Line 85 (Lanexa to West Point) Uprate & Line 2113 (Lanexa to Lightfoot) Rebuild

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	910
Project title	Line 85 (Lanexa to West Point) Uprate & Line 2113 (Lanexa to Lightfoot) Rebuild
Project description	This project serves to partially rebuild and partially uprate existing 115kV line 85 from Lanexa Substation to West Point Substation in New Kent and King William Counties, VA. Rebuild approximately 10.7-mile double circuit segment of Line #2113 between Lanexa (structure 2113/274) and Lightfoot (structure 2113/374) to current 230kV standards, and with a minimum summer rating of 1573 MVA. The structures will be designed to be reconductored with bundled 768.2 ACSS/TW (20/7) MAUMEE @ 250° C.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Project in-service date	11/2028
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. Line 85 Rebuild/Resag (Lanexa to West Point)
2. Lanexa 115kV Substation Terminal Equipment Upgrade
3. Goalders Creek 115kV Substation Relay Reset

4. Line 2113 Rebuild (Lanexa-Lightfoot)
5. Lanexa 230kV Substation Terminal Equipment Upgrade
6. Lightfoot 230kV Substation Terminal Equipment Upgrade
7. Line 177 Rebuild (Lanexa-Toano)

Transmission Line Upgrade Component

Component title	Line 85 Rebuild/Resag (Lanexa to West Point)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Impacted transmission line	Line 85
Point A	Lanexa
Point B	Owl Trap
Point C	
Terrain description	The project is in the Coastal Plains region, specifically New Kent County and a portion of King William County. The area is mostly rural. There are several crossings of The Diascund Reservoir, a major crossing over the Pamunkey River and numerous wetland areas. There are elevation changes along the route with the highest being approximately 152 feet and the lowest being approximately 6 feet.
Existing Line Physical Characteristics	
Operating voltage	115
Conductor size and type	(1) 1033.5 ACSS (45/7) “Ortolan” conductor
Hardware plan description	This upgrade will require replacing the existing bolted hardware with compression-type assemblies
Tower line characteristics	The existing line consists mainly of weathering steel double circuit H-frame structures built in 1979 and weathering steel double circuit towers built in 1969 in the rebuild section.
Proposed Line Characteristics	

	Designed	Operating
Voltage (kV)	115.000000	115.000000

	Normal ratings	Emergency ratings
Summer (MVA)	341.000000	341.000000
Winter (MVA)	382.000000	382.000000
Conductor size and type	1-768.2 ACSS/TW(20/7) 250°C MOT	
Shield wire size and type	(2) DNO-10410 Optical Ground wire	
Rebuild line length	1.04	
Rebuild portion description	Refer to "993539 - Line 85 Rebuild - Scope & One Lines" for complete description.	
Right of way	The proposed work requires no additional land and will all be completed within the existing right of way.	
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	$25,478,198.00	
Component cost (in-service year)	$27,287,149.00	

Substation Upgrade Component

Component title	Lanexa 115kV Substation Terminal Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Substation name	Lanexa
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 115KV Wave Trap 2. One (1) 115KV Coupling Capacitor Voltage Transformer. 3. Conductors, connectors, insulators, control cables, foundations, steel structures, and grounding connections as per engineering standards. Retire Substation Material: 1. One (1), 115kV, Single phase Coupling Capacitor Voltage Transformer due to aging. 2. One (1), 115kV, 1600A, Wave Trap. Purchase & Install Relay Material: 1. Relay reset only.

Transformer Information

None

New equipment description	1. One (1), 115KV Wave Trap 2. One (1) 115KV Coupling Capacitor Voltage Transformer.
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. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
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	$252,776.40
Component cost (in-service year)	$270,723.10

Substation Upgrade Component

Component title	Goalders Creek 115kV Substation Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Substation name	Goalders Creek
Substation zone	345
Substation upgrade scope	Purchase & Install Relay Material: 1. Relay Reset Only.

Transformer Information

None

New equipment description	None
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. Relay Settings and P&C design will be revised as part of the SPE Scope of Work
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	$20,108.20
Component cost (in-service year)	$21,535.67

Transmission Line Upgrade Component

Component title	Line 2113 Rebuild (Lanexa-Lightfoot)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Impacted transmission line	Line 2113
Point A	Lanexa
Point B	Lightfoot
Point C	Waller
Terrain description	The project is in the Coastal Plains region, specifically New Kent County and a portion of James City County. The area is mostly rural. There are numerous wetland areas to navigate as well as a crossing over the Newport Reservoir. There are elevation changes along the route with the highest being approximately 115 feet and the lowest being approximately 4 feet.
Existing Line Physical Characteristics	
Operating voltage	230
Conductor size and type	1033.5 ACSR (45/7) 150°C MOT
Hardware plan description	New hardware will be used for line rebuild.

Tower line characteristics	The existing line primarily consists of a mix of wood and weathering steel double circuit flat 3pole H-frame structures. The majority of the wood structures were installed from 1952 to 1979 while a majority of the steel structures were installed from 2006-2023. The proposed structures to be installed are double circuit engineered steel delta H-frames.	
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	(2) DNO-11410 shield wire	
Rebuild line length	10.70 Miles	
Rebuild portion description	The project will install a total of 98 new structures, and a Certificate of Public Convenience and Necessity (CPCN) filing is expected to be required. Refer to "993539 - Lines 2113, 177 & 158 Rebuild - Scope & One Lines" for complete rebuild description.	
Right of way	No additional right of way (ROW) is anticipated to be required.	
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	$56,032,823.00
Component cost (in-service year)	$60,011,153.00

Substation Upgrade Component

Component title	Lanexa 230kV Substation Terminal Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Substation name	Lanexa
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. Two (2), 230kV, 4000A, 80kAIC, SF6 Circuit Breaker 2. Three (3), 230kV, 4000A Center Break Switches 3. One (1), 230 kV, 4000A Wave Trap 4. Three (3), 180 kV MO (S), 144 kV MCOV Station Class Surge Arresters 5. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards Remove Substation Material: 1. Two (2), 230kV, 3000A, 63kAIC, SF6 Circuit Breaker 2. Three (3), 230kV, 3000A Center Break Switches 3. One (1), 230 kV, 4000A Wave Trap 4. Three (3), 180 kV MO (S), 144 kV MCOV Station Class Surge Arresters 5. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards Relocate Substation Material: 1. Three (3), 230 kV, Coupling Capacitor Voltage Transformers, Relay Accuracy Purchase & Install Relay Material 1. Two (2), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 2. Two (2), 4510 – SEL-2411 Equipment Annunciator 3. Two (2), 4526_A – Circuit Breaker Fiber Optic Makeup Box

Transformer Information

None

New equipment description	1. Two (2), 230kV, 4000A, 80kAIC, SF6 Circuit Breaker 2. Three (3), 230kV, 4000A Center Break Switches 3. One (1), 230 kV, 4000A Wave Trap 4. Three (3), 180 kV MO (S), 144 kV MCOV Station Class Surge Arresters 5. Two (2), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 6. Two (2), 4510 – SEL-2411 Equipment Annunciator 7. Two (2), 4526_A – Circuit Breaker Fiber Optic Makeup Box
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. All new equipment (CBs, switches, CCVTs, LAs) will be relocated from original location.
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	$2,793,910.86
Component cost (in-service year)	$2,992,278.53

Substation Upgrade Component

Component title	Lightfoot 230kV Substation Terminal Equipment Upgrade

Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Substation name	Lightfoot Substation
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 230kV, 4000A, 3-phase vertical break switch with vacuum interrupter attachment. 2. One (1), 230kV, Motor Operator. 3. Conductors, connectors, control cables, conduit, and grounding as required per engineering standards. Purchase & Install Relay Material 1. One (1), 4548 – Non-Earthing switch MOAB control box.

Transformer Information

None

New equipment description	1. One (1), 230kV, 4000A, 3-phase vertical break switch with vacuum interrupter attachment. 2. One (1), 230kV, Motor Operator. 3. One (1), 4548 – Non-Earthing switch MOAB control box.
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. All new equipment (CBs, switches, CCVTs, LAs) will be relocated from original location.
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	$289,485.50
Component cost (in-service year)	$310,038.44

Transmission Line Upgrade Component

Component title	Line 177 Rebuild (Lanexa-Toano)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential
Impacted transmission line	Line 177
Point A	Lanexa
Point B	Toano
Point C	
Terrain description	The project is in the Coastal Plains region, specifically New Kent County and a portion of James City County. The area is mostly rural. There are numerous wetland areas to navigate as well as a crossing over the Newport Reservoir. There are elevation changes along the route with the highest being approximately 115 feet and the lowest being approximately 4 feet.

Existing Line Physical Characteristics

Operating voltage	115
Conductor size and type	477 ACSR (24/7) 90°C MOT
Hardware plan description	New hardware will be used for line rebuild.
Tower line characteristics	The existing line primarily consists of a mix of wood and weathering steel double circuit flat 3pole H-frame structures. The majority of the wood structures were installed from 1952 to 1979 while a majority of the steel structures were installed from 2006-2023. The proposed structures to be installed are double circuit engineered steel delta H-frames.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	115.000000	115.000000

	Normal ratings	Emergency ratings
Summer (MVA)	393.000000	393.000000
Winter (MVA)	412.000000	412.000000
Conductor size and type	768.2 ACSS/TW/HS (20/7) 250°C MOT	
Shield wire size and type	(2) DNO-11410 shield wire	
Rebuild line length	6.18 Miles	
Rebuild portion description	Refer to "993539 - Lines 2123, 177 & 158 Rebuild - Scope & One Lines" for complete rebuild description.	
Right of way	No additional right of way (ROW) is anticipated to be required.	
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	$.00	
Component cost (in-service year)	$.00	

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
2025W1-ME2	314188	3WEST PT	314387	3LANEXA	1	115	345	Market Efficiency	Included

New Flowgates

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

Financial Information

Capital spend start date	10/2025
Construction start date	11/2027
Project Duration (In Months)	37

Additional Comments

The project is in the Coastal Plains region, specifically New Kent County and a portion of King William County. There are several crossings of The Diascund Reservoir, a major crossing over the Pamunkey River and numerous wetland areas. These are the main reasons for the relatively high cost estimate.