

138/115 kV Safety Solutions

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	761
Project title	138/115 kV Safety Solutions
Project description	This proposal includes the following projects: 1. 99-3436: Brema Transformer #8 Leads Uprate 2. 99-3433: Alta Vista Transformer #3 Upgrade 3. 993430: Line 152 Uprate
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	06/2029
Tie-line impact	Yes
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. Brema Transformer 8 Uprate (99-3436)
2. Line 152 Uprate - Edinburg to Strasburg (99-3430)
3. Edinburg Substation Terminal Equipment Upgrade (99-3430)
4. Alta Vista Substation - TX # Upgrade (99-3433)

Substation Upgrade Component

Component title	Bremo Transformer 8 Uprate (99-3436)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Bremo
Substation zone	363
Substation upgrade scope	Purchase & Install Substation Material: 1. Approximately 700 ft of 2-795 AAC conductor w/ associated fittings. Remove Substation Material: 2. Approximately 700 ft of 1-795 AAC conductor w/ associated fittings. Purchase & Install Relay Material: 1. None

Transformer Information

None	
New equipment description	1. Approximately 700 ft of 2-795 AAC conductor w/ associated fittings.
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. It has been determined that the GA would not need any additional equipment or equipment relocation thus it has been omitted from submittal.
Real-estate description	
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	\$92,379.10
Component cost (in-service year)	\$98,937.91

Transmission Line Upgrade Component

Component title	Line 152 Uprate - Edinburg to Strasburg (99-3430)	
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.	
Impacted transmission line	Line 152	
Point A	Edinburg	
Point B	Strasburg	
Point C		
Terrain description	Refer to "993430 Real Estate and Permitting summary" for terrain description.	
Existing Line Physical Characteristics		
Operating voltage	138	
Conductor size and type	2-396.3 ACAR (15/7) 90°C MOT	
Hardware plan description	New hardware will be used for line rebuild.	
Tower line characteristics	Existing Structures will be removed and new structures will be used for this rebuild.	
Proposed Line Characteristics		
	Designed	Operating
Voltage (kV)	138.000000	138.000000

	Normal ratings	Emergency ratings
Summer (MVA)	472.000000	472.000000
Winter (MVA)	495.000000	495.000000
Conductor size and type	1-768.2 ACSS/TW/HS (20/7) 250°C MOT	
Shield wire size and type	DNO-11410 shield wire	
Rebuild line length	16.54 Miles	
Rebuild portion description	<p>EXISTING FACILITIES TO BE REMOVED: 1. Remove (182) existing single circuit wood tangent monopole structures. 2. Remove (27) existing single circuit wood deadend monopole structures. 3. Remove (2) existing single circuit wood running angle monopole structures. 4. Remove (4) existing single circuit wood h-frame deadend structures. 5. Remove (1) existing single circuit wood 3 pole structure. 6. Remove (39) existing single circuit steel monopole structures. 7. Remove (3) existing single circuit steel monopole deadend structures. 8. Remove (1) existing single circuit steel running angle monopole structure. 9. Remove (3) existing single circuit steel h-frame suspension structures. 10. Remove (2) existing single circuit steel h-frame deadend structures. 11. Remove (4) existing single circuit steel 3 pole deadend structures. 12. Remove approx. 16.54 miles of 396.3 ACAR (15/7) 90 MOT conductor from structures 152/1A to 152/269. 13. Remove approx. 16.54 miles of two (2) 3#6 Alumoweld shield wire from structures 152/1A to 152/270. MODIFICATIONS TO EXISTING FACILITIES: 1. Replace (6) existing 138kV conductor strain insulator assemblies with six (6) 138kV bundled conductor crossing strain assemblies. 2. Replace (4) existing shield wire strain insulator assemblies with four (4) OPGW strain assemblies. PERMANENT FACILITIES TO BE INSTALLED: 1. Install (219) 138kV custom engineered steel double circuit monopole suspension structures on foundations as follows: a. Structures 152/3-6, 10-18, 21-24, 26-33, 35-38, 40-45,48-49, 51-53, 56-59, 61-74, 76-78, 80, 82-97, 99-103,105-114, 116-119, 121-124, 126-138, 140-154, 156-159, 161-162, 164-165, 167-176, 178-194, 196-198, 201-203, 205-206, 209-214, 217-225, 227-229, 233-234, 237-244,246-251, 253, 255-264, 266, 268 2. Install (35) 138kV custom engineered steel double circuit monopole DDE structures on foundations as follows: a. Structures 152/2,7-9, 19-20, 47,50, 54-55, 79, 81, 98, 104, 115,120, 125, 139, 155, 160, 163, 166, 177, 195, 207-208, 216, 230-232, 235-236, 245, 254, 269 3. Install (14) 138 kV custom engineered steel double circuit deadend structures on foundations as follows: a. 152/25, 34, 39, 46, 60, 75, 199-200, 204, 215, 226, 252, 265, 267 4. Install approx. 16.54 miles of 3-phase 1-768.2 ACSS/TW/HS 250 MOT conductor from structure 152/1A to 152/269. 5. Install approx. 6.54 miles of two (2) DNO-11410 OPGW from structure 152/1A to 152/269. a. Assumes 16 OPGW splices throughout the line.</p>	
Right of way	Existing Right-of-Way shall be used.	
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	\$98,627,710.00
Component cost (in-service year)	\$105,630,277.41
Substation Upgrade Component	
Component title	Edinburg Substation Terminal Equipment Upgrade (99-3430)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Edinburg
Substation zone	364
Substation upgrade scope	Purchase & Install Substation Material: 1. Three (3), 138kV Capacitively Coupled Voltage Transformers 2. One (1), 138kV, 2000A Wave Trap. 3. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Remove Substation Material: 1. Three (3), 138kV Capacitively Coupled Voltage Transformers 2. One (1), 138kV, 1600A Wave Trap. 3. Conductor, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & Install Relay Material: 1. One (1), 4506 – 3Ø CCVT Potential Makeup Box w/ Metering (P4)

Transformer Information

None

New equipment description

1. Three (3), 138kV Capacitively Coupled Voltage Transformers 2. One (1), 138kV, 2000A Wave Trap.

Substation assumptions

1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.

Real-estate description

The substation will not be expanded for this project.

Construction responsibility

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

Benefits/Comments

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

Component Cost Details - In Current Year \$

Engineering & design

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

Permitting / routing / siting

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

ROW / land acquisition

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

Materials & equipment

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

Construction & commissioning

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

Construction management

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

Overheads & miscellaneous costs

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

Contingency

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

Total component cost

\$299,191.00

Component cost (in-service year)

\$320,433.56

Substation Upgrade Component

Component title

Alta Vista Substation - TX # Upgrade (99-3433)

Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Alta Vista
Substation zone	358
Substation upgrade scope	Purchase & Install Substation Material: 1. One (1), 138-115kV, 179MVA, Transformer. 2. Three (3), 108kV MO, Station Class, 88kV MCOV Arresters. 3. Three (3), 90kV MO, Station Class, 74kV MCOV Arresters. 4. Three (3), 18kV MO, Station Class, 15.3kV MCOV Arresters. 5. Conductors, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Remove Substation Material: 1. One (1), 138-115-13.2kV, 112MVA, Transformer. 2. Three (3), 108kV MO, Station Class, 88kV MCOV Arresters. 3. Three (3), 90kV MO, Station Class, 74kV MCOV Arresters. 4. Three (3), 18kV MO, Station Class, 15.3kV MCOV Arresters. 5. Conductors, connectors, conduit, control cable, foundations, structures, and grounding material as per engineering standards. Purchase & Install Relay Material: 1. One (1), SPR Relay Auxiliary Package 2. One (1), 1217 – 24” Dual SEL-487E Transmission Transformer Diff. Panel 3. One (1), 4510 - SEL-2411 Equipment Annunciator 4. One (1), 4526_C – Transmission Transformer or RX Fiber Makeup Box 5. One (1), 7614 – Transformer Critical Low Oil Assembly 6. One (1), Panel Retirement

Transformer Information

	Name	Capacity (MVA)		
Transformer	TX 3	179		
	High Side	Low Side	Tertiary	
Voltage (kV)	138	115		
New equipment description	1. One (1), 138-115kV, 179MVA, Transformer. 2. Three (3), 108kV MO, Station Class, 88kV MCOV Arresters. 3. Three (3), 90kV MO, Station Class, 74kV MCOV Arresters. 4. Three (3), 18kV MO, Station Class, 15.3kV MCOV Arresters.			
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.			
Real-estate description	The substation will not be expanded for this project.			
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.			

Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year \$	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	\$5,048,235.50
Component cost (in-service year)	\$5,406,660.00

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
2024W1IPDSNEW3	314746	4BREMO	314744	3BREMO	1	138/115	345	Summer IPD	Included
2024W1IPDSNEW2	314746	4BREMO	314744	3BREMO	1	138/115	345	Summer IPD	Included
2024W1-GD-S455	314797	4EDINBRG	235513	01STRASB	1	138	201/345	Summer Gen Deliv	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