

Install 356 MVAR capacitor at Bull Run substation

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?	
Company proposal ID	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
PJM Proposal ID	540
Project title	Install 356 MVAR capacitor at Bull Run substation
Project description	Proposal 8 is to install 356 MVAR capacitor banks at Bull Run 230 kV substation.
Email	
Project in-service date	06/2023
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. Bull Run Substation – Install two (2), 230kV, 178.2 MVAR Capacitor Banks

Substation Upgrade Component

Component title	Bull Run Substation – Install two (2), 230kV, 178.2 MVAR Capacitor Banks
Project description	
Substation name	Bull Run

Substation zone	182
Substation upgrade scope	Proposal 8 provides for the installation of two (2), 230 kV, 178.2 MVAR Capacitor Banks at Bull Run Substation. The substation will be expanded, and new fence will be installed to accommodate the capacitors banks. The new fencing will match the existing style & height. One spare Tx will be relocated to accommodate drive access to the cap banks.
Transformer Information	
None	
New equipment description	Purchase and install substation material: 1. Two (2), 230 kV, 178.2 MVAR, Capacitor Bank (Three Ø). 2. Two (2), 230 kV, 3000A, 50kA, Sync-Close, SF6 Circuit Breaker. 3. Two (2), 230 kV, 3000A, 3-Phase Center-Break Switches. 4. Six (6), 500A, 1.5mH, Series Reactors. 5. Six (6), 180kV, 144 kV, MCOV Surge Arresters 6. Foundations and steel support 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), 1109 – 24" Dual SEL-587Z Transmission Bus Panel 2. One (1), 4200 – Bus Differential C.T. M.U. Box 3. One (1), 4506 – 3Ø CCVT Potential M.U. Box 4. Two (2), 4521 – Synchronous Breaker Monitor 5. Three (3), 4510 - SEL-2411 Breaker Annunciator 6. One (1), 1510 – 24" Dual SEL-351 Transmission Breaker w/ Reclosing Panel 7. Two (2), 1518 – 24" SEL-351 Cap. Bank Breaker w/ Sync. Close Panel 8. Two (2), 1558 – 24" SEL-487V Transmission Cap. Bank Panel 9. Four (4), 4518 – Cap. Bank Mid-Point Potential M.U. Box 10. One (1), 4526_A – Circuit Breaker Fiber Optic M.U. Box 11. Two (2), 4526_B – Sync. Breaker Fiber M.U. Box
Substation assumptions	N/A
Real-estate description	The substation footprint will be expanded to accommodate the new equipment. Please review section A.1 Right-of-way land acquisition plan and approach in the attached Proposal 8 - Permitting and Real Estate Summary document attached in the supporting documents.
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	\$5,350,960.00
Component cost (in-service year)	\$5,730,878.00

Congestion Drivers

CD #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
ME-3	235479	01JUNCTN	235467	01FRNCHM	1	138	201	Market Efficiency	Included
ME-7	207950	CUMB TR2	208004	JUNI BU1	1	230	229	Market Efficiency	Included

Existing Flowgates

None

New Flowgates

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Financial Information

Capital spend start date	01/2022
Construction start date	11/2022
Project Duration (In Months)	17

Additional Comments

None