Cap Bank and STATCOM Installation

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	527
Project title	Cap Bank and STATCOM Installation
Project description	Installation of Static Synchronous Compensator (STATCOM) and Capacitor Banks and associated equipment at the substations identified in the 2024 Reliability Open Window #1.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	06/2029
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Project Components

1. Brickyard Substation Upgrade
2. Cloverhill Substation Upgrade
3. Dawkins Branch Substation Upgrade
4. Hornbaker Substation Upgrade
5. Remington CT Substation Upgrade

6. Rixlew Substation Upgrade
7. Ladysmith Substation Upgrade
8. Spotsylvania Substation Upgrade (Alt_1)
9. Valley Substation Upgrade
10. Vontay Substation Upgrade
11. Dave’s Store Substation Upgrade
12. Spotsylvania Substation Upgrade (Alt_2)
13. Morrisville South Substation Upgrade

Substation Upgrade Component

Component title	Brickyard Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Brickyard
Substation zone	353
Substation upgrade scope	Purchase & 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. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & 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

Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,793,479.10
Component cost (in-service year)	$2,991,816.01

Substation Upgrade Component

Component title	Cloverhill Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Cloverhill
Substation zone	353

Substation upgrade scope	Purchase & 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. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & 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
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,793,479.10
Component cost (in-service year)	$2,991,816.01

Substation Upgrade Component

Component title	Dawkins Branch Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Dawkins Branch
Substation zone	353
Substation upgrade scope	Purchase & 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 80FT of 5 IN Schedule 40 AL Tubular Bus and Connectors. 7. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & 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

Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,793,479.10
Component cost (in-service year)	$2,991,816.01

Substation Upgrade Component

Component title	Hornbaker Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Hornbaker
Substation zone	353

Substation upgrade scope	Purchase & 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. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & 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
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,793,479.10
Component cost (in-service year)	$2,991,816.01

Substation Upgrade Component

Component title	Remington CT Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Remington CT
Substation zone	353
Substation upgrade scope	Purchase & 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. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & 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

Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,793,479.10
Component cost (in-service year)	$2,991,816.01

Substation Upgrade Component

Component title	Rixlew Substation Upgrade
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 & 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. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & 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
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,793,479.10
Component cost (in-service year)	$2,991,816.01

Substation Upgrade Component

Component title	Ladysmith Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Ladysmith
Substation zone	366
Substation upgrade scope	Purchase & Install Substation Material: 1. (1), 300MVAR STATCOM: a. (1), 300 MVA, 500 - 66 kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. (3), 60kV, 48kV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. (3), 396kV, 318kV MCOV, High Side Surge Arresters d. (1), 200A, Fused Disconnects for STATCOM Station Service e. (1), 23kV, 12A Fuses for STATCOM Station Service f. (3), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. (1), 66kV, 350kVA, 3-Phase Transformers for STATCOM Station Service h. (1), 1000A Fused Disconnects for STATCOM Station Service i. (1), 842A, 240VAC, 3- Phase Voltage Regulators for STATCOM Station Service j. (1), 259kW Three Phase Generators for STATCOM Station Service k. (2), Propane Storage Tanks for STATCOM Station Service l. (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. (2), 38.10 - .12/.24 kV, 167 KVA, Station Service Transformer 4. (2), SMD-20 Fused Disconnect and Current Limiting Fuses 5. (1), SVC Control Enclosure 24’ x 80’ 6. (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker 7. (1), 500kV, 5000A, Double End Break Switch 8. (2), 500kV, relaying accuracy CCVTs. 9. (3), Surge Arresters 396 kV MO, 318 kV MCOV 10. Approx. 1000 FT of 6” Sch 80 Aluminum bus. 11. Approx. 1250 FT of Level 1 security fence 12. Foundations and steel structures as required per current engineering standards. 13. Bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. [Refer to "99-3417 Ladysmith Scope of Work" for complete Description]

Transformer Information

None

New equipment description	1. (1), 300MVAR STATCOM: a. (1), 300 MVA, 500 - 66 kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. (3), 60kV, 48kV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. (3), 396kV, 318kV MCOV, High Side Surge Arresters d. (1), 200A, Fused Disconnects for STATCOM Station Service e. (1), 23kV, 12A Fuses for STATCOM Station Service f. (3), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. (1), 66kV, 350kVA, 3-Phase Transformers for STATCOM Station Service h. (1), 1000A Fused Disconnects for STATCOM Station Service i. (1), 842A, 240VAC, 3- Phase Voltage Regulators for STATCOM Station Service j. (1), 259kW Three Phase Generators for STATCOM Station Service k. (2), Propane Storage Tanks for STATCOM Station Service l. (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. (2), 38.10 - .12/.24 kV, 167 KVA, Station Service Transformer 4. (2), SMD-20 Fused Disconnect and Current Limiting Fuses 5. (1), SVC Control Enclosure 24’ x 80’ 6. (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker 7. (1), 500kV, 5000A, Double End Break Switch 8. (2), 500kV, relaying accuracy CCVTs. 9. (3), Surge Arresters 396 kV MO, 318 kV MCOV
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole pad connections to maintain 5000A ratings. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$44,747,582.70
Component cost (in-service year)	$47,924,661.39

Substation Upgrade Component

Component title	Spotsylvania Substation Upgrade (Alt_1)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Spotsylvania
Substation zone	366
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 300MVAR STATCOM: a. One (1), 300 MVA, 500 - 66 kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 66kV, 48kV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. Three (3), 396kV, 318kV MCOV, High Side 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), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. One (1), 66kV, 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 l. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Two (2), 38.10 - .12/.24 kV, 167 KVA, Station Service Transformer 4. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 5. One (1), SVC Control Enclosure 24’ x 80’ 6. One (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker 7. One (1), 500kV, 5000A, Double End Break Switch 8. Two (2), 500kV, relaying accuracy CCVTs. 9. Foundations and steel structures as required per current engineering standards. 10. Bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. [Refer to "99-3417 Spotsylvania Scope of Work" for complete Description]

Transformer Information

None

New equipment description	1. One (1), 300MVAR STATCOM: a. One (1), 300 MVA, 500 - 66 kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 66kV, 48kV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. Three (3), 396kV, 318kV MCOV, High Side 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), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. One (1), 66kV, 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 l. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Two (2), 38.10 - .12/.24 kV, 167 KVA, Station Service Transformer 4. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 5. One (1), SVC Control Enclosure 24’ x 80’ 6. One (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker 7. One (1), 500kV, 5000A, Double End Break Switch 8. Two (2), 500kV, relaying accuracy CCVTs.
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole pad connections to maintain 5000A ratings. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$41,687,582.70
Component cost (in-service year)	$44,647,401.39

Substation Upgrade Component

Component title	Valley Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Valley
Substation zone	366
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 300MVAr STATCOM: a. One (1), 300 MVA, 500 - 66 kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 60kV, 48kV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. Three (3), 396kV, 318kV MCOV, High Side 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), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. One (1), 66kV, 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 l. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Three (3), Surge Arresters 396 kV MO, 318 kV MCOV 4. Two (2), 38.10 - 0.12/0.24 kV, 167 KVA, Station Service Transformer 5. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 6. One (1), SVC Control Enclosure 24’ x 80’ 7. One (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker 8. Two (2), 500kV, 5000A, Double End Break Switch 9. Three (3), 500kV, relaying accuracy CCVTs 10. Approximately 110 FT of 6 IN Sch. 80 Aluminum bus 11. Approximately 1250 FT of Level 1 security fence 12. Two (2), 500kV, Heavy duty Steel Backbones (by Transmission) 13. Foundations and steel structures as required per current engineering standards. 14. Bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. [Refer to "99-3417 Valley Scope of Work" for complete Description]

Transformer Information

None

New equipment description	1. One (1), 300MVAr STATCOM: a. One (1), 300 MVA, 500 - 66 kV, three-phase Transformers (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), 60kV, 48kV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. Three (3), 396kV, 318kV MCOV, High Side 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), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. One (1), 66kV, 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 l. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Three (3), Surge Arresters 396 kV MO, 318 kV MCOV 4. Two (2), 38.10 - 0.12/0.24 kV, 167 KVA, Station Service Transformer 5. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 6. One (1), SVC Control Enclosure 24’ x 80’ 7. One (1), 500kV, 5000A, 63kA, SF6 Circuit Breaker 8. Two (2), 500kV, 5000A, Double End Break Switch 9. Three (3), 500kV, relaying accuracy CCVTs
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole pad connections to maintain 5000A ratings. 3. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$46,538,277.30
Component cost (in-service year)	$49,842,494.67

Substation Upgrade Component

Component title	Vontay Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Vontay
Substation zone	366
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 450MVAR STATCOM: a. Three (3), 765 - XX kV, single-phase Transformers (450 MVA overall), (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), XXkV, XXkV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. Three (3), XXkV, XXkV MCOV, High Side Surge Arresters (Ratings to be determined during detailed design) d. One (1), 200A, Fused Disconnects for STATCOM Station Service e. One (1), 23kV, 12A Fuses for STATCOM Station Service f. Three (3), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. One (1), 34.5kV, 350kVA, 3-Phase Transformers for STATCOM Station Service (Ratings to be determined during detailed design) 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 l. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Three (3) 765 kV relaying accuracy CCVTs. 4. Three (3), Surge Arresters XX kV MO, XX kV MCOV (Ratings to be determined during detailed design) 5. Two (2) 765 kV, 50 kAIC, 4000A Circuit Breakers 6. Four (4) 765 kV, 4000 A, motor operated disconnect switches 7. Two (2), 19.9 - .12/.24 kV, 167 KVA, Station Service Transformer (Ratings to be determined during detailed design) 8. One (1), SVC Control Enclosure 24’ x 80’ 9. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses 10. Foundations and steel structures as required per current engineering standards. 11. Bus, conductors, connectors, conduit, control cable, and grounding materials as per current engineering standards. [Refer to "99-3417 Vontay Scope of Work" for complete Description]

Transformer Information

None

New equipment description	1. One (1), 450MVAR STATCOM: a. Three (3), 765 - XX kV, single-phase Transformers (450 MVA overall), (secondary voltage rating will be finalized by the STATCOM requirements) b. Three (3), XXkV, XXkV MCOV, Low Side Surge Arresters (Ratings to be determined during detailed design) c. Three (3), XXkV, XXkV MCOV, High Side Surge Arresters (Ratings to be determined during detailed design) d. One (1), 200A, Fused Disconnects for STATCOM Station Service e. One (1), 23kV, 12A Fuses for STATCOM Station Service f. Three (3), XXkV, XXkV MCOV, Surge Arresters for STATCOM Station Service (Ratings to be determined during detailed design) g. One (1), 34.5kV, 350kVA, 3-Phase Transformers for STATCOM Station Service (Ratings to be determined during detailed design) 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 l. One (1), 800A Three Phase Outdoor ATS For STATCOM Station Service 2. Oil Containment System for the Transformer 3. Three (3) 765 kV relaying accuracy CCVTs. 4. Three (3), Surge Arresters XX kV MO, XX kV MCOV (Ratings to be determined during detailed design) 5. Two (2) 765 kV, 50 kAIC, 4000A Circuit Breakers 6. Four (4) 765 kV, 4000 A, motor operated disconnect switches 7. Two (2), 19.9 - .12/.24 kV, 167 KVA, Station Service Transformer (Ratings to be determined during detailed design) 8. One (1), SVC Control Enclosure 24’ x 80’ 9. Two (2), SMD-20 Fused Disconnect and Current Limiting Fuses
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary.
Real-estate description	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	$159,000,000.00
Component cost (in-service year)	$170,289,000.00

Substation Upgrade Component

Component title	Dave’s Store Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Dave’s Store
Substation zone	353
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 178.2MVAR, 249.4kV, Capacitor Bank (Three Ø) 2. Three (3), 180kV, 144kV MCOV GIS Surge Arresters 3. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 GIS Circuit Breaker (to be installed inside the 230kV GIS building) 4. Two (2) 230kV Relaying Accuracy CCVTs inside the 230kV GIS building 5. One (1) 230kV, 4000A breaker disconnect switch inside the 230kV GIS building 6. Gas insulated bus, connectors, gas to air bushings as required 7. Conductors, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & Install Relay Material: 1. One (1), 4521 – Synchronous Breaker Monitor 2. One (1), 4510 - SEL-2411 Breaker Annunciator 3. One (1), 1518 – 24” SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 4. One (1), 1558 – 24” 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. Three (3), 180kV, 144kV MCOV GIS Surge Arresters 3. One (1), 230kV, 4000A, 80kA, Sync-Close, SF6 GIS Circuit Breaker (to be installed inside the 230kV GIS building) 4. Two (2) 230kV Relaying Accuracy CCVTs inside the 230kV GIS building 5. One (1) 230kV, 4000A breaker disconnect switch inside the 230kV GIS building

Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work. 3. Engineering assessed that there is sufficient space for the installation of the cap bank, thus the GA has been omitted from this submission.
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	$6,266,135.50
Component cost (in-service year)	$6,711,030.59

Substation Upgrade Component

Component title	Spotsylvania Substation Upgrade (Alt_2)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Spotsylvania
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

Transformer Information

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
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary.
Real-estate description	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	$3,500,000.00
Component cost (in-service year)	$3,748,500.00

Substation Upgrade Component

Component title	Morrisville South Substation Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Morrisville South
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

Transformer Information

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
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary.
Real-estate description	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	$3,500,000.00
Component cost (in-service year)	$3,748,500.00

Congestion Drivers

None

Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM1262	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included
2024W1N1SVM1263	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included
2024W1N1SVM1266	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included
2024W1N1SVM1267	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included
2024W1N1SVM1264	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included
2024W1N1SVM1265	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included
2024W1N1SVM1268	314926	8VALLEY	314926	8VALLEY	1	500	345	Summer Voltage Magnitude	Included

New Flowgates

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

Financial Information

Capital spend start date	02/2025
Construction start date	06/2025
Project Duration (In Months)	52

Additional Comments

None