

Doubs Substation

General Information

Proposing entity name	POTOED
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	2026-W1-287
PJM Proposal ID	287
Project title	Doubs Substation
Project description	Install 230 kV current limiting reactors on the four 500/230 kV transformers at Doubs Substation.
Email	Confidential information
Project in-service date	06/2031
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	Confidential and proprietary information

Project Components

1. Install 230 kV current limiting reactors at Doubs Substation

Substation Upgrade Component

Component title	Install 230 kV current limiting reactors at Doubs Substation
Project description	Confidential and proprietary information
Substation name	Doubs Substation

Substation zone	APS
Substation upgrade scope	Replace & Relocate (1) Transformer oil containment, (2) 230 kV Circuit breaker foundations, and (1 Lot) of conduit for circuit breakers and spare transformer. Install (13) foundations for reactors and (1 Lot) of grounding enhancements for reactors. Install (12) 230 kV Current limiting reactors, 1800 A, 16 Ohm and order (1) Spare 230 kV Current limiting reactor, 1800 A, 16 Ohm. Relocate (2) 230 kV Circuit breakers, (2) 230 kV Disconnect switches. Relocate (1) Spare 230/138kV Transformer. Replace (1 Lot) of limiting 230 kV conductor. Install (1 Lot) of substation fencing around reactor units. Revise relay settings. Reconnect spare 230/138kV Transformer to AC power & SCADA Alarms.
Transformer Information	
None	
New equipment description	Install 12 - 230 kV reactors rated for 1800 A, 52 Mvar. Three reactors will be installed on the low side of each of the 500/230 kV transformers.
Substation assumptions	The substation scope assumes all work will be completed within the existing station footprint, with no environmental or construction permits required and no substation expansion necessary. It is further assumed that work can be conducted with future planned outages or that outage restraints will not pose an issue to construction timeline. Assume the breaker and disconnect switches can be relocated under the 230 kV dead-end structures. Assume the reactor vendor prints will be a single stack reactor mounted direct to foundation. Assume civil design of the reactor foundations will account for MC2 clearances with their rebar design. Assume the Spare transformer will be relocated either on site, or relocated to a different substation. Assume the reactor foundations can avoid the 8-12" HDPE conduits feeding the 500 kV yard. Assume the spare unit can be installed on a foundation on site. Assume the reactor ratings are 1800 A, 16 ohm. Assume the strain bus will be replaced. Assume no new relay panels will be required. Assume the existing protection scheme is sufficient.
Real-estate description	No additional land will need to be purchased.
Construction responsibility	Confidential and proprietary information
Benefits/Comments	Confidential and proprietary information
Component Cost Details - In Current Year \$	
Engineering & design	Confidential and proprietary information
Permitting / routing / siting	Confidential and proprietary information
ROW / land acquisition	Confidential and proprietary information

Materials & equipment	Confidential and proprietary information
Construction & commissioning	Confidential and proprietary information
Construction management	Confidential and proprietary information
Overheads & miscellaneous costs	Confidential and proprietary information
Contingency	Confidential and proprietary information
Total component cost	\$20,266,679.00
Component cost (in-service year)	\$22,688,400.00

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
2026W1-SC-19	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-20	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-21	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-22	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-23	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-24	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-25	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-26	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included
2026W1-SC-27	235459	DOUBS 230.kV	235459	DOUBS 230.kV	N/A	N/A	201	Short Circuit	Included

New Flowgates

None

Financial Information

Capital spend start date	04/2027
Construction start date	11/2030
Project Duration (In Months)	50

Additional Comments

Please contact Larre Hozempa (lhozemp@firstenergycorp.com) or Andrew Horne (ahorne@firstenergycorp.com) with any questions.