farmwell (Line #2149), Farmwell (Line #9247), and Cumulus(#2190)	
Point B	Waxpool(Line #2031), Roundtable (Line #2149), Roundtable (Line #9247), and Farmwell (#2190)	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	1047.000000	1047.000000
Winter (MVA)	1160.000000	1160.000000
Conductor size and type	2-768 ACSS/TW MOT 250 Deg C (New line conductor; Line #2031, #2149, #2190, and #9247)	
Nominal voltage	AC	
Nominal voltage	230 kV	
Line construction type	Overhead	
General route description	New 230kV double circuit line extension starts approximately 0.25 mile east of Greenway Substation, traverses north 0.26 mile along Loudoun County Parkway, turns west approximately 0.17 mile following the proposed Prentice Drive extension, turns north approximately 0.37 mile following proposed Lockridge Drive West extension, and then turns east approximately 0.10 mile to the existing Line #2149 (Roundtable-Waxpool) right of way. Proposal D2 cuts Line #2031 (Enterprise-Roundtable) and Line #2149 (Roundtable-Waxpool) to create Line #2031 (Enterprise-Waxpool), Line #9247 (Farmwell-Roundtable), and Line #2149 (Farmwell-Roundtable). Line #2190 (Cumulus-Farmwell) will be rearranged at Farmwell Substation to shift the line termination location.	
Terrain description	The area is predominately urban with minimal changes in elevations. The areas that are forested will ultimately be developed in the future.	
Right-of-way width by segment	Acquisition of new right of way, approximately 0.9 mile in length. The ROW for the double-circuit line loop is 100 feet wide.	
Electrical transmission infrastructure crossings	None	

Civil infrastructure/major waterway facility crossing plan	None
Environmental impacts	Please review section A.4 Assessment of Potential Environmental Impacts in the attached Waxpool Area Proposal D2 Real Estate and Permitting document attached in the supporting documents below.
Tower characteristics	230 kV double circuit double dead end steel pole structures and 230 kV double circuit suspension steel pole structures with foundations for the new line.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional comments	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Component Cost Details - In Current Year \$	
Engineering & design	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Total component cost	\$16,186,149.00
Component cost (in-service year)	\$17,335,367.00
Substation Upgrade Component	
Component title	Farmwell 230kV Line Terminations
Substation name	Farmwell Substation
Substation zone	352

Substation upgrade scope

The substation scope includes the purchase and installation of two 230 kV circuit breakers, two disconnect switches, six CCVT's, six arresters and relay material. 230kV Line terminations at Farmwell will include: 1.) Line #2149 (Farmwell-Roundtable). 2.) Line #2190 (Cumulus-Farmwell) - Line termination to be relocated 3.) Line #9247 (Farmwell-Roundtable) 4.) Line #2166 (Farmwell-Waxpool)-No changes. Substation one-line and general arrangement drawings detail the terminations.

Transformer Information

None

New equipment description

Purchase and Install: 1.) Two (2), 230kV, 63kAIC, 4000A SF6 Circuit Breakers. 2.) Two (2), 230 kV, 4000A, center break switches. 3.) Six (6), 230kV CCVT's. 4.) Six (6), 180kV, 144kV MCOV Surge Arresters. 5.) Conductor, connectors, conduits, control cables, foundations, steel structures, grounding material, and relay material as per engineering standards.

Substation assumptions

The existing Farmwell substation has two empty positions for the termination of the new lines. The company will remove existing tubular bus and structures as required to accommodate the new breakers. Farmwell terminal equipment will be rated higher than the line conductor.

Real-estate description

The substation will not be expanded for this proposal.

Construction responsibility

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Additional comments

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Component Cost Details - In Current Year \$

Engineering & design

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Permitting / routing / siting

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

ROW / land acquisition

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Materials & equipment

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Construction & commissioning

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Construction management

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Overheads & miscellaneous costs

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Contingency

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Total component cost	\$1,423,305.00
Component cost (in-service year)	\$1,524,360.00

Substation Upgrade Component

Component title	Enterprise Substation - Relay resets and documentation
Substation name	Enterprise Substation
Substation zone	352
Substation upgrade scope	Drawing updates, coordination study, relay resets, and field support necessary for the Line #2031 destination change to Waxpool Substation. New Line #2031 (Enterprise-Waxpool)

Transformer Information

None	
New equipment description	No new substation equipment required for this proposal.
Substation assumptions	No additional relay equipment required for this proposal. Enterprise terminal equipment will be rated higher than the line conductor.
Real-estate description	The substation will not be expanded for this proposal.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional comments	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Component Cost Details - In Current Year \$

Engineering & design	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Overheads & miscellaneous costs	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Total component cost	\$20,330.00
Component cost (in-service year)	\$21,773.00

Substation Upgrade Component

Component title	Roundtable Substation - Relay resets and documentation
Substation name	Roundtable Substation
Substation zone	352
Substation upgrade scope	Drawing updates, coordination studies, relay resets, and field support necessary for renumbering the Line #2031 to Line #9247 and the destination changes of the Line #9247 and Line #2149 to Farmwell Substation. New Line #2031 (Farmwell-Roundtable) and Line #9247 (Farmwell-Roundtable)

Transformer Information

None	
New equipment description	No new equipment required for this proposal.
Substation assumptions	No additional relay material will be needed for this proposal. Roundtable terminal equipment will be rated higher than the line conductor.
Real-estate description	The substation will not be expanded for this proposal.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional comments	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Component Cost Details - In Current Year \$

Engineering & design	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Materials & equipment	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Total component cost	\$38,108.00
Component cost (in-service year)	\$40,814.00

Substation Upgrade Component

Component title	Waxpool Substation - Relay resets and documentation
Substation name	Waxpool Substation
Substation zone	352
Substation upgrade scope	Drawing updates, coordination study, relay resets, and field support necessary for the Line #2031 Line destination change to Enterprise Substation. New Line #2031 (Enterprise to Waxpool)

Transformer Information

None	
New equipment description	No new equipment required for this proposal.
Substation assumptions	No additional relay equipment required for this proposal. Waxpool terminal equipment will be rated higher than the line conductor.
Real-estate description	The substation will not be expanded for this proposal.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional comments	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Component Cost Details - In Current Year \$

Engineering & design	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
----------------------	--

Permitting / routing / siting	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Total component cost	\$20,330.00
Component cost (in-service year)	\$21,773.00

Substation Upgrade Component

Component title	Cumulus Substation - Relay resets
Substation name	Cumulus Substation
Substation zone	352
Substation upgrade scope	System Protection Engineering Coordination Study and System Protection Technician relay resets.

Transformer Information

None	
New equipment description	No new equipment required for this proposal.
Substation assumptions	No additional relay material will be needed for this proposal. Cumulus terminal equipment will be rated higher than the line conductor.
Real-estate description	The substation will not be expanded for this proposal.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional comments	The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Component Cost Details - In Current Year \$

Engineering & design	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Total component cost	\$9,978.00
Component cost (in-service year)	\$10,686.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type
N2-SLD8	313721	6BUTTERMILK	313729	6CUMULUS	1	230	345	N-1-1 Load Drop (summer)
N2-WLD4	313721	6BUTTERMILK	313729	6CUMULUS	1	230	345	N-1-1 Load Drop (winter)

New Flowgates

The redacted information is proprietary to the Company, therefore it is privileged and confidential.

Financial Information

Capital spend start date	03/2023
Construction start date	08/2025
Project Duration (In Months)	33

Additional comments

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