Line #2172 - Reconductor Brambleton to Evergreen Mills - Full

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	26
Project title	Line #2172 - Reconductor Brambleton to Evergreen Mills - Full
Project description	Proposal A-2 increases the ampacity of Line 2172 between Brambleton and Evergreen Mills to a summer rating of 1574 MVA by fully reconductoring the line and upgrading the line leads at Brambleton. System Protection Engineering Coordination Study and System Protection Technician relay resets.
Project in-service date	06/2024
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. Uprate line segment from Brambleton to Evergreen Mills - Full Reconductor
2. Brambleton Substation terminal equipment
3. Evergreen Mills Substation relay resets

Transmission Line Upgrade Component

Component title	Uprate line segment from Brambleton to Evergreen Mills - Full Reconductor
Impacted transmission line	Line #2172 - Brambleton to Evergreen Mills

Point A	Brambleton
Point B	Evergreen Mills
Point C	
Terrain description	The project area is in the northern Virginia Piedmont region with elevations ranging from approximately 250 to 300 feet. The terrain is predominately forested/vegetated existing right-of-way consisting of moderate slopes. The line will cross two primary roads, several small streams, and two streams with greater than 5 square miles of drainage area.

Existing Line Physical Characteristics

Operating voltage	230 kV
Conductor size and type	2-636 ACSR (24/7) 150 Deg C, 2-795 ACSR (26/7) 150 Deg C, and 2-768.2 ACSS/TW 250 Deg C MOT
Hardware plan description	Existing line hardware will not be reused.
Tower line characteristics	Existing structures for this transmission line are ten years old or less and do not need to be replaced as part of the reconductor project.

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1574.000000	1574.000000
Winter (MVA)	1650.000000	1650.000000
Conductor size and type	2-768.2 ACSS/TW 250 deg C MOT	
Shield wire size and type	Shield wire unchanged	
Rebuild line length	1.93 miles (Reconductor)	

Rebuild portion description	Reconductor scope includes: 1. Remove approximately 1.56 miles of single circuit 3-phase 2-636 ACSR conductor between Brambleton and structure number 2172/86A. 2. Remove approximately 0.37 miles of single circuit 3-phase 2-795 ACSR conductor between structure number 2172/86A and 80. 3. Replace three conductor deadend insulator assemblies on the line 2172 backbone at Brambleton. 4. Replace three conductor suspension insulator assemblies on two double circuit steel poles between Brambleton and structure number 2172/80. 5. Replace three conductor braced post insulator assemblies on seven double circuit steel poles between Brambleton and structure number 2172/80. 6. Replace six conductor deadend insulator assemblies on nine double circuit steel poles between Brambleton and structure number 2172/80. 7. Replace six conductor deadend insulator assemblies on two single circuit steel 3-pole structures between Brambleton and structure number 2172/80. 8. Replace six conductor deadend insulator assemblies on one single circuit steel pole structure between Brambleton and structure number 2172/80. 9. Replace three conductor deadend insulator assemblies on triple circuit steel pole structure number 2172/80. 10. Install approximately 1.93 miles of single circuit 3-phase 2-768.2 ACSS/TW conductor between Brambleton and structure number 2172/80. This shall include the installation of dampers, spacers, and tee connectors for the substation installed risers.
Right of way	No new or additional right of way is required to complete this project.
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	$2,088,104.00

Component cost (in-service year)	$2,236,359.00

Substation Upgrade Component

Component title	Brambleton Substation terminal equipment
Substation name	Brambleton
Substation zone	352
Substation upgrade scope	1.) Upgrade Line 2172 line lead conductors. 2.) Upgrade CT's. 3.) System Protection Engineering Coordination Study and System Protection Technician relay resets.

Transformer Information

None

New equipment description	Purchase & Install Substation Material: 1. Line 2172 line lead conductors and connector to support 1574 MVA summer line rating. 2. All Current Transformers in the 230 kV, Circuit Breaker (217202)- total of eighteen (18), 2000: 5 CT’s, TRF 4 3. All Current Transformers in the 230 kV, Circuit Breaker (2172T2210 previously 2172T2183)- total of eighteen (18), 2000: 5 CT’s, TRF2.5
Substation assumptions	No additional relay material will be needed.
Real-estate description	The substation will not be expanded for this project.
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	$217,849.00
Component cost (in-service year)	$233,316.00

Substation Upgrade Component

Component title	Evergreen Mills Substation relay resets
Substation name	Evergreen Mills
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 equipment required for this proposal.
Real-estate description	The substation will not be expanded for this project.
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
GD-S12	314171	6BRAMBL	313827	6EVERGR MILL	1	230	345	Gen Deliv (Summer)
N2-ST2	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N2-ST4	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N2-ST5	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N2-ST6	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N2-ST7	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N2-ST9	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N2-ST11	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (summer)
N1-ST33	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1 Thermal (Summer)
N2-WT2	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (winter)
N2-WT3	314171	6BRAMBL	313827	6EVERGR MILL	1	230/230	345/345	N-1-1 Thermal (winter)
DOM-T2	313827	6EVERGR MILL	314171	6BRAMBL	1	230	345	FERC 715 Thermal

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	03/2024
Project Duration (In Months)	15

Additional comments

None