Line #579 EOL Rebuild_Septa to Yadkin (99-2993)

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	980
Project title	Line #579 EOL Rebuild_Septa to Yadkin (99-2993)
Project description	Wreck and rebuild Line #579 and construct with current 500 kV Standards (3-1351.5 ACSR (45/7) “DIPPER” @ 110°C) and to achieve a minimum conductor rating of 4330 MVA Summer Normal and Emergency. A portion of this line is constructed with 5-2 Tower Design and the Suffolk – Thrasher Line #2110 is located on these structures. Rebuild the Line #2110 to current 230kV standards (2-768.2 ACSS/TW (20/7) “MAUMEE” @ 250C) and achieve a minimum conductor rating of 1573 MVA Summer Normal and Emergency. Substation terminal ends should be upgraded as follows to support the line rating: At Yadkin: Line leads should be upgraded to 5000A. At Septa: Circuit breaker (579T586), breaker switches (56288, 57985, 58688 & 57988), and line leads should be upgraded to 5000A.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	12/2028
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. Septa Substation

2. Yadkin Substation

3. Line 579 Rebuild - Septa to Yadkin

4. Line 2110 Rebuild - Thrasher to Suffolk

Substation Upgrade Component

Component title	Septa Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Septa
Substation zone	366
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker. 2. Four (4), 500kV, 5000A Double End Break Switches. 3. Three (3), 396kV MOV, 318kV MCOV Surge Arresters 4. Three (3), 500kV Capacitor Coupling Voltage Transformers 5. Conductors, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Removal Material: 1. One (1), 500kV, 3000A, 40kA, SF6 Circuit Breaker 2. One (1), 4000A Wave Trap Purchase & Install Relay Material: 1. One (1), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 2. One (1), 1515 – 24” Single SEL-351 500kV Transmission Breaker w/o Reclosing Panel 3. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 4. One (1), 1340 – 24” Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 5. One (1), 4506 – 3Ø CCVT Potential Makeup Box 6. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 7. One (1), 4510 – SEL-2411 Equipment Annunciator 8. Two (2), Retired Panels (Panel 5 and Panel 21)

Transformer Information

None

New equipment description	1. One (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker. 2. Four (4), 500kV, 5000A Double End Break Switches. 3. Three (3), 396kV MOV, 318kV MCOV Surge Arresters 4. Three (3), 500kV Capacitor Coupling Voltage Transformers 5. One (1), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 6. One (1), 1515 – 24” Single SEL-351 500kV Transmission Breaker w/o Reclosing Panel 7. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 8. One (1), 1340 – 24” Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 9. One (1), 4506 – 3Ø CCVT Potential Makeup Box 10. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box 11. One (1), 4510 – SEL-2411 Equipment Annunciator 12. Two (2), Retired Panels (Panel 5 and Panel 21)

Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. 4-hole pad connections must be replaced with 6-hole and 8-hole connections to maintain 5000 A ratings.
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	$3,844,719.10
Component cost (in-service year)	$4,117,694.05

Substation Upgrade Component

Component title	Yadkin Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Yadkin
Substation zone	366

Substation upgrade scope	Purchase & Install Substation Material: 1. Three (3), 396kC, 318kV MCOV Surge Arresters 2. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Removal Material: 1. One (1), 4000A Wave Trap Purchase & Install Relay Material: 1. One (1), 1340 – 28” Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel

Transformer Information

None

New equipment description	1. Three (3), 396kC, 318kV MCOV Surge Arresters 2. One (1), 1340 – 28” Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. 4-hole pad connections must be replaced with 6-hole and 8-hole connections to maintain 5000 A ratings.
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	$438,829.10
Component cost (in-service year)	$469,985.86

Transmission Line Upgrade Component

Component title	Line 579 Rebuild - Septa to Yadkin
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line #579
Point A	Septa
Point B	Yadkin
Point C	
Terrain description	Terrain description that traversed by the proposed line: The terrain is predominately forested/vegetated existing right-of-way consisting of little to no slopes. Less than 10% of the line traverses commercial parking lots or paved roads.
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)	4357.000000	4357.000000
Winter (MVA)	5155.000000	5155.000000
Conductor size and type	3-1351.5 ACSR (45/7) 110°C MOT	

Shield wire size and type	DNO-11410 shield wire
Rebuild line length	33.09
Rebuild portion description	Refer to "99-2993_T-Line Preliminary Scope and One Line" document.
Right of way	Site size, geography, and land use description for proposed site: This rebuild will take place within approximately 33.1 miles of existing right of way. Most of the line is adjacent to rural and residential areas with a small portion being adjacent to retail areas. The project area is in the Tidewater Coastal Plain with elevations ranging from approximately 0 to 20 feet about sea level.
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	$191,245,527.00
Component cost (in-service year)	$204,823,959.00

Transmission Line Upgrade Component

Component title	Line 2110 Rebuild - Thrasher to Suffolk
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Impacted transmission line	Line #2110
Point A	Thrasher
Point B	Suffolk
Point C	
Terrain description	Terrain description that traversed by the proposed line: The terrain is predominately forested/vegetated existing right-of-way consisting of little to no slopes. Less than 10% of the line traverses commercial parking lots or paved roads.

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	2-768.2 ACSS/TW/HS285 (20/7) 200°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)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	1573.000000	1573.000000
Winter (MVA)	1648.000000	1648.000000

Conductor size and type	2-768.2 ACSS/TW/HS (20/7) 250°C MOT
Shield wire size and type	DNO-11410 shield wire
Rebuild line length	7.7 Miles
Rebuild portion description	Refer to "99-2993_T-Line Preliminary Scope and One Line" document.

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	$21,249,503.00
Component cost (in-service year)	$22,758,217.71

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
2024W1-DOM-O1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	FERC 715 EOL	Included

New Flowgates

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

Financial Information

Capital spend start date	06/2025
Construction start date	06/2026
Project Duration (In Months)	42

Additional Comments

None