# New 500kV Line - Vontay to Kraken

#### **General Information**

Proposing entity name

Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?

Company proposal ID

PJM Proposal ID

Project title

Project description

Email

Project in-service date

Tie-line impact

Interregional project

Is the proposer offering a binding cap on capital costs?

Additional benefits

### **Project Components**

- 1. New 500 kV Line Vontay to Kraken
- 2. Kraken Substation Terminal Upgrade
- 3. Vontay Substation Terminal Upgrade

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New 500kV Line - Vontay to Kraken

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.

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06/2032

No

No

Yes

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#### **Greenfield Transmission Line Component**

Component title New 500 kV Line - Vontay to Kraken

Project description

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Point A Vontay

Point B Kraken

Point C

Terrain description

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.

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

Construction responsibility

Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

Permitting / routing / siting

ROW / land acquisition

Materials & equipment

Construction & commissioning

Construction management

Overheads & miscellaneous costs

Contingency

Total component cost

Component cost (in-service year)

**Substation Upgrade Component** 

Component title

Project description

Substation name

Substation zone

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

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\$248,073,950.01

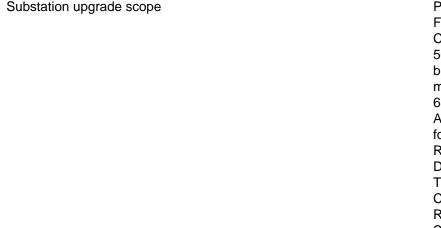
\$265,687,200.00

Kraken Substation Terminal Upgrade

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

Kraken

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#### Transformer Information

None

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

Purchase & Install Substation Material: 1. Four (4), 500kV, 63kAlC, 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

- 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
- 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.

Substation is not being expanded.

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Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

Permitting / routing / siting

ROW / land acquisition

Materials & equipment

Construction & commissioning

Construction management

Overheads & miscellaneous costs

Contingency

Total component cost

Component cost (in-service year)

**Substation Upgrade Component** 

Component title

Project description

Substation name

Substation zone

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\$8,609,039.11

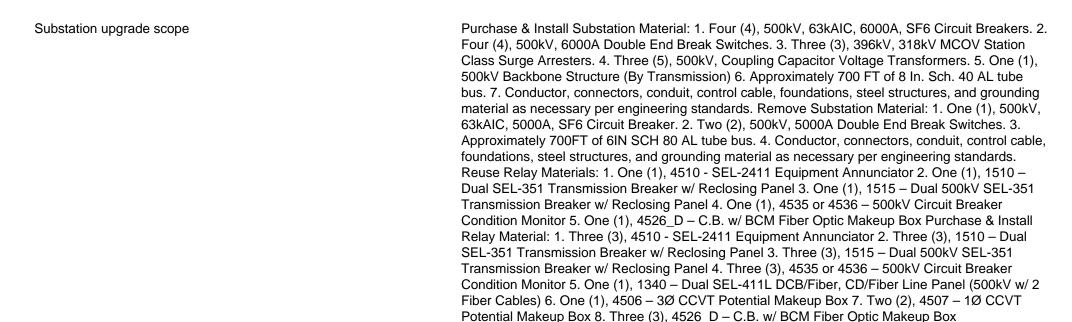
\$9,220,281.00

Vontay Substation Terminal Upgrade

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Vontay

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Transformer Information

None

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

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No new real estate needed.

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Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

Permitting / routing / siting

ROW / land acquisition

Materials & equipment

Construction & commissioning

Construction management

Overheads & miscellaneous costs

Contingency

Total component cost

Component cost (in-service year)

**Congestion Drivers** 

None

**Existing Flowgates** 

None

New Flowgates

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**Financial Information** 

Capital spend start date 01/2026

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\$8,609,039.11

\$9,220,281.00

2025-W1-302

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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	
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 the proposer seek to increase the proposed ROE if FERC finds that a higher ROE would not be unreasonable?

Would this ROE cap apply to the determination of AFUDC?

No

Yes

Is the proposer offering a Debt to Equity Ratio cap?

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## **Additional Comments**

None