Line 576 Rebuild - North Anna to Midlothian

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	755
Project title	Line 576 Rebuild - North Anna to Midlothian
Project description	Rebuild approximately 41 miles of existing transmission line from the North Anna substation to the Midlothian 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 576 Rebuild - North Anna to Midlothian (99-3410)
2. North Anna Terminal Equipment Uprate (993410)
3. Midlothian Substation Terminal Equipment Uprate (99-3410)

Transmission Line Upgrade Component

Component title	Line 576 Rebuild - North Anna to Midlothian (99-3410)

Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line 576
Point A	North Anna
Point B	Midlothian
Point C	
Terrain description	The project area is in the central Virginia Piedmont region with elevations ranging from approximately 130 to 260 feet. The terrain is predominately vegetated existing right-of-way with several areas of dense residential development consisting of minimal slopes. The line will include rebuilt crossings of Interstate 64, Jefferson Highway (Route 33), Midlothian Turnpike (Route 60), CSX railroads, Lake Anna, the James River, and the Little River. The line starts in Louisa County and runs through Hanover County, Goochland County, and Powhatan County, and terminates in Chesterfield County.
Existing Line Physical Characteristics	
Operating voltage	500
Conductor size and type	2-2500 ACAR (84/7) 90°C MOT
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 ACSS/TW/HS285 145° C MOT	

Shield wire size and type	(2) DNO-10410 shield wire
Rebuild line length	41.13 Miles
Rebuild portion description	EXISTING FACILITIES TO BE REMOVED: 1. Remove two (2) existing single circuit 5DE tower structures. 2. Remove nine (9) existing single circuit 5HA tower structures. 3. Remove two (1) existing single circuit 5HT tower structure. 4. Remove ten (10) existing single circuit 5LA tower structures. 5. Remove one hundred sixty-six (166) existing single circuit 5LT tower structures. 6. Remove five (5) existing single circuit 5MA tower structures. 7. Remove fourteen (14) existing single circuit 5MT tower structures. 8. Remove one (1) existing single circuit 2-pole H-frame structure. 9. Remove approx. 41.13 miles of 2-2500 ACAR (84/7) conductor from existing backbone structure 576/1A to existing backbone structure 576/209A (563/209A) 10. Remove approx. 41.13 miles of two (2) fiber optic GW 45/45 MM2 614 from existing backbone structure 576/1A to existing backbone structure 576/209A (563/209A) MODIFICATIONS TO EXISTING FACILITIES: 1. Install three (3) 500kV conductor strain assemblies (35.252) and two (2) OPGW strain assemblies (96.060) on the following structures: a. Structures 576/1A and 576/209A(563/209A) PERMANENT FACILITIES TO BE INSTALLED: 1. Install one hundred eighty-nine (189) 500kV 5-2 KT Tower [Reference Drawing 15.300] on foundations as follows: a. Structures 2-29, 31, 33-69, 71-72, 74, 76-107, 109-118, 120-129, 131-135, 137-142, 144145,147-153, 155-160, 162, 164-171, 173-202, 204, and 206-207. 2. Install five (5) 500kV 5-2 MA Tower [Reference Drawing 15.805] on foundations as follows: a. Structures 30, 70, 119, 146, and 205 3. Install two (2) 500/230kV 3 Pole Steel DC DDE Heavy Angle [Reference Drawing 15.226] on foundations as follows: a. Structures 1 and 209 4. Install thirteen (13) 500/230kV 3 Pole Steel DC DDE Small/Medium Angle [Reference Drawing 15.225] on foundations as follows: a. Structures 32, 73, 75, 108, 130, 136, 143, 154, 161, 163, 172, 203, and 208 5. Install approximately 41.13 miles of two (2) DNO-10100 OPGW wire as follows: a. From structure 576/1A to structure 576/209A (563/209A) 6. Install approx. 41.13 miles of three 3-phase 3-1351 ACSS conductor as follows: a. From structure 576/1A to structure 576/209A (563/209A).
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	$205,400,117.00
Component cost (in-service year)	$219,983,524.00

Substation Upgrade Component

Component title	North Anna Terminal Equipment Uprate (993410)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	North Anna
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. Four (4), 500 kV, 5000A Double End Break Switches. 2. Three (3), 500kV Coupling Capacitor Voltage Transformers. 3. Approximately 600 FT of 6 in. Sch 80 AL tube bus. 4. Conductor, connectors, conduit, control cable, foundations, steel structures and grounding material as necessary per engineering standards. Remove Substation Material: 1. One (1), 500 kV, 5000A, 115-300kHz, Wave Trap. 2. Four (4), 500 kV, 3000A Double End Break Switches. 3. Three (3), 500kV Coupling Capacitor Voltage Transformers. 4. Approximately 600 FT of 6in, Sch 80 AL tube bus. 5. Conductor, connectors, conduit, control cable, foundations, steel structures and grounding material as necessary 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), 4506 – 3Ø CCVT Potential Makeup Box. 3. One (1), Panel Retirement.

Transformer Information

None

New equipment description	1. Four (4), 500 kV, 5000A Double End Break Switches. 2. Three (3), 500kV Coupling Capacitor Voltage Transformers. 3. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables). 4. One (1), 4506 – 3Ø CCVT Potential Makeup Box.

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	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.
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	$1,798,476.40
Component cost (in-service year)	$1,926,168.00

Substation Upgrade Component

Component title	Midlothian Substation Terminal Equipment Uprate (99-3410)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Midlothian
Substation zone	345

Substation upgrade scope	Purchase & Install Substation Material: 1. Two (2), 500 kV, 63kAIC, 5000A, SF6 Circuit Breakers. 2. Three (3), 500kV Coupling Capacitor Voltage Transformers. 3.Three (3), 396 kV, 318 kV MCOV Station Class Surge Arresters 4.Approximately 2000 FT 6 in. Sch. 80 AL tube bus. 5.Conductor, connectors, conduit, control cable, foundations, steel structures and grounding material as necessary per engineering standards. Remove Substation Material: 1. One (1), 500 kV, 50kAIC, 4000A, SF6 Circuit Breaker. 2. One (1), 500 kV, 4000A, 115-300kHz, Wave Trap. 3. Three (3), 500kV Coupling Capacitor Voltage Transformers. 4. Approximately 2000 FT 5 in. Sch. 40 AL tube bus. 5. Conductor, connectors, conduit, control cable, foundations, steel structures and grounding material as necessary 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 Reuse Relay Material: 1. Two (2), 4510 – SEL-2411 Equipment Annunciator 2. Two (2), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 3. Two (2), 1515 – 24” Dual 500KV SEL-351 Transmission Breaker w/ Reclosing Panel 4. Two (2), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 5. Two (2), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor

Transformer Information

None

New equipment description	1. Two (2), 500 kV, 63kAIC, 5000A, SF6 Circuit Breakers. 2. Three (3), 500kV Coupling Capacitor Voltage Transformers. 3.Three (3), 396 kV, 318 kV MCOV Station Class Surge Arresters 4. 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	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.
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	$3,786,810.00
Component cost (in-service year)	$4,055,674.00

Congestion Drivers

None

Existing Flowgates

None

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	06/2032
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 576 Rebuild - North Anna to Midlothian (99-3410) - Dominion
2. North Anna Terminal Equipment Uprate (993410) - Dominion
3. Midlothian Substation Terminal Equipment Uprate (99-3410) - 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