Owl Trap 230/115kV Switching Station

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	390
Project title	Owl Trap 230/115kV Switching Station
Project description	Construct 230/115kV switching station at Owl Trap 115kV yard and install a 299 MVA, 230/115kV transformer. Add a new bay position on the 115kV side, utilizing a four-breaker ring bus configuration to accommodate the 230/115kV transformer. Cut the existing Line #2016 from Lanexa to Harmony Village near the Owl Trap substation.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	01/2029
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 2016 Cut-in to Owl Trap 230kV Substation
2. Owl Trap Substation Expansion
3. Harmony Village Relay Reset
4. Lanexa Relay Reset

5. Line 1033 Relocation

6. Line 1060 Relocation

Transmission Line Upgrade Component

Component title	Line 2016 Cut-in to Owl Trap 230kV Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	2016
Point A	Lanexa
Point B	Owl Trap
Point C	Harmony Village
Terrain description	NA
Existing Line Physical Characteristics	
Operating voltage	230
Conductor size and type	1033.5 ACSS (45/7) 90°C MOT
Hardware plan description	New Hardware will be installed.
Tower line characteristics	Owl Trap was installed in 2024, and this scope of work involves removing two structures that were installed as part of that project to route line 2016 around the station.

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 OPGW
Rebuild line length	0.16 Miles
Rebuild portion description	Refer to "993539_Proposal 2_Scope, Site Plans & One lines" for complete conceptual scope of work
Right of way	Additional right of way is required for the section where 1060 is rerouted into the south part of the 115kV station. Approximately 0.8 total additional acres of right of way is required such that line 1060 would have approximately 350 feet of 100 foot wide right of way from the substation fence to proposed structure 1060/160 (2016/160). Some or all of this may be on existing Dominion property.
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	$5,984,892.00
Component cost (in-service year)	$6,409,818.00

Substation Upgrade Component

Component title	Owl Trap Substation Expansion

Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Owl Trap
Substation zone	345
Substation upgrade scope	Purchase & Install Substation Material: 1. (1) 115kV, 3000A, 40kA, Circuit Breaker 2. (3) 115kV, 2000A, Center-Break Switches 3. (3) 90kV MO (S), 74kV MCOV, Lightning Arresters 4. (1) 230-115kV, 224MVA, Autotransformer with LTC 5. (3) 18kV MO (S), 15.3kV MCOV, Lightning Arresters 6. (3) 180kV MO (S), 144kV MCOV, Lightning Arresters 7. (1) 230kV, 4000A, 80kA, Circuit Breakers 8. (1) 230kV, 4000A, Double-End Break Switches 9. (1) 230kV, 800A, Wave Trap 10. (1) 230kV, CCVT 11. (2) 230kV, 4000A, Backbone-Mounted Vertical Break Switch with Integrated Interrupter 12. Approx. 415 ft of 5” SCH. 40 aluminum pipe 13. Approx. 640 ft of Level 3 security fence, security integrators, and associated infrastructure 14. Approx. 145 ft of Cable Trough 15. Expand existing CE 20’ 16. Site development, access roads and stormwater management as required 17. Ground grid for the entire substation 18. Structural steel and foundations as per Dominion Energy Standards 19. Conductor, connectors, conduits, control cables, foundations, and grounding material as per engineering standards 20. One (1), 230kV, Single Circuit Backbone Structures (by Transmission) 21. One (1), 115kV, Single Circuit Backbone Structures (by Transmission) Remove Substation Material: 1. Conductor, connectors, conduits, control cables, foundations, and grounding material as per engineering standards Relocate Substation Material: 1. (1) Outdoor Security Panel #1 2. (1) 115kV, Single Circuit Backbone Structures (by Transmission) 3. (2) 115kV, 2000A Wave trap 4. (6) 115kV, CCVTs 5, (3) 90kV MO (S), 74kV MCOV, Lightning Arrester Purchase & Install Relay Material: 1. (1) 4507 - 1Ø CCVT Potential Makeup Box 2. (2) 4510 - SEL-2411 Equipment Annunciator 3. (2) 1510 – Dual SEL-351 Transmission Breaker w/ Reclosing Panel 4. (1) 4551 – Axion Breaker Condition Monitor (for 230kV 80kA Circuit Breakers) 5. (2) 4548 – Non-Earthing Switch MOAB Control Box 6. (1) 7614 – Transformer Critical Low Oil Assembly 7. (1) 4510 - SEL-2411 Equipment Annunciator 8. (1) 1217 – Dual SEL-487E Transmission Transformer Diff. Panel 9. (1) 4542 – Transformer Makeup Box 10. (4) 4526_A – Circuit Breaker or <84MVA TX Fiber Optic Makeup Box 11. (1) 4526_C – >= 84MVA Transformer or RX Fiber Makeup Box

Transformer Information

	Name	Capacity (MVA)
Transformer	New Transformer	299

	High Side	Low Side	Tertiary
Voltage (kV)	230	115	

New equipment description	1. One (1), 115kV, 3000A, 40kA, Circuit Breaker 2. Three (3), 115kV, 2000A, Center-Break Switches 3. Three (3), 90kV MO (S), 74kV MCOV, Lightning Arresters 4. One (1), 230-115kV, 224MVA, Autotransformer with LTC 5. Three (3), 18kV MO (S), 15.3kV MCOV, Lightning Arresters 6. Three (3), 180kV MO (S), 144kV MCOV, Lightning Arresters 7. One (1), 230kV, 4000A, 80kA, Circuit Breakers 8. One (1), 230kV, 4000A, Double-End Break Switches 9. One (1), 230kV, 800A, Wave Trap 10. One (1), 230kV, CCVT 11. Two (2), 230kV, 4000A, Backbone-Mounted Vertical Break Switch with Integrated Interrupter
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 4000A ratings. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Refer to "993539_Proposal 3_Real Estate and Permitting summary" for real estate acquisition plans.
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	$13,964,412.90
Component cost (in-service year)	$14,955,886.22

Substation Upgrade Component

Component title	Harmony Village Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Harmony Village
Substation zone	345
Substation upgrade scope	Relay Reset Only

Transformer Information

None

New equipment description	N/A
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.
Real-estate description	N/A
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

Substation Upgrade Component

Component title	Lanexa Relay Reset
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	Relay Reset Only

Transformer Information

None

New equipment description	N/A
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.
Real-estate description	N/A
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 1033 Relocation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line 1033
Point A	Owl Trap
Point B	Harmony Village
Point C	
Terrain description	NA
Existing Line Physical Characteristics	
Operating voltage	115
Conductor size and type	1033.5 ACSS (45/7) 140°C MOT
Hardware plan description	New hardware will be used.
Tower line characteristics	Owl Trap was installed in 2024, and this scope of work involves removing two structures that were installed as part of that project to route line 2016 around the station.
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 ACSR/TW/HS (20/7) 250°C MOT	
Shield wire size and type	DNO-11410 shield wire	
Rebuild line length	0.10 Miles	
Rebuild portion description	Refer to "993539_Proposal 2_Scope, Site Plans & One lines" for complete conceptual scope of work.	
Right of way	No additional right of way is required 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	$.00	

Component cost (in-service year)	$.00

Transmission Line Upgrade Component

Component title	Line 1060 Relocation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line 1060
Point A	Goalders Creek
Point B	Owl Trap
Point C	
Terrain description	NA
Existing Line Physical Characteristics	
Operating voltage	115
Conductor size and type	1033.5 ACSS (45/7) 140°C MOT
Hardware plan description	New hardware will be used.
Tower line characteristics	Owl Trap was installed in 2024, and this scope of work involves removing two structures that were installed as part of that project to route line 2016 around the station.
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 ACSR/TW/HS (20/7) 250°C MOT	

Shield wire size and type	DNO-11410 shield wire
Rebuild line length	0.08 Miles
Rebuild portion description	Refer to "993539_Proposal 2_Scope, Site Plans & One lines" for complete conceptual scope of work.
Right of way	No additional right of way is required 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	$.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)	39

Additional Comments

None