Line 563 Rebuild - Carson 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	238
Project title	Line 563 Rebuild - Carson to Midlothian
Project description	Rebuild approximately 37.4 miles of existing transmission line from the Carson substation to the Midlothian substation. Upgrade/install equipment at Carson and Midlothian substations to support the new conductor termination.
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 563 Rebuild - Carson to Midlothian (99-3597)
2. Carson Terminal Equipment Uprate (993597)
3. Midlothian Terminal Equipment Uprate (993597)

Transmission Line Upgrade Component

Component title	Line 563 Rebuild - Carson to Midlothian (99-3597)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line 563
Point A	Carson
Point B	Midlothian
Point C	
Terrain description	The project area is in the central Virginia Piedmont region with elevations ranging from approximately 125-300’. The terrain is predominately vegetated existing right-of-way in rural areas and some suburban developments. The line will include 39 VDOT road crossings, including 85, 288, and Powhite Parkway, as well as several creek and stream crossings. The line routes through Chesterfield and Dinwiddie Counties.

Existing Line Physical Characteristics

Operating voltage	500
Conductor size and type	2-2500 ACAR (84/7) [37.26 miles] & -1351 ACSR (45/7) [0.15 miles]
Hardware plan description	New hardware will be used for line rebuild.
Tower line characteristics	The existing line consists mainly of 500 kV SC Steel Suspension Towers built in 1981. The proposed structures to be installed are mainly 500/230kV Double Circuit V-String Suspension Towers.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	Emergency ratings
Summer (MVA)	4357.000000	4357.000000
Winter (MVA)	5155.000000	5155.000000

Conductor size and type	3-1351 ACSS/TW/HS285 112° C MOT
Shield wire size and type	(2) DNO-10410 shield wire
Rebuild line length	37.4 Miles
Rebuild portion description	EXISTING FACILITIES TO BE REMOVED: 1. One Hundred and Eighty-five (185) 500 kV SC Steel Suspension Towers 2. Five (5) 500 kV SC Steel DDE Towers 3. Two (2) 500 kV SC Steel DDE Monopoles 4. Nineteen (19) 500 kV SC Steel Running Angle Towers 5. 0.15 miles of 3-1351 ACSR (45/7) Conductor 6. 37.26 miles of 2-2500 ACAR (84/7) Conductor 7. 37.41 miles of 2 – 7#7 Alumoweld Shield Wire MODIFICATIONS TO EXISTING FACILITIES: 1. Install three (3) conductor dead-end assemblies and two (2) OPGW dead-end assemblies on existing backbone structures 563/1C and 563/209A. PERMANENT FACILITIES TO BE INSTALLED: 1. One Hundred and Eighty-five (185) 500-230kV DC V-String Suspension Towers 2. Twenty-six (26) 500-230kV engineered steel DC DDE 3-pole 6. 37.41 miles of 3-1351 ACSS/TW/HS285 Conductor 7. 37.41 miles of 2 - DNO-10100 OPGW
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	$228,477,940.01

Component cost (in-service year)	$244,699,874.00

Substation Upgrade Component

Component title	Carson Terminal Equipment Uprate (993597)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Carson
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. Two (2), 500kV, 5000A, 63 kA SF6 Circuit Breaker. 2. Four (4), 500kV, 5000A, Double end break switch. 3. Three (3), 396kV MO, 318 kV MCOV Station Class Surge Arrester. 4. Approximately 550ft of 6IN Sch 80 AL bus. 5. Conductors, connectors, control cable, conduits, steel, foundation, and grounding material as required per engineering standards. Remove Substation Material: 1. Two (2), 500kV, 4000A, 50 kA SF6 Circuit Breaker. 2. Two (2), 500kV, 4000A, Double end break switch. 3. Two (2), 500kV, 3000A, Double end break switch. 4. One (1), 500kV, 4000A, Wave Trap. 5. Approximately 550ft of 5IN Sch 40 AL bus. 6. Conductors, connectors, control cable, conduits, steel, foundation, and grounding material as required per engineering standards. Purchase & Install Relay Material: 1. One (1), 4510 - SEL-2411 Equipment Annunciator 2. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 3. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 4. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 5. One (1), Panel Retirement. Reuse Relay Material: 1. Two (2), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 2. Two (2), 1515 – SEL-351 500kV Transmission Breaker w/ Reclosing Panel 3. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 4. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 5. One (1), 4510 - SEL-2411 Equipment Annunciator

Transformer Information

None

New equipment description	1. Two (2), 500kV, 5000A, 63 kA SF6 Circuit Breaker. 2. Four (4), 500kV, 5000A, Double end break switch. 3. Three (3), 396kV MO, 318 kV MCOV Station Class Surge Arrester. 4. One (1), 4510 - SEL-2411 Equipment Annunciator 5. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 6. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 7. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor
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	$6,152,116.00
Component cost (in-service year)	$6,588,916.00

Substation Upgrade Component

Component title	Midlothian Terminal Equipment Uprate (993597)
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. One (1), 500kV, 5000A, 63 kA SF6 Circuit Breaker. 2. Three (3), 396kV MO, 318 kV MCOV Station Class Surge Arrester. 3. Approximately 100ft of 6IN Sch 80 AL bus. 4. Conductors, connectors, control cable, conduits, steel, foundation, and grounding material as required per engineering standards. Remove Substation Material: 1. One (1), 500kV, 4000A, 50 kA SF6 Circuit Breaker. 2. One (1), 500kV, 4000A, Wave Trap 3. Approximately 100ft of 5IN Sch 40 AL bus. 4. Conductors, connectors, control cable, conduits, steel, foundation, and grounding material 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) Reuse Relay Material: 1. One (1), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 2. One (1), 1515 – SEL-351 500kV Transmission Breaker w/ Reclosing Panel 3. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 4. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 5. One (1), 4510 - SEL-2411 Equipment Annunciator

Transformer Information

None

New equipment description	1. One (1), 500kV, 5000A, 63 kA SF6 Circuit Breaker. 2. Three (3), 396kV MO, 318 kV MCOV Station Class Surge Arrester. 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	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	$2,429,026.00
Component cost (in-service year)	$2,601,487.00

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	06/2029
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 563 Rebuild - Carson to Midlothian (99-3597) - Dominion
2. Carson Terminal Equipment Uprate (993597) - Dominion
3. Midlothian Terminal Equipment Uprate (993597) - 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