Line 539 Rebuild - Bristers to Ox

General Information

Proposing entity name	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	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	264
Project title	Line 539 Rebuild - Bristers to Ox
Project description	Rebuild approximately 22.89 miles of transmission line from the Bristers substation to the Ox substation using 6,000A, 500 kV conductor.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	06/2032
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Project Components

1. Line 539 Rebuild - Bristers to Ox
2. Bristers Substation Terminal Equipment Upgrade
3. Ox Substation Terminal Equipment Upgrade
4. Yeat Substation Terminal Equipment Upgrade

Transmission Line Upgrade Component

Component title	Line 539 Rebuild - Bristers to Ox
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line 539
Point A	Bristers
Point B	Yeat
Point C	Ox
Terrain description	The project is approximately 22.9 miles long traversing Faquier, Prince William and Fairfax Counties in The Piedmont Region. The area is mostly rural with some suburban development. The project crosses several major arterial roads and the Occoquan River. There are elevation changes along the route with the highest point being approximately 408 feet and the lowest being approximately 215 feet.
Existing Line Physical Characteristics	
Operating voltage	500
Conductor size and type	2-2500 ACAR (84/7) 90°C MOT [22.82 Miles]
Hardware plan description	New hardware will be used for line rebuild.
Tower line characteristics	Existing Structures will be removed and new structures will be used for this rebuild.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	Emergency ratings
Summer (MVA)	5109.000000	5268.000000
Winter (MVA)	5691.000000	5867.000000

Conductor size and type	3-1351.5 ACSS/TW/HS285 145°C MOT
Shield wire size and type	619 DNO-10100
Rebuild line length	22.82
Rebuild portion description	Existing Facilities to be Removed 1. (120) SC 500kV 5MT Susp Tower 2. (6) SC 500kV 5DE 5HA Tower 3. (1) SC 3-Pole (539/3A) (See note 6) 4. (6) SC 500kV Running Angle Tower 5LA & 5MA 5. 22.82 miles of 2-2500 ACAR Conductor 6. 22.82 miles of 7#7 Static Wire – Right Side 7. 22.82 miles of 614 45/45MM2 OPT-GW (36) – Left Side Permanent Facilities to be Installed 1. (120) DC Suspension 5-2KT Towers 2. (5) DC DDE H-Frames 3. (3) DC DDE 3-Pole 0-70° 4. (4) DC DDE 3-Pole 70-90° 5. 22.82 miles of 3-1351.5 ACSS/TW/HS285 145° MOT Conductor 6. 22.82 miles of 619 DNO-10100 Existing Facilities to be Transferred or Modified 1. Install a total of six (6) 500kV conductor strain assemblies as follows: a. Three (3) each on structures 539/1A and 539/133 b. See attached reference drawing 35.252 2. Install five (5) 500kV conductor training insulator assemblies on structure 539/133. 3. Install three (3) 500kV conductor jumper assemblies on structure 539/133. 4. Install a total of four (4) OPGW strain assemblies as follows: a. Two (2) each on structures 539/1A and 539/133
Right of way	Existing Right-of-Way shall be used.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/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	$129,120,370.01
Component cost (in-service year)	$138,287,916.00

Substation Upgrade Component

Component title	Bristers Substation Terminal Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Bristers
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. Three (3), 500kV, 5000A Coupling Capacitor Voltage Transformers. 2. Conductors, connectors, conduit, control cables, steel, foundation, and grounding as required per engineering standards. Remove Substation Material: 1. Three (3), 500kV, 5000A Coupling Capacitor Voltage Transformers. 2. One (1), 500kV, 5000A Wave Trap. 3. Conductors, connectors, conduit, control cables, steel, foundation, and grounding as required per engineering standards. Purchase & Install Relay Material: 1. One (1), 4506 – 3Ø CCVT Potential Makeup Box. 2. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 3. One (1), Panel Retirement.

Transformer Information

None

New equipment description	Purchase & Install Substation Material: 1. Three (3), 500kV, 5000A Coupling Capacitor Voltage Transformers. 2. One (1), 4506 – 3Ø CCVT Potential Makeup Box. 3. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables)
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole pad connections to maintain 5000A ratings. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/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	$666,717.30
Component cost (in-service year)	$714,054.00

Substation Upgrade Component

Component title	Ox Substation Terminal Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Ox
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. Three (3), 396 kV MO, 318 kV MCOV Station Class Surge Arresters. 2. Four (4), 500kV, 5000A Double End Break Switches. 3. Conductors, connectors, conduit, control cables, steel, foundation, and grounding as required per engineering standards. Remove Substation Material: 1. One (1), 500kV, 5000A Wave Trap. 2. One (1), 500kV, 4000A Double End Break Switch. 3. Three (3), 500kV, 3000A Double End Break Switches. 4. Conductors, connectors, conduit, control cables, steel, foundation, and grounding as required per engineering standards. Purchase & Install Relay Material: 1. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 2. One (1), Panel Retirement.

Transformer Information

None

New equipment description	1. Three (3), 396 kV MO, 318 kV MCOV Station Class Surge Arresters. 2. Four (4), 500kV, 5000A Double End Break Switches. 3. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables)
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole pad connections to maintain 5000A ratings. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/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	$2,252,948.00
Component cost (in-service year)	$2,412,907.00

Substation Upgrade Component

Component title	Yeat Substation Terminal Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Substation name	Yeat
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. Conductors and connectors as required per engineering standards. Remove Substation Material: 1. Two (2), 500kV, 5000A Wave Traps. 2. Conductors, Connectors, steel, foundation, and grounding as required per engineering standards. Purchase & Install Relay Material: 1. Two (2), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables). 2. Two (2), Relay Resets. 3. Two (2), Panel Retirements.

Transformer Information

None

New equipment description	1. Two (2), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables). 2. Two (2), Relay Resets.
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. At the time of Yeats construction it is assumed that the existing protection for lines going to Bristers and Ox substation to be DCB/PLC. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/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	$334,231.80
Component cost (in-service year)	$357,962.00

Congestion Drivers

None

Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-32GD-LL61	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL62	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL58	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL59	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S152	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S83	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S84	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S96	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S97	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S69	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S77	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S124	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S106	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S111	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S121	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL2	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL3	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL19	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL11	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-32GD-LL21	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL42	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL47	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL48	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S11	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S14	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S15	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S17	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S58	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S42	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S24	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S25	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S27	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S31	314902	8CARSON	314914	8MDLTHAN	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S23	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S30	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S28	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S26	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S57	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S48	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S50	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S16	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S7	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S8	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S1	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-LL24	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S119	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S115	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2025W1-32GD-S107	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S108	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included
2025W1-32GD-S109	314908	8ELMONT	314911	8LADYSMITH	1	500	345	2032 Generation Deliverability	Included

New Flowgates

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

Financial Information

Capital spend start date	01/2026
Construction start date	06/2029
Project Duration (In Months)	77

Cost Containment Commitment

Cost cap (in current year)	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Cost cap (in-service year)	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Components covered by cost containment

1. Line 539 Rebuild - Bristers to Ox - Dominion
2. Bristers Substation Terminal Equipment Upgrade - Dominion
3. Ox Substation Terminal Equipment Upgrade - Dominion
4. Yeat Substation Terminal Equipment Upgrade - Dominion

Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	No
ROW / land acquisition	No

Materials & equipment	No
Construction & commissioning	No
Construction management	No
Overheads & miscellaneous costs	No
Taxes	No
AFUDC	No
Escalation	No
Additional Information	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Is the proposer offering a binding cap on ROE?	Yes
Would this ROE cap apply to the determination of AFUDC?	Yes
Would the proposer seek to increase the proposed ROE if FERC finds that a higher ROE would not be unreasonable?	No
Is the proposer offering a Debt to Equity Ratio cap?	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Additional Comments

None