New 500kV Line - Vontay to Kraken

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	302
Project title	New 500kV Line - Vontay to Kraken
Project description	Construct one (1) new overhead 500kV transmission line (~30 miles in length) from the proposed Vontay substation to the proposed Kraken substation, using 6,000A, 500 kV conductor. The new line shall be routed parallel to the existing corridors to minimize the need for additional right-of-way (ROW) acquisition. Terminal ends should be upgraded as necessary to ensure they do not limit the conductor rating. Construct one (1) new 500kV line terminal position at the proposed Kraken substation.
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. New 500 kV Line - Vontay to Kraken
2. Kraken Substation Terminal Upgrade
3. Vontay Substation Terminal Upgrade

Greenfield Transmission Line Component

Component title	New 500 kV Line - Vontay to Kraken	
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.	
Point A	Vontay	
Point B	Kraken	
Point C		
	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	
Nominal voltage	AC	
Nominal voltage	500	
Line construction type	Overhead	
General route description	Refer the KMZ for evaluation of Route.	
Terrain description	The project is approximately 33.5 miles long in the Piedmont Region traversing Hanover and Caroline Counties. The area is mostly rural and some suburban regions. The project crosses Interstate 95, The North Anna River and various wetland areas. There are elevation changes along the route with the highest point being approximately 350 feet and the lowest being approximately 196 feet.	
Right-of-way width by segment	The Vontay to Kraken 500kV line will have 150 feet of right-of-way for 32.43 miles.	
Electrical transmission infrastructure crossings	To be determined in detailed design	
Civil infrastructure/major waterway facility crossing plan	Refer to the attached Real Estate and Permitting Summary	
Environmental impacts	Refer to the attached Real Estate and Permitting Summary	

Tower characteristics	Permanent Facilities to be Installed 1. (138) 500kV-230kV 5-2kT Suspension Towers 2. (23) 500kV-230kV 3-Pole Deadends 3. (2) 500kV SC A-Frame Backbone 4. 32.43 miles of 3-1351 ACSS/TW/HS285 Conductor 5. 32.43 miles of 2 DNO-10100 OPGW
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	$248,073,950.01
Component cost (in-service year)	$265,687,200.00

Substation Upgrade Component

Component title	Kraken Substation Terminal Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Kraken
Substation zone	345

Substation upgrade scope	Purchase & Install Substation Material: 1. Four (4), 500kV, 63kAIC, 6000A, SF6 Circuit Breakers. 2. Four (4), 500kV, 6000A Double End Break Switches. 3. Three (3), 396kV, 318kV MCOV Station Class Surge Arresters. 4. Five (5), 500kV, Coupling Capacitor Voltage Transformers. 5. One (1), 500kV Backbone Structure (By Transmission) 6. Approximately 700 FT of 8 In. Sch. 40 AL tube bus. 7. Conductor, connectors, conduit, control cable, foundations, steel structures, and grounding material as necessary per engineering standards. Remove Substation Material: 1. One (1), 500kV, 63kAIC, 5000A, SF6 Circuit Breaker. 2. Two (2), 500kV, 5000A Double End Break Switches. 3. Approximately 700FT of 6IN SCH 80 AL tube bus. 4. Conductor, connectors, conduit, control cable, foundations, steel structures, and grounding material as necessary per engineering standards. Reuse Relay Materials: 1. One (1), 4510 - SEL-2411 Equipment Annunciator 2. One (1), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 3. One (1), 1515 – Dual 500kV SEL-351 Transmission Breaker w/ Reclosing Panel 4. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 5. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box Purchase & Install Relay Material: 1. Three (3), 4510 - SEL-2411 Equipment Annunciator 2. Three (3), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 3. Three (3), 1515 – Dual 500kV SEL-351 Transmission Breaker w/ Reclosing Panel 4. Three (3), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 5. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 6. One (1), 4506 – 3Ø CCVT Potential Makeup Box 7. Two (2), 4507 – 1Ø CCVT Potential Makeup Box 8. Three (3), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box

Transformer Information

None

New equipment description	1. Four (4), 500kV, 63kAIC, 6000A, SF6 Circuit Breakers. 2. Four (4), 500kV, 6000A Double End Break Switches. 3. Three (3), 396kV, 318kV MCOV Station Class Surge Arresters. 4. Five (5), 500kV, Coupling Capacitor Voltage Transformers. 5. Three (3), 4510 - SEL-2411 Equipment Annunciator 6. Three (3), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 7. Three (3), 1515 – Dual 500kV SEL-351 Transmission Breaker w/ Reclosing Panel 8. Three (3), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 9. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 10. One (1), 4506 – 3Ø CCVT Potential Makeup Box 11. Two (2), 4507 – 1Ø CCVT Potential Makeup Box 12. Three (3), 4526_D – C.B. w/ BCM Fiber Optic 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. 6-hole pad connections must be replaced with 8-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. 4. Terminal ends must be upgraded to 6000A to ensure they are not the conductors limiting factor. 5. It was determined that the GA would not need any additional equipment relocation thus it has been omitted from the submittal.
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	$8,609,039.11
Component cost (in-service year)	$9,220,281.00

Substation Upgrade Component

Component title	Vontay Substation Terminal Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Vontay
Substation zone	345

Substation upgrade scope	Purchase & Install Substation Material: 1. Four (4), 500kV, 63kAIC, 6000A, SF6 Circuit Breakers. 2. Four (4), 500kV, 6000A Double End Break Switches. 3. Three (3), 396kV, 318kV MCOV Station Class Surge Arresters. 4. Three (5), 500kV, Coupling Capacitor Voltage Transformers. 5. One (1), 500kV Backbone Structure (By Transmission) 6. Approximately 700 FT of 8 In. Sch. 40 AL tube bus. 7. Conductor, connectors, conduit, control cable, foundations, steel structures, and grounding material as necessary per engineering standards. Remove Substation Material: 1. One (1), 500kV, 63kAIC, 5000A, SF6 Circuit Breaker. 2. Two (2), 500kV, 5000A Double End Break Switches. 3. Approximately 700FT of 6IN SCH 80 AL tube bus. 4. Conductor, connectors, conduit, control cable, foundations, steel structures, and grounding material as necessary per engineering standards. Reuse Relay Materials: 1. One (1), 4510 - SEL-2411 Equipment Annunciator 2. One (1), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 3. One (1), 1515 – Dual 500kV SEL-351 Transmission Breaker w/ Reclosing Panel 4. One (1), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 5. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box Purchase & Install Relay Material: 1. Three (3), 4510 - SEL-2411 Equipment Annunciator 2. Three (3), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 3. Three (3), 1515 – Dual 500kV SEL-351 Transmission Breaker w/ Reclosing Panel 4. Three (3), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 5. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 6. One (1), 4506 – 3Ø CCVT Potential Makeup Box 7. Two (2), 4507 – 1Ø CCVT Potential Makeup Box 8. Three (3), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box

Transformer Information

None

New equipment description	1. Four (4), 500kV, 63kAIC, 6000A, SF6 Circuit Breakers. 2. Four (4), 500kV, 6000A Double End Break Switches. 3. Three (3), 396kV, 318kV MCOV Station Class Surge Arresters. 4. Three (5), 500kV, Coupling Capacitor Voltage Transformers. 5. Three (3), 4510 - SEL-2411 Equipment Annunciator 6. Three (3), 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 7. Three (3), 1515 – Dual 500kV SEL-351 Transmission Breaker w/ Reclosing Panel 8. Three (3), 4535 or 4536 – 500kV Circuit Breaker Condition Monitor 9. One (1), 1340 – Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 10. One (1), 4506 – 3Ø CCVT Potential Makeup Box 11. Two (2), 4507 – 1Ø CCVT Potential Makeup Box 12. Three (3), 4526_D – C.B. w/ BCM Fiber Optic 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. 6-hole pad connections must be replaced with 8-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. 4. Terminal ends must be upgraded to 6000A to ensure they are not the conductors limiting factor. 5. It was determined that the GA would not need any additional equipment relocation thus it has been omitted from the submittal.
Real-estate description	No new real estate needed.
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	$8,609,039.11
Component cost (in-service year)	$9,220,281.00

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	06/2028
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. New 500 kV Line - Vontay to Kraken - Dominion
2. Kraken Substation Terminal Upgrade - Dominion
3. Vontay Substation Terminal Upgrade - Dominion

Cost elements covered by cost containment

Engineering & design	No
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