Reactive Power VAR Reinforcements

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	231
Project title	Reactive Power VAR Reinforcements
Project description	Install 230KV/500kV shunt cap banks (static devices) as well as STATCOMs (dynamic devices) and associated equipment to address the reactive power needs of the system
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	12/2027
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. Aspen

2. Aviator Substation

3. Barrister substation

4. Beaumeade Substation

5. Dawkins Branch Substation

- 6. Dooms Substation
- 7. DTC Substation
- 8. Golden Substation
- 9. Loudoun Substation
- 10. Mars Substation
- 11. Morrisville Substation
- 12. Nimbus Substation
- 13. Ocean Court Substation
- 14. Poland Road Substation
- 15. Rixlew Substation
- 16. Rollins Ford Substation
- 17. Spotsylvania Substation
- 18. Stratus Substation
- 19. Vint Hill Substation
- 20. Wishing Star Substation
- 21. Youngs Branch Substation

Substation Upgrade Component

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

Purchase and install substation material: 1. Include the following within the 500 kV GIS building being built under the 99-2971 project: a. One (1), 500kV, 5000Å, 63kA, Sync-Close, SF6 Circuit Breakers b. Two (2) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. c. Two (2) 500 kV relaying accuracy CCVTs. d. Gas-insulated bus, connectors, gas to air bushings as required. 2. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 3. Three (3), 396kV, 318kV MCOV Surge Arresters. 4. Foundations and steel structures as required per current engineering standards. 5. Gas-insulated bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 - Cap. Bank Mid-Point Potential M.U. Box 6. Two (2), 4519 - Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B - Sync Breaker Fiber M.U. Box 8. One (1), 1816 - 28" SEL-787 Gas Zone Differential Panel 9. One (1), 4200 – Bus Differential C.T. Makeup Box

1. Include the following within the 500 kV GIS building being built under the 99-2971 project: a. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers b. Two (2) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. c. Two (2) 500 kV relaying accuracy CCVTs. d. Gas-insulated bus, connectors, gas to air bushings as required. 2. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 3. Three (3), 396kV, 318kV MCOV Surge Arresters. 4. One (1), 4521 – Synchronous Breaker Monitor 5. One (1), 4510 - SEL-2411 Breaker Annunciator 6. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 7. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 8. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 9. Two (2), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 10. One (1), 4526_B – Sync Breaker Fiber M.U. Box 11. One (1), 1816 – 28" SEL-787 Gas Zone Differential
Panel 12. One (1), 4200 – Bus Differential C.T. Makeup Box 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. Substation is not being expanded.
The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

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Transformer Information

None

New equipment description	1. Include the following within the 500 kV GIS building being built (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers b. Two operated disconnect switches with grounding switches as required accuracy CCVTs. d. Gas-insulated bus, connectors, gas to air bus 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 3. Three (3), 39 Arresters. 4. One (1), 4521 – Synchronous Breaker Monitor 5. On Annunciator 6. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w 1558 – 28" SEL-487V Transmission Cap. Bank Panel 8. Two (2), Potential M.U. Box 9. Two (2), 4519 – Cap. Bank, RX or C.B. Pote 4526_B – Sync Breaker Fiber M.U. Box 11. One (1), 1816 – 28" S Panel 12. One (1), 4200 – Bus Differential C.T. Makeup Box
Substation assumptions	The scope of work depicted on the drawings assumes that there is and construction activities, except if mentioned in this Project Sun
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore
Benefits/Comments	The redacted information is proprietary to the Company; therefore
Component Cost Details - In Current Year \$	
Engineering & design	The redacted information is proprietary to the Company; therefore

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	\$6,779,559.10
Component cost (in-service year)	\$7,260,907.69
Substation Upgrade Component	
Component title	Aviator Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Aviator
Substation zone	352
Substation upgrade scope	Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Transformer Information	

2022-W3-231

None	
New equipment description	1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. 9. One (1), 4521 – Synchronous Breaker Monitor 10. One (1), 4510 - SEL-2411 Breaker Annunciator 11. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 12. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 13. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 14. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 15. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$2,056,883.00
Component cost (in-service year)	\$2,202,921.69

2022-W3-231

Substation Upgrade Component

Component title

Project description

Substation name

Substation zone

Substation upgrade scope

Transformer Information

None

New equipment description

Substation assumptions

Real-estate description

Barrister substation

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

Barrister

352

Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. 9. One (1), 4521 – Synchronous Breaker Monitor 10. One (1), 4510 - SEL-2411 Breaker Annunciator 11. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 12. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 13. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 14. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 15. One (1), 4526_B – Sync Breaker Fiber M.U. Box

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.

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. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Overheads & miscellaneous costs Contingency The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Total component cost \$2,056,883.00 Component cost (in-service year) \$2,202,921.69 **Substation Upgrade Component Beaumeade Substation** Component title Project description The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Substation name Beaumeade Substation zone 352

None

New equipment description

Purchase and install substation material: 1. Approximately 450' x 230' site preparation and grading as required for installation of the STATCOM Station. 2. One (1), 300MVAR STATCOM: a. One (1), 300 MVA, 230 - XX kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 54kV, 42kV MCOV, Surge Arresters c. Three (3), 108kV, 144kV MCOV, Surge Arresters d. One (1), 200A, Fused Disconnects for STATCOM Station Service e. One (1), 23kV, 12A Fuses for STATCOM Station Service f. Three (3), 48kV, 39kV MCOV, Surge Arresters for STATCOM Station Service g. One (1), 34.5kV, 350kVA, 3-Phase Transformers for STATCOM Station Service h. One (1), 1000A Fused Disconnects for STATCOM Station Service i. One (1), 842A, 240VAC, 3- Phase Voltage Regulators for STATCOM Station Service j. One (1), 259kW Three Phase Generators for STATCOM Station Service k. Two (2), Propane Storage Tanks for STATCOM Station Service I. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 3. Oil Containment System for the Transformer 4. Six (6), Surge Arresters 180 kV MO, 144 kV MCOV 5. Six (6), 230kV, Relaying Accuracy CCVT's 6. Two (2), 4000A, 80kAIC, SF6, Circuit Breakers 7. Five (5), 230kV, 4000A, 3-Phase Double End Break Switches 8. One (1), 230kV, 4000A, 3-Phase Double End Break Gang Operated Switches (for PVT's). 9. Three (3), 230kV, 167KVA Power PT's for Station Service. 10. One (1), SVC Control Enclosure 24' x 80' 11. Approximately 1200 linear FT of fence around the station along with the security cameras and integrators as per Design 4. 12. Foundations and steel structures as required per current engineering standards. 13. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. [Refer to 993093 Beaumeade Substation Scope of Work for Relay Materials to be installed]

1. Approximately 450' x 230' site preparation and grading as required for installation of the STATCOM Station. 2. One (1), 300MVAR STATCOM: a. One (1), 300 MVA, 230 - XX kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 54kV, 42kV MCOV, Surge Arresters c. Three (3), 108kV, 144kV MCOV, Surge Arresters d. One (1), 200A, Fused Disconnects for STATCOM Station Service e. One (1), 23kV, 12A Fuses for STATCOM Station Service f. Three (3), 48kV, 39kV MCOV, Surge Arresters for STATCOM Station Service g. One (1), 34.5kV, 350kVA, 3-Phase Transformers for STATCOM Station Service h. One (1), 1000A Fused Disconnects for STATCOM Station Service i. One (1), 842A, 240VAC, 3- Phase Voltage Regulators for STATCOM Station Service j. One (1), 259kW Three Phase Generators for STATCOM Station Service k. Two (2), Propane Storage Tanks for STATCOM Station Service I. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 3. Oil Containment System for the Transformer 4. Six (6), Surge Arresters 180 kV MO, 144 kV MCOV 5. Six (6), 230kV, Relaying Accuracy CCVT's 6. Two (2), 4000A, 80kAIC, SF6, Circuit Breakers 7. Five (5), 230kV, 4000A, 3-Phase Double End Break Switches 8. One (1), 230kV, 4000A, 3-Phase Double End Break Gang Operated Switches (for PVT's). 9. Three (3), 230kV, 167KVA Power PT's for Station Service. 10. One (1), SVC Control Enclosure 24' x 80' [Refer to 993093_ Beaumeade Substation Scope of Work for Relay equipment]

Substation assumptions
Real-estate description
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

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.

Substation is not being expanded.

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

The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. \$43,573,027.00 \$46,666,711.92

Dawkins Branch Substation The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Dawkins Branch 353

None

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

Permitting / routing / siting

ROW / land acquisition

Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. 9. One (1), 4521 – Synchronous Breaker Monitor 10. One (1), 4510 - SEL-2411 Breaker Annunciator 11. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 12. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 13. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 14. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 15. One (1), 4526_B – Sync Breaker Fiber M.U. Box

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.

Substation is not being expanded.

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

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

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

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

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	\$2,056,883.00
Component cost (in-service year)	\$2,202,921.69
Substation Upgrade Component	
Component title	Dooms Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Dooms
Substation zone	366
Substation upgrade scope	Purchase and install substation material: 1. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 2. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 500kV, 5000A, 3-Phase Double End Break Switches. 4. Three (3), 396kV, 318 kV MCOV Surge Arresters. 5. Two (2) 500 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

None

New equipment description	1. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 2. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 500kV, 5000A, 3-Phase Double End Break Switches. 4. Three (3), 396kV, 318 kV MCOV Surge Arresters. 5. Two (2) 500 kV relaying accuracy CCVTs 6. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$3,004,636.00
Component cost (in-service year)	\$3,217,965.16
Substation Upgrade Component	
Component title	DTC Substation

Component title

2022-W3-231

Project description

Substation name

Substation zone

Substation upgrade scope

Transformer Information

None

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

Benefits/Comments

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

DTC

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Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526 B – Sync Breaker Fiber M.U. Box

1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. 9. One (1), 4521 – Synchronous Breaker Monitor 10. One (1), 4510 - SEL-2411 Breaker Annunciator 11. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 12. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 13. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 14. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 15. One (1), 4526_B – Sync Breaker Fiber M.U. Box

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.

Substation is not being expanded.

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

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	\$2,077,126.00
Component cost (in-service year)	\$2,224,601.95
Substation Upgrade Component	
Component title	Golden Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Golden
Substation zone	352

None

New equipment description

Purchase and install substation material: 1. Include the following within the 500 kV GIS building being built under the 99-2971 project: a. Two (2) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. b. Four (4) 500 kV relaying accuracy CCVTs. c. Gas insulated bus, connectors, gas to air bushings as required. 2. Include the following within the 230 kV GIS building being built under the 99-2971 project: a. Two (2) 230 kV, 4000 A, Group operated disconnect switches with grounding switches as required. b. Four (4) 500 kV relaying accuracy CCVTs. c. Gas insulated bus, connectors, gas to air bushings as required. 3. Two (2), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 4. Two (2), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 5. Two (2), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 6. Two (2), 230kV, 4000A, 80kA, Svnc-Close, SF6 Circuit Breakers. 7. Six (6), 396kV, 318kV MCOV Surge Arresters. 8. Six (6), 180kV, 144kV MCOV Surge Arresters. 9. Foundations and steel structures as required per current engineering standards. 10. Gas-insulated bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. Four (4), 4521 – Synchronous Breaker Monitor 2. Four (4), 4510 - SEL-2411 Breaker Annunciator 3. Four (4), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. Four (4), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Eight (8), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. Eight (8), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. Four (4), 4526 B - Sync Breaker Fiber M.U. Box 8. Two (2), 1816 - 28" SEL-787 Gas Zone Differential Panel 9. Four (4), 4200 – Bus Differential C.T. Makeup Box

1. Include the following within the 500 kV GIS building being built under the 99-2971 project: a. Two (2) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. b. Four (4) 500 kV relaying accuracy CCVTs. c. Gas insulated bus, connectors, gas to air bushings as required. 2. Include the following within the 230 kV GIS building being built under the 99-2971 project: a. Two (2) 230 kV, 4000 A, Group operated disconnect switches with grounding switches as required. b. Four (4) 500 kV relaying accuracy CCVTs. c. Gas insulated bus, connectors, gas to air bushings as required. 3. Two (2), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 4. Two (2), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 5. Two (2), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 6. Two (2), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 7. Six (6), 396kV, 318kV MCOV Surge Arresters. 8. Six (6), 180kV, 144kV MCOV Surge Arresters. 9. Four (4), 4521 – Synchronous Breaker Monitor 10. Four (4), 4510 - SEL-2411 Breaker Annunciator 11. Four (4), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 12. Four (4), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 13. Eight (8), 4518 - Cap. Bank Mid-Point Potential M.U. Box 14. Eight (8), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 15. Four (4), 4526 B – Sync Breaker Fiber M.U. Box 16. Two (2), 1816 - 28" SEL-787 Gas Zone Differential Panel 17. Four (4), 4200 – Bus Differential C.T. Makeup Box

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
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

Substation is not being expanded.

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

The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. S8,013,168.00 \$8,582,102.93

Loudoun Substation

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

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Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 6. Approximately 100 FT of Cable Trough 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4526_B – Sync Breaker Fiber M.U. Box

Transformer Information

N	one	

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

Permitting / routing / siting

ROW / land acquisition

Materials & equipment

Construction & commissioning

1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. One (1), 4521 – Synchronous Breaker Monitor 6. One (1), 4510 - SEL-2411 Breaker Annunciator 7. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 8. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 9. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 10. One (1), 4526_B – Sync Breaker Fiber M.U. Box

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.

Substation is not being expanded.

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

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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	\$1,931,680.00
Component cost (in-service year)	\$2,068,829.28
Substation Upgrade Component	
Substation Upgrade Component Component title	Mars Substation
Substation Upgrade Component Component title Project description	Mars Substation The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation Upgrade Component Component title Project description Substation name	Mars Substation The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Mars

Purchase and install substation material: 1. One (1), 300MVAR STATCOM: a. One (1), 300 MVA, 500 - XX kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 54kV, 42kV MCOV, Surge Arresters c. Three (3), 108kV, 144kV MCOV, Surge Arresters d. One (1), 200A, Fused Disconnects for STATCOM Station Service e. One (1), 23kV, 12A Fuses for STATCOM Station Service f. Three (3), 48kV, 39kV MCOV, Surge Arresters for STATCOM Station Service g. One (1), 34.5kV, 350kVA, 3-Phase Transformers for STATCOM Station Service h. One (1), 1000A Fused Disconnects for STATCOM Station Service i. One (1), 842A, 240VAC, 3- Phase Voltage Regulators for STATCOM Station Service j. One (1), 259kW Three Phase Generators for STATCOM Station Service k. Two (2), Propane Storage Tanks for STATCOM Station Service I. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Six (6), Surge Arresters 396 kV MO, 318 kV MCOV 4. Three (3), Surge Arresters 45 kV MO, 36.5 kV MCOV 5. Two (2), 19.9 - .12/.24 kV, 167 KVA, Station Service Transformer 6. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 7. Include the following within the 500 kV GIS building being built under the 99-2972 project: a. Two (2) 500 kV, 63 kAIC, 5000A Circuit Breakers b. Four (4) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. c. Three (3) 500 kV relaying accuracy CCVTs. d. Gas insulated bus, connectors, gas to air bushings as required. 8. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 9. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 10. Include the following within the 230 kV GIS building being built under the 99-2972 project: a. One (1) 230 kV, 80 kAIC, 4000A Circuit Breaker b. Two (2) 230 kV, 4000 A, Group operated disconnect switches with grounding switches as required. c. Gas insulated bus, connectors, gas to air bushings as required. 11. Foundations and steel structures as required per current engineering standards. 12. Gas-insulated bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. [Refer to 993093 Mars Substation Scope of Work for Relay Materials to be installed]

Transformer Information

None

Substation assumptions

Real-estate description

Construction responsibility

Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

Permitting / routing / siting

ROW / land acquisition

Materials & equipment

Construction & commissioning

1. One (1), 300MVAR STATCOM: a. One (1), 300 MVA, 500 - XX kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 54kV, 42kV MCOV, Surge Arresters c. Three (3), 108kV, 144kV MCOV, Surge Arresters d. One (1), 200A, Fused Disconnects for STATCOM Station Service e. One (1), 23kV, 12A Fuses for STATCOM Station Service f. Three (3), 48kV, 39kV MCOV, Surge Arresters for STATCOM Station Service g. One (1), 34.5kV, 350kVA, 3-Phase Transformers for STATCOM Station Service h. One (1), 1000A Fused Disconnects for STATCOM Station Service i. One (1), 842A, 240VAC, 3- Phase Voltage Regulators for STATCOM Station Service j. One (1), 259kW Three Phase Generators for STATCOM Station Service k. Two (2), Propane Storage Tanks for STATCOM Station Service I. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Six (6), Surge Arresters 396 kV MO, 318 kV MCOV 4. Three (3), Surge Arresters 45 kV MO, 36.5 kV MCOV 5. Two (2), 19.9 - .12/.24 kV, 167 KVA, Station Service Transformer 6. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 7. Include the following within the 500 kV GIS building being built under the 99-2972 project: a. Two (2) 500 kV, 63 kAIC, 5000A Circuit Breakers b. Four (4) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. c. Three (3) 500 kV relaying accuracy CCVTs. d. Gas insulated bus, connectors, gas to air bushings as required. 8. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 9. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 10. Include the following within the 230 kV GIS building being built under the 99-2972 project: a. One (1) 230 kV, 80 kAIC, 4000A Circuit Breaker b. Two (2) 230 kV, 4000 A, Group operated disconnect switches with grounding switches as required. c. Gas insulated bus, connectors, gas to air bushings as required. [Refer to 993093 Mars Substation Scope of Work for Relay equipment]

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.

Substation is not being expanded.

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

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

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	\$46,537,509.00
Component cost (in-service year)	\$49,841,672.14
Substation Upgrade Component	
Component title	Morrisville Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Morrisville
Substation zone	366
Substation upgrade scope	Purchase and install substation material: 1. One (1), 171.6MVAr, 540.4KV, Capacitor Bank (Three Ø). 2. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 500kV, 5000A, 3-Phase Double End Break Switches. 4. Three (3), 396kV, 318 kV MCOV Surge Arresters. 5. Approximately 500FT of 6 IN Schedule 80 AL Tubular Bus and Connectors. 6. Foundations and steel structures as required per current engineering standards. 7. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Transformer Information	
None	
New equipment description	 One (1), 171.6MVAr, 540.4KV, Capacitor Bank (Three Ø). 2. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 500kV, 5000A, 3-Phase Double End Break Switches. Three (3), 396kV, 318 kV MCOV Surge Arresters. 5. One (1), 4521 – Synchronous Breaker Monitor 6. One (1), 4510 - SEL-2411 Breaker Annunciator 7. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 8. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 9. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 10. One (1), 4526_B – Sync Breaker Fiber M.U. Box

Substation assumptions
Real-estate description
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

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.

Substation is not being expanded.

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

The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. \$3,633,023.00 \$3,890,967.63

Nimbus Substation

The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Nimbus 352 Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Approximately 100 FT of Cable Trough 8. Foundations and steel structures as required per current engineering standards. 9. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

Transformer Information

None	
New equipment description	1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$2,148,980.00
Component cost (in-service year)	\$2,301,557.58
Substation Upgrade Component	
Component title	Ocean Court Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Ocean Court
Substation zone	352
Substation upgrade scope	Purchase and install substation material: 1. Two (2), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. Two (2), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. Two (2), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Six (6), 180 kV, 144 kV MCOV Surge Arresters. 5. Four (4), 230 kV relaying accuracy CCVTs. 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. Two (2), 4521 – Synchronous Breaker Monitor 2. Two (2), 4510 - SEL-2411 Breaker Annunciator 3. Two (2), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. Two (2), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Four (4), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. Two (2), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. Two (2), 4526_B – Sync Breaker Fiber M.U. Box

None

New equipment description	1. Two (2), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. Two (2), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. Two (2), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Six (6), 180 kV, 144 kV MCOV Surge Arresters. 5. Four (4), 230 kV relaying accuracy CCVTs. 6. Two (2), 4521 – Synchronous Breaker Monitor 7. Two (2), 4510 - SEL-2411 Breaker Annunciator 8. Two (2), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. Two (2), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Four (4), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. Two (2), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. Two (2), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$3,752,260.00
Component cost (in-service year)	\$4,018,670.46
Substation Upgrade Component	
Component title	Poland Road Substation

Component title

Project description

Substation name

Substation zone

Substation upgrade scope

Transformer Information

None

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

Benefits/Comments

Component Cost Details - In Current Year \$

Engineering & design

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

Poland Road

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Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Approximately 100 FT of Cable Trough 8. Foundations and steel structures as required per current engineering standards. 9. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6.. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box

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.

Substation is not being expanded.

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

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

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	\$2,148,980.00
Component cost (in-service year)	\$2,301,557.58
Substation Upgrade Component	
Component title	Rixlew Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Rixlew
Substation zone	353
Substation upgrade scope	Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Transformer Information	

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None	
New equipment description	1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$2,077,126.00
Component cost (in-service year)	\$2,224,601.95
Substation Upgrade Component	

Component title

Project description

Substation name

Substation zone

Substation upgrade scope

Transformer Information

None

New equipment description

Substation assumptions

Real-estate description

Construction responsibility

Benefits/Comments

Rollins Ford Substation

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

Rollins Ford

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Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 400FT of security fence. 7. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 8. Foundations and steel structures as required per current engineering standards. 9. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box

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.

Substation is not being expanded.

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

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

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
Total component cost Component cost (in-service year)
Total component cost Component cost (in-service year) Substation Upgrade Component
Total component cost Component cost (in-service year) Substation Upgrade Component Component title
Total component cost Component cost (in-service year) Substation Upgrade Component Component title Project description
Total component cost Component cost (in-service year) Substation Upgrade Component Component title Project description Substation name
Total component cost Component cost (in-service year) Substation Upgrade Component Component title Project description Substation name Substation zone
Total component cost Component cost (in-service year) Substation Upgrade Component Component title Project description Substation name Substation zone Substation upgrade scope

The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. S3,053,944.00 \$3,270,774.02

Spotsylvania Substation

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

Spotsylvania

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Purchase and install substation material: 1. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 2. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 500kV, 5000A, 3-Phase Double End Break Switches. 4. Three (3), 396kV, 318 kV MCOV Surge Arresters. 5. Two (2) 500 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 80 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

None	
New equipment description	1. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 2. One (1), 500kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 500kV, 5000A, 3-Phase Double End Break Switches. 4. Three (3), 396kV, 318 kV MCOV Surge Arresters. 5. Two (2) 500 kV relaying accuracy CCVTs 6. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$3,004,636.00
Component cost (in-service year)	\$3,217,965.16

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Substation Upgrade Component

Component title	Stratus Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Stratus
Substation zone	352
Substation upgrade scope	Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Transformer Information	
None	
New equipment description	1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Foundations and steel structures as required per current engineering standards. 8. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. 9. One (1), 4521 – Synchronous Breaker Monitor 10. One (1), 4510 - SEL-2411 Breaker Annunciator 11. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 12. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 13. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 14. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 15. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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	\$2,056,883.00
Component cost (in-service year)	\$2,202,921.69
Substation Upgrade Component	
Component title	Vint Hill Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Vint Hill
Substation zone	353

None

Purchase and install substation material: 1. Include the following within the 230 kV GIS building being built under the 99-3162 project: a. Two (2) 230 kV, 4000 A, Group operated disconnect switches with grounding switches as required. b. Six (6) 500 kV relaying accuracy CCVTs. c. Gas insulated bus, connectors, gas to air bushings as required. 2. Two (2), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 3. Two (2), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 4. Six (6), 180kV, 144kV MCOV Surge Arresters. 5. Foundations and steel structures as required per current engineering standards. 6. Gas-insulated bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. Two (2), 4521 – Synchronous Breaker Monitor 2. Two (2), 4510 - SEL-2411 Breaker Annunciator 3. Two (2), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. Two (2), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Four (4), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. Four (4), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. Two (2), 4526_B – Sync Breaker Fiber M.U. Box 8. One (1), 1816 – 28" SEL-787 Gas Zone Differential Panel 9. One (1), 4200 – Bus Differential C.T. Makeup Box

New equipment description 1. Include the following within the 230 kV GIS building being built under the 99-3162 project: a. Two (2) 230 kV, 4000 A, Group operated disconnect switches with grounding switches as required. b. Six (6) 500 kV relaying accuracy CCVTs. c. Gas insulated bus, connectors, gas to air bushings as required. 2. Two (2), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 3. Two (2), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 4. Six (6), 180kV, 144kV MCOV Surge Arresters. 5. Two (2), 4521 - Synchronous Breaker Monitor 6. Two (2), 4510 - SEL-2411 Breaker Annunciator 7. Two (2), 1518 - 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 8. Two (2), 1558 - 28" SEL-487V Transmission Cap. Bank Panel 9. Four (4), 4518 - Cap. Bank Mid-Point Potential M.U. Box 10. Four (4), 4519 - Cap. Bank, RX or C.B. Potential Makeup Box 11. Two (2), 4526_B - Sync Breaker Fiber M.U. Box 12. One (1), 1816 - 28" SEL-787 Gas Zone Differential Panel 13. One (1), 4200 -Bus Differential C.T. Makeup Box Substation assumptions 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 Substation is not being expanded. The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Construction responsibility **Benefits/Comments** The redacted information is proprietary to the Company; therefore, it is privileged and confidential. **Component Cost Details - In Current Year \$** The redacted information is proprietary to the Company; therefore, it is privileged and confidential. Engineering & design

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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	\$3,651,729.10
Component cost (in-service year)	\$3,911,001.87
Substation Upgrade Component	
Component title	Wishing Star Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Wishing Star
Substation zone	366,352

None

New equipment description

Substation assumptions

Real-estate description

Purchase and install substation material: 1. Include the following within the 500 kV GIS building being built under the 99-2972 project: a. One (1), 500 kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. b. Two (2) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. c. Two (2) 500 kV relaying accuracy CCVTs. d. Gas insulated bus, connectors, gas to air bushings as required. 2. Include the following within the 230 kV GIS building being built under the 99-2972 project: a. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers b. Gas insulated bus, connectors, gas to air bushings as required. 3. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 4. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 5. Three (3), 396kV, 318kV MCOV Surge Arresters. 6. Three (3), 180kV, 144kV MCOV Surge Arresters. 7. Foundations and steel structures as required per current engineering standards. 8. Gas-insulated bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. Two (2), 4521 - Synchronous Breaker Monitor 2. Two (2), 4510 - SEL-2411 Breaker Annunciator 3. Two (2), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. Two (2), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Four (4), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. Four (4), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. Two (2), 4526 B - Sync Breaker Fiber M.U. Box 8. One (1), 1816 – 28" SEL-787 Gas Zone Differential Panel 9. One (1), 4200 – Bus Differential C.T. Makeup Box

1. Include the following within the 500 kV GIS building being built under the 99-2972 project: a. One (1), 500 kV, 5000A, 63kA, Sync-Close, SF6 Circuit Breakers. b. Two (2) 500 kV, 5000 A, Group operated disconnect switches with grounding switches as required. c. Two (2) 500 kV relaying accuracy CCVTs. d. Gas insulated bus, connectors, gas to air bushings as required. 2. Include the following within the 230 kV GIS building being built under the 99-2972 project: a. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers b. Gas insulated bus, connectors, gas to air bushings as required. 3. One (1), 343.2MVAr, 540.4KV, Capacitor Bank (Three Ø). 4. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 5. Three (3), 396kV, 318kV MCOV Surge Arresters. 6. Three (3), 180kV, 144kV MCOV Surge Arresters. 7. Two (2), 4521 – Synchronous Breaker Monitor 8. Two (2), 4510 - SEL-2411 Breaker Annunciator 9. Two (2), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 10. Two (2), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 11. Four (4), 4518 – Cap. Bank Mid-Point Potential M.U. Box 12. Four (4), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 13. Two (2), 4526_B – Sync Breaker Fiber M.U. Box 14. One (1), 1816 – 28" SEL-787 Gas Zone Differential Panel 15. One (1), 4200 – Bus Differential C.T. Makeup Box

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.

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	\$10,057,061.00
Component cost (in-service year)	\$10,771,112.33
Substation Upgrade Component	
Component title	Youngs Branch Substation
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Youngs Branch
Substation zone	353

Purchase and install substation material: 1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. Approximately 500FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Approximately 200 FT of Cable Trough 8. Foundations and steel structures as required per current engineering standards. 9. Conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. Purchase and install relay material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 5. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 6. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 7. One (1), 4526_B – Sync Breaker Fiber M.U. Box

Transformer Information

None	
New equipment description	1. One (1), 178.2MVAr, 249.4KV, Capacitor Bank (Three Ø). 2. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 Circuit Breakers. 3. One (1), 230kV, 4000A, 3-Phase Double End Break Switches. 4. Three (3), 180 kV, 144 kV MCOV Surge Arresters. 5. Two (2) 230 kV relaying accuracy CCVTs 6. One (1), 4521 – Synchronous Breaker Monitor 7. One (1), 4510 - SEL-2411 Breaker Annunciator 8. One (1), 1518 – 28" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 9. One (1), 1558 – 28" SEL-487V Transmission Cap. Bank Panel 10. Two (2), 4518 – Cap. Bank Mid-Point Potential M.U. Box 11. One (1), 4519 – Cap. Bank, RX or C.B. Potential Makeup Box 12. One (1), 4526_B – Sync Breaker Fiber M.U. Box
Substation assumptions	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	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.

Convertien Drivere	
Component cost (in-service year)	\$2,301,557.58
Total component cost	\$2,148,980.00
Contingency	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.
Construction management	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.

Congestion Drivers

None

Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-LD-SNC	116J/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-W12	4 813399	6MARS	313805	6SHELLHORN1	1	230	345	Winter Gen Deliv	Included
2022W3-N1-ST25	5 BN I4004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1	Included
2022W3-LD-SNC	1181/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-LD-SNC	1171/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-N1-ST25	5 3N 4290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1	Included
2022W3-LD-SNC	2101/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S16	9 3 14006	6ASHBURA	314010	6BEAMEAD	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST25	5 211 4290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1	Included
2022W3-LD-SNC	1193/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-W12	\$ 13393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W42	314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-LD-SNC	2131/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-W43	314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-LD-SNC	21NI/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST9	3314009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-LD-SNC	1131/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S16	5 8 14084	6SULLY	314035	6DISCOVR	1	230	345	Summer Gen Deliv	Included
2022W3-LD-SNC	1121/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-N1-ST8	9314009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-LD-SNC	115J/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-LD-SNC	1 M /A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-N1-ST9	1 314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST2	15314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S16	9 3 14290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W13	383713440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-GD_118	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Light Load Gen Deliv	Included
2022W3-GD-W49	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W13	383813440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-GD-W82	2314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-GD_L31	0314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-GD-S17	0 0 13393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-W82	23314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-GD_117	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Light Load Gen Deliv	Included
2022W3-GD-S20	1 9 14041	6GLEBE	314185	6RADNOR	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S17	0 3 13393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S17	7 9 13393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S17	8 0 14901	8BATH CO	314991	8VALLEY SC	1	500	345	Summer Gen Deliv	Included
2022W3-GD-W1	363714041	6GLEBE	314185	6RADNOR	1	230	345	Winter Gen Deliv	Included
2022W3-GD-W13	33314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-N1-WN	C 5∿7 A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST1	07814006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN	2 58 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST1) 8 13752	6TAKEOFF	313774	6LINC PRK	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	2 5%9 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 60 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST9	9313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S16	9 8 14290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WN0	C55√I/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S16	6 3 14916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-WN0	2 5542 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S16	6 3 14916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-WN0	2 558 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	>554¥A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 5%5 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S83	314041	6GLEBE	314185	6RADNOR	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WN0	2 546 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S17	8 3 14039	6GALLOWS A	314052	6IDYLWOD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S17	0 3 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S17	0 5 14072	6PL VIEW	314004	6ASHBURN	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S17	8 3 14925	8PL VIEW	314072	6PL VIEW	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S17	0 8 14009	6BRADOCK	314052	6IDYLWOD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S17	8 8 14916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-GD-W57	' 314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-ST2	3 3 14290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_L35	9314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-GD_L27	6314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-GD-W82	29314041	6GLEBE	314185	6RADNOR	1	230	345	Winter Gen Deliv	Included
2022W3-GD-S17	8 2 14991	8VALLEY SC	314926	8VALLEY	1	500	345	Summer Gen Deliv	Included
2022W3-N1-ST2	3 8 14290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	2 68 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-WN	C 69 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN	2 710 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S17	0 3 14035	6DISCOVR	313774	6LINC PRK	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST1	1 0 13399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN	C 6√I /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S88	314916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-ST1	1814006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN	∑ 642 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S89	314916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-ST1	1 2 14009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN	2 68 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN	C 6₩ A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST2	35314004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	1 & 14039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN	C 66 7/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST1	15314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN	C 66 A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN	C 6√ /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S17	1 2 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-W5	9 313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-S33	3314010	6BEAMEAD	313743	6INTERCONNEC	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S16	5314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-W6) 313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-S20	4 3 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S17	9 3 13746	6SOJOURNER	313822	6RUNWAY	1	230	345	Summer Gen Deliv	Included
2022W3-GD_L36	0314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-N1-SNC	6N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-SNC	7N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST1	3 3 14006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-SNC	8N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-GD-W84	B 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W13	373014939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WT1	3 8 13904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT1	3 39 1 3904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT1	43313752	6TAKEOFF	313774	6LINC PRK	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	C7N1/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST1	2814004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST2	4 2 13815	6SPRINGH	314079	6RESTON	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C 1∿2 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WT1	33214006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST2	4 3 13805	6SHELLHORN1	313841	6ENTERPRIS	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	2 2 13815	6SPRINGH	314079	6RESTON	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S16	7 6 13904	6GOOSECRK	314006	6ASHBURA	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT1	3 3 13904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-SNC	1N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-WT1	33413399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-SNC	2N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-ST1	2 5 14006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-SNC	3N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-ST1	2 63 14068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-SNC	4N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-SNC	5N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-GD-S21	0 3 14039	6GALLOWS A	314052	6IDYLWOD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S18	0 3 14934	8SPOTSYL	314916	8MORRSVL	1	500	345	Summer Gen Deliv	Included
2022W3-GD-S17	2 2 13399	6MARS	313805	6SHELLHORN1	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S17	9 8 13859	6BELMONT	314072	6PL VIEW	1	230	345	Summer Gen Deliv	Included

2022W3·H1SH314006ABBURA5HAUA6BAMEAD130/3038JA304Summer 1-ImmanIndude2023W3·H1SHCMAN	FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-SNC MANA<	2022W3-N1-ST1;	3814006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST 21433 6DISCOVR 313774 6LINC PRK 1 202/03 34343 Summer N-1 Themal Include 2022W3-N1-SN TM NA NA </td <td>2022W3-N1-SNC</td> <td>9N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>Summer N-1 Non Converge</td> <td>Included</td>	2022W3-N1-SNC	9N/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-NC IVANA<	2022W3-N1-ST1;	3 2 14035	6DISCOVR	313774	6LINC PRK	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-SNC N/A N/A <td>2022W3-N1-SNC</td> <td>110/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>Summer N-1 Non Converge</td> <td>Included</td>	2022W3-N1-SNC	110/A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-WT1 42133996MARS5137406SOJOURNER1230/230345/450Winter N-1 ThermalIncluded2022W3-N1-ST1 3140686XL3140306ALLOWSA1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 3140846ULLY3140306DSCOVR1230/230345/345Summer N-1 ThermalIncluded2022W3-GD_L266BALSTN3141206CRNDNC1230/230345/345Light Load Cen DelivIncluded2022W3-GD_L366BALDCN3141206CRNDNC1230/230345/345Light Load Cen DelivIncluded2022W3-N1-ST1 410096BRADCK3140206DPL/VODD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 410096BRADCK314056DPL/VODD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 410096BRADCK314056DPL/VODD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 410096ARS314056DPL/VODD120/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 410096ARS313906ARAE6AREA120/230345/345Summer N-1 ThermalIncluded2022W3-GD_ST2 313406NTFHIL314096AREA120/230345/345Summer N-1 ThermalIncluded2022W3-N1-WT 6T4046ASHBURA314096AEAEA120/230345/345Summer N-1 ThermalIncluded<	2022W3-N1-SNC	1 NI /A	N/A	N/A	N/A	N/A	N/A	N/A	Summer N-1 Non Converge	Included
2022W3-N1-ST13B14088 60X 314039 6GALLOWS A 1 203/230 345/345 Summer N-1 Thermal Included 2022W3-N1-ST1314084 6SULLY 314035 6DISCOVR 1 203/230 345/345 Summer N-1 Thermal Included 2022W3-GD_L2 6BALLSTN 314120 6CLRNDNC 1 203/230 345/345 Light Load Gen Deliv Included 2022W3-GD_L3 6BALDSTN 314120 6CLRNDNC 1 203/230 345/345 Light Load Gen Deliv Included 2022W3-H1-ST1 6BARDOCK 31402 6IDYLWOD 1 203/230 345/345 Summer N-1 Thermal Included 2022W3-N1-ST1 6BARDOCK 314050 6IDYLWOD 1 203/230 345/345 Summer N-1 Thermal Included 2022W3-N1-ST1 6AARS 314050 6BEAMEAD 1 203/230 345/345 Winter N-1 Thermal Included 2022W3-N1-ST1 6MARS 314050 6BEAMEAD 1 203/230 345/345 Summer N-1 Thermal Included 2022W3-GD-St1 6MARS 131399 6MARS 1	2022W3-N1-WT1	43413399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST173140846SULLY3140356DISCOVR1230/230345/345Summer N-1 ThermalIncluded2022W3-GD_L263148206BALLSTN3141206CLRNDNC1230/230345/345Ligh Load Gen DelivIncluded2022W3-GD_L303148206BALDSTN3141206CLRNDNC1230/230345/345Ligh Load Gen DelivIncluded2022W3-N1-ST149140096BRADCK3140526DYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST149140096BRADCK3140526DYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST149140096BRADCK3140506BEAMEAD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST149140096BRADCK3140106BEAMEAD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST149140096MRS3138056MRS1230/230345/345Summer N-1 ThermalIncluded2022W3-GD_S1691433338MARS3138056MESTON1230/230345/345Summer Sen DelivIncluded2022W3-GD_S1725138156SPRINGH3140106BEAMEAD1200/230345/345Summer Sen DelivIncluded2022W3-N1-WT169140066ASHBURA3140106BEAMEAD1200/230345/345Summer Sen DelivIncluded2022W3-N1-WT169140066ASHBURA3140106BEAMEAD1200/230345/345Summer N-1 ThermalInclud	2022W3-N1-ST1;	37314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_L269148206BALLSTN3141206CLRNDNC1230/230345/345Light Load Gen DelivIncluded2022W3-GD_L3693148206BALLSTN3141206CLRNDNC1230/230345/345Light Load Gen DelivIncluded2022W3-N1-ST1401096BRADOCK3140206IDYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1401006BRADOCK3140206IDYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1401006BRADOCK3140106BEAMEAD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1401006ASHBURA3140106BEAMEAD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1401006MRS3133996MARS1500/230345/345Summer N-1 ThermalIncluded2022W3-GD_ST2728138156SPRINGH3140796RESTON1230/230345/345Summer Gen DelivIncluded2022W3-GD_ST2728138156SPRINGH3140106BEAMEAD1230/230345/345Summer Gen DelivIncluded2022W3-GD_ST2728138156SRBURA3140106BEAMEAD1230/230345/345Summer Gen DelivIncluded2022W3-N1-WTGMARS3140106BEAMEAD1230/230345/345Summer Gen DelivIncluded2022W3-N1-WTGMARS3140106BEAMEAD1230/230345/345Summer N-1 ThermalIncluded<	2022W3-N1-ST1	7 314084	6SULLY	314035	6DISCOVR	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_L3<3148206BALLSTN3141206CLRNDNC1230/230345/350Light Load Gen DelivIncluded2022W3-N1-ST5140096BRADOCK3140526IDYLWOD1230/230345/350Summer N-1 ThermalIncluded2022W3-N1-ST5140096BRADOCK3140526IDYLWOD1230/230345/350Summer N-1 ThermalIncluded2022W3-N1-ST6140006ASHBURA3140106BEAMEAD1230/230345/350Summer N-1 ThermalIncluded2022W3-N1-ST6133936MARS313056SHELLHORN11230/230345/350Summer N-1 ThermalIncluded2022W3-GD-ST133936MARS313096MARS1500/230345Summer Gen DelivIncluded2022W3-GD-ST313946NFILH3140106RESTON1230/230345Summer Gen DelivIncluded2022W3-GD-ST313946NFILH3140106BEAMEAD1200/230345/350Summer Gen DelivIncluded2022W3-GD-ST313406ASHBURA3140106BEAMEAD1230/230345/350Summer N-1 ThermalIncluded2022W3-N1-W1G140606ASHBURA3140106BEAMEAD1230/230345/350Summer N-1 ThermalIncluded2022W3-N1-W1G140606ASHBURA3140106BEAMEAD1230/230345/350Summer N-1 ThermalIncluded2022W3-N1-W1G140606ASHBURA3140306ALLOWS A<	2022W3-GD_L26	9314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-N1-ST19140096BRADOCK3140526IDYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST164ADOCK3140526IDYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST164ASHBURA3140106BEAMEAD1230/230345/345Vinter N-1 ThermalIncluded2022W3-N1-ST13133996MARS313096SHELLHORN11230/230345/345Summer N-1 ThermalIncluded2022W3-GD-ST3133938MARS3133996MARS1500/230345/345Summer Gen DelivIncluded2022W3-GD-ST5ASHD6SPRINGH3140796RESTON1230/230345/345Summer Gen DelivIncluded2022W3-GD-ST5ASHD6SPRINGH3140196RESTON1230/230345/345Summer Gen DelivIncluded2022W3-GD-ST5ASHD6ASHBURA3140196BEAMEAD1230/230345/345Summer Gen DelivIncluded2022W3-N1-WT6ASHBURA3140106BEAMEAD1230/230345/345Vinter N-1 ThermalIncluded2022W3-N1-WT5A6ASHBURA3140196BEAMEAD1230/230345/345Vinter N-1 ThermalIncluded2022W3-N1-WT5A6ASHBURA3140196BEAMEAD1230/230345/345Vinter N-1 ThermalIncluded2022W3-N1-WT5A6BEAMEAD313736INTERCONNEC1230/230345/345 </td <td>2022W3-GD_L30</td> <td>9314820</td> <td>6BALLSTN</td> <td>314120</td> <td>6CLRNDNC</td> <td>1</td> <td>230/230</td> <td>345/345</td> <td>Light Load Gen Deliv</td> <td>Included</td>	2022W3-GD_L30	9314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-N1-ST1 501400961BRADOCK3140526IDYLWOD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-W1 6022W3-N1-ST361ABURA3140106BEAMEAD1230/230345/345Vinter N-1 ThermalIncluded2022W3-N1-ST33133996MARS3138056SHELLHORN11230/230345/345Summer N-1 ThermalIncluded2022W3-GD-ST35133938MARS3133996MARS1500/230345.05Summer Gen DelivIncluded2022W3-GD-ST35138056SPRINGH3140796RESTON1230/230345.05Summer Gen DelivIncluded2022W3-GD-ST37313408VINTHIL3140196RESTON1200/230345.05Summer Gen DelivIncluded2022W3-N1-W16W4066ASHBURA3140106BEAMEAD1201/230345.35Vinter N-1 ThermalIncluded2022W3-N1-W16W4066ASHBURA3140106BEAMEAD1201/230345.35Vinter N-1 ThermalIncluded2022W3-N1-W16MARS3140106BEAMEAD1201/230345.35Vinter N-1 ThermalIncluded2022W3-N1-W15140066ASHBURA3140106BEAMEAD1201/230345.35Vinter N-1 ThermalIncluded2022W3-N1-W15140066ASHBURA3140106BEAMEAD1201/230345.35Summer N-1 ThermalIncluded2022W3-N1-W1514066ACH3140396ALLOWSA1<	2022W3-N1-ST1	4 3 14009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT 2022W3-N1-ST36ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-GD-ST83133996MARS3138056MARS1500/230345/345Summer N-1 ThermalIncluded2022W3-GD-ST83133938MARS3133996MARS1500/230345.00Summer Gen DelivIncluded2022W3-GD-ST83134006NFINGH3140796RESTON1230.00345.00Summer Gen DelivIncluded2022W3-GD-ST83134006NTITHL3140796RESTON1500.00345.00Summer Gen DelivIncluded2022W3-GD-ST86ASHBURA3140106BEAMEAD1200.00345.00Summer Gen DelivIncluded2022W3-N1-WT6ASHBURA3140106BEAMEAD1201.00345.00Winter N-1 ThermalIncluded2022W3-N1-WT5314006ASHBURA3140106BEAMEAD1201.00345.00Winter N-1 ThermalIncluded2022W3-N1-WT5314006ASHBURA3140106BEAMEAD1201.00345.00Winter N-1 ThermalIncluded2022W3-N1-ST45314006ASHBURA3140306ALLOWSA1201.00345.00Summer N-1 ThermalIncluded2022W3-N1-ST4514066ALEHORNI1201.00345.00Summer N-1 ThermalIncluded2022W3-N1-ST4514066ALEHORNI1201.00345.00Summer N-1 ThermalIncluded	2022W3-N1-ST1	5 3 14009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST33133996MARS3138056SHELLHORN11230/230345/345Summer N-1 ThermalIncluded2022W3-GD-ST38133938MARS3133996MARS1500/230345Summer Gen DelivIncluded2022W3-GD-ST325138156SPRINGH3140796RESTON1230345Summer Gen DelivIncluded2022W3-GD-ST473134008VINTHIL3140198LOUDOUN1500345Summer Gen DelivIncluded2022W3-N1-WT6014006ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT6014006ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT53140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-ST253140106BEAMEAD3140396GALLWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST2714046GLEBE3140396GALLWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST2714046GLEBE3140396RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST2714046GLEBE314086RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST2714046SHELHORN13140986RAENOR <td>2022W3-N1-WT1</td> <td>6314006</td> <td>6ASHBURA</td> <td>314010</td> <td>6BEAMEAD</td> <td>1</td> <td>230/230</td> <td>345/345</td> <td>Winter N-1 Thermal</td> <td>Included</td>	2022W3-N1-WT1	6314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S18MARS8MARS133996MARS150/230345Summer Gen DelivIncluded2022W3-GD-S15138156SPRINGH3140796RESTON1230345Summer Gen DelivIncluded2022W3-GD-S33134406NINTHIL3140108LOUDOUN1500345Summer Gen DelivIncluded2022W3-N1-W16046ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-W16133996MARS3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-W163140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-S16BEAMEAD3140106BEAMEAD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S1714046BEAMEAD3140396GALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S1714046GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S1714046GLEBE314086GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S1714046GLEBE314086GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S1714046SHELHORN16GRENWAY11230/230345/345S	2022W3-N1-ST3	1 313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S17 2022W3-GD-S34SepRINGHS14079GRESTON1230345Summer Gen DelivIncluded2022W3-GD-S3473134408VINTHIL3149138LOUDOUN1500345Summer Gen DelivIncluded2022W3-N1-W160140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-W16133996MARS3138056SHELLHORN11230/230345/345Winter N-1 ThermalIncluded2022W3-N1-W15140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-W15140066ASHBURA3140106BEAMEAD1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S125140066ASHBURA3140396ALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S12714046GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S12714046GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S12714046GLEBE314086RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S12714046GLEBE314086RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-S12714046GLEBE314086RADNOR <td>2022W3-GD-S18</td> <td>0813393</td> <td>8MARS</td> <td>313399</td> <td>6MARS</td> <td>1</td> <td>500/230</td> <td>345</td> <td>Summer Gen Deliv</td> <td>Included</td>	2022W3-GD-S18	0 8 13393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S3473134408VINTHIL3149138LOUDOUN1500345Summer Gen DelivIncluded2022W3-N1-WT60140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT03133996MARS3138056SHELLHORN11230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT5140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-ST23140106BEAMEAD3137436INTERCONNEC1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140686OX3140396GALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140406GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140416GLEBE314086GREENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140416SHELHORN1314086GREENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140406SHELHORN11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140416GLEBE3140806GREENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140406SHELHORN13140806GREENWA	2022W3-GD-S17	2 5 13815	6SPRINGH	314079	6RESTON	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT60140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT6133996MARS3138056SHELLHORN11230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT53140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-ST2614046BEAMEAD3137436INTERCONNEC1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST260X3140306GALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST27140416GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST27140416SHELHORN13140886GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST27140416SHELHORN13140886GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST27140416SHELHORN13140886GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST27140416SHELHORN13140886GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST28138056SHELHORN13140886GRENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST28138056SHELH	2022W3-GD-S34	7313440	8VINTHIL	314913	8LOUDOUN	1	500	345	Summer Gen Deliv	Included
2022W3-N1-WT©133996MARS3138056SHELLHORN11230/230345/345Winter N-1 ThermalIncluded2022W3-N1-WT 531 40066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-ST23140106BEAMEAD3137436INTERCONNEC1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 314068 6OX3140396GALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST273140416GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST273140416GLEBE3140896GREENWAY11230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST28138056SHELLHORN13140986GREENWAY11230/230345/345Summer N-1 ThermalIncluded	2022W3-N1-WT1	6 331 4006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT153140066ASHBURA3140106BEAMEAD1230/230345/345Winter N-1 ThermalIncluded2022W3-N1-ST23140106BEAMEAD3137436INTERCONNEC1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST143140686OX3140396GALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140416GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST23140416SHELHORN13140986GREENWAY11230/230345/345Summer N-1 ThermalIncluded	2022W3-N1-WT4	0313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST2 2022W3-N1-ST1 43140686BEAMEAD3137436INTERCONNEC1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST1 2022W3-N1-ST26OX3140396GALLOWS A1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST2 2022W3-N1-ST27140416GLEBE3141856RADNOR1230/230345/345Summer N-1 ThermalIncluded2022W3-N1-ST2 2022W3-N1-ST26SHELHORN13140986GREENWAY11230/230345/345Summer N-1 ThermalIncluded	2022W3-N1-WT1	5 3 14006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST1 314068 6OX 314039 6GALLOWS A 1 230/230 345/345 Summer N-1 Thermal Included 2022W3-N1-ST2 7314041 6GLEBE 314185 6RADNOR 1 230/230 345/345 Summer N-1 Thermal Included 2022W3-N1-ST2 7314041 6SHELHORN1 314098 6GREENWAY1 1 230/230 345/345 Summer N-1 Thermal Included	2022W3-N1-ST2	6314010	6BEAMEAD	313743	6INTERCONNEC	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST2 314041 6GLEBE 314185 6RADNOR 1 230/230 345/345 Summer N-1 Thermal Included 2022W3-N1-ST1 4313805 6SHELLHORN1 314098 6GREENWAY1 1 230/230 345/345 Summer N-1 Thermal Included	2022W3-N1-ST1	47314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1 4 3 13805 6SHELLHORN1 314098 6GREENWAY1 1 230/230 345/345 Summer N-1 Thermal Included	2022W3-N1-ST2	7 314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Summer N-1 Thermal	Included
	2022W3-N1-ST1	4 8 13805	6SHELLHORN1	314098	6GREENWAY1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST28 314041 6GLEBE 314185 6RADNOR 1 230/230 345/345 Summer N-1 Thermal Included	2022W3-N1-ST2	3314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST16814072 6PL VIEW 314004 6ASHBURN 1 230/230 345/345 Summer N-1 Thermal Included	2022W3-N1-ST1	6 1 4072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST16 3 14072 6PL VIEW 314004 6ASHBURN 1 230/230 345/345 Summer N-1 Thermal Included	2022W3-N1-ST1	3 3 14072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-LLT 23/14041 6GLEBE 314185 6RADNOR 1 230/230 345/345 Light Load N-1 Included	2022W3-N1-LLT	23114041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load N-1	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-GD-S20	0314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-LLT1	23314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-LLT1	23214041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-ST3	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT1	6 39 14068	6OX	314039	6GALLOWS A	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST3	3314084	6SULLY	314035	6DISCOVR	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S17	3 8 13399	6MARS	313746	6SOJOURNER	1	230	345	Summer Gen Deliv	Included
2022W3-LD-SNC	2N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-LD-SNC	1N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S22	2313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-ST1	3 3 13399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-LD-SNC	4N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S17	3 9 14916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-ST4	314035	6DISCOVR	313774	6LINC PRK	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	7 G 13399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-LD-SNC	3N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-N1-ST1	7814039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C∕N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	21A/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-LD-SNC	5N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-N1-ST1	7 3 13743	6INTERCONNEC	313733	6NIMBUS	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C3N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST1	7 & 14039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	24N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S17	3 3 14004	6ASHBURN	314010	6BEAMEAD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W15	59313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-ST1	54813399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W14	7313399	6MARS	313746	6SOJOURNER	1	230	345	Winter Gen Deliv	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-WT5	5313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-W13	393613440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-N1-WT5	7314010	6BEAMEAD	313743	6INTERCONNEC	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST4	3314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT1	7 39 14004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-LD-ST1	0314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Load Deliverability	Included
2022W3-N1-ST6	0314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	> ∿ 1/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST6	I 314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C 1∿2 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	> 1\8 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	C ∿ #A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WT7	4314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	> 1∿5 ⁄A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-LD-ST9	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Load Deliverability	Included
2022W3-N1-WN0	C5N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST5	5313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	7 6 14072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C6N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W16	8814004	6ASHBURN	314010	6BEAMEAD	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	C7N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	S&N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	∑9N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W14	03713440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-N1-WN0	> 100 ′A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	22N/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2242/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 28 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-WN0	2 2√ #A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 15 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 26 7A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-LLT3	31314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-LLT3	3314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-LLT3	32314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-WN0	> 1\6 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST6	314009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C 1∿7 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W99	1242701	05LEESVI	314667	4ALTVSTA	1	138	205/345	Winter Gen Deliv	Included
2022W3-N1-ST6	7313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	C 1\8 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST6	3314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	> 1\9 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 20 7A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W99	92242701	05LEESVI	314667	4ALTVSTA	1	138	205/345	Winter Gen Deliv	Included
2022W3-N1-WN0	C3N1/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	3 51 2/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WT9	2314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	3 38 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	C 3∿4 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S18	1 3 13805	6SHELLHORN1	313841	6ENTERPRIS	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT9	4313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	3 %5 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W1	2313805	6SHELLHORN1	314098	6GREENWAY1	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	2 3%6 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W88	30314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	2 3∿7 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-WN0	2 217 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-ST7	7313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	2 28 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W75	5 313399	6MARS	313805	6SHELLHORN1	1	230	345	Winter Gen Deliv	Included
2022W3-N1-ST7	3313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WN0	2 20 7A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W87	'5314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W18	39314991	8VALLEY SC	314926	8VALLEY	1	500	345	Winter Gen Deliv	Included
2022W3-N1-WT8	9313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	C330/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W76	313904	6GOOSECRK	314006	6ASHBURA	1	230	345	Winter Gen Deliv	Included
2022W3-GD-W10)13313440	8VINTHIL	314125	6VINTHIL	2	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W77	' 314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-GD-W87	'9313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	24N1/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2442/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 4 48/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 4₩ /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W15	5 23N 3440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-N1-WN0	2 445 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 446 7A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W79)832 114 290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	2 4∿7 ∕A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W79	81114290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	2 448 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-S18	1 3 14918	8NO ANNA	314911	8LADYSMITH	1	500	345	Summer Gen Deliv	Included
2022W3-N1-WT9	7313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	3 8 8/A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-N1-WN0	3 19 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WN0	2 410 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WT1	03813904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S18	1 3 14068	6OX	314039	6GALLOWS A	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W89)4813393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W89	95313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W94	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WN0	2 449 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-GD-W92	2 314006	6ASHBURA	314010	6BEAMEAD	1	230	345	Winter Gen Deliv	Included
2022W3-GD-S18	2 0 13440	8VINTHIL	314913	8LOUDOUN	1	500	345	Summer Gen Deliv	Included
2022W3-N1-WT1	03913399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WN0	2 50 /A	N/A	N/A	N/A	N/A	N/A	N/A	Winter N-1 Non Converge	Included
2022W3-N1-WT1	1331 3399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S23	6313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S23	7313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-W10)3314072	6PL VIEW	314004	6ASHBURN	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WT1	2 37 14006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-W90)4813440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-N1-ST1	35313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	3 6 13399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	37814039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W98	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-ST1	7 3 14039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W11	23511\3 440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-LD-ST24	1314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Load Deliverability	Included
2022W3-GD-W11	2341133 440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-GD-W11	4311133 440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-LD-ST2	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Load Deliverability	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-GD-S17	6 3 14068	6OX	314039	6GALLOWS A	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W1	3301133 440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-LD-ST2	5314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Load Deliverability	Included
2022W3-GD-S16	8 0 14925	8PL VIEW	314072	6PL VIEW	1	500/230	345	Summer Gen Deliv	Included
2022W3-LD-ST2	3 3 1 4 9 3 9	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Load Deliverability	Included
2022W3-GD-S16	8 3 13399	6MARS	313805	6SHELLHORN1	1	230	345	Summer Gen Deliv	Included
2022W3-LD-ST2	7 314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Load Deliverability	Included
2022W3-GD-W13	363314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-LD-ST2	3 31 3904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Load Deliverability	Included
2022W3-N1-ST1	9814009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST1	9 3 13746	6SOJOURNER	313822	6RUNWAY	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W78	36314916	8MORRSVL	313440	8VINTHIL	1	500	345	Winter Gen Deliv	Included
2022W3-N1-WT2	4314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S17	6 5 13805	6SHELLHORN1	314098	6GREENWAY1	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S16	8 3 14916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-WT2	5314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-LD-SNC	7N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S12	1 31\ 4290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S17	6 8 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-LD-SNC	6N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S14	1 B 114939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-LD-SNC	9N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S17	6 3 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-LD-SNC	8N/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-LD-SNC	1 NI /A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included
2022W3-GD-S17	6 8 14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S14	6 B11 4939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-LD-SNC	110/A	N/A	N/A	N/A	N/A	N/A	N/A	Load Deliverability	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	СКТ	Voltage	TO Zone	Analysis type	Status
2022W3-GD-S20	1 8 14916	8MORRSVL	313440	8VINTHIL	1	500	345	Summer Gen Deliv	Included
2022W3-N1-ST2	0 6 13399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST8	5313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST2	07814004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST8	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST8	7313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST2	0 8 13746	6SOJOURNER	313822	6RUNWAY	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST8	3313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-LD-ST3	0313911	6TWINCREEKS	314072	6PL VIEW	1	230/230	345/345	Load Deliverability	Included
2022W3-GD-W31	9 311 3440	8VINTHIL	314913	8LOUDOUN	1	500	345	Winter Gen Deliv	Included
2022W3-LD-ST2	314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Load Deliverability	Included
2022W3-LD-ST32	2314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Load Deliverability	Included
2022W3-LD-ST3	1 313911	6TWINCREEKS	314072	6PL VIEW	1	230/230	345/345	Load Deliverability	Included
2022W3-LD-ST3	3314004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Load Deliverability	Included
2022W3-N1-ST8	I 314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST8	3313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included

New Flowgates

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

Financial Information

Capital spend start date06/2025Construction start date06/2026Project Duration (In Months)30

Additional Comments

None