Competitive Planner

2020 RTEP Window 2

Redacted proposal view

General Information

Proposing entity name *	[redacted]
Company proposal ID	[redacted]
PJM Proposal ID *	441
Project title *	Line #514 Goose Creek - Doubs(FE) 500 kV Line Rebuild
Project description *	Rebuild approximately 2.77-miles (weathering steel tower portion) of the 3.1 mile section of DEV's portion of this tie line (Goose Creek - Doubs FE) with current 500 kV standards construction practices. The remaining .32 mile section of this line was recently replaced as part of the Goose Creek substation installation (b1799) and does not need to be rebuild as part of this project.
Project in-service date *	05/2024
Tie-line impact *	Yes
Interregional project *	No

	Is the proposer offering a binding cap on capital costs? *	
	Cost containment commitment *	No
☐	Additional benefits	[redacted]

Overloaded Facilities

Rows that appear grey have been excluded from competition.

Congestion Drivers

CD #	Analysis type	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone
No records found.								

Existing Flowgates

FG #	Analysis type	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone
DOM-O5	End of Life Criteria	314939	8GOOSE CREEK	235105	01DOUBS	1	500	345

New Flowgates

FG #	Analysis type	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone
No records found.								

Project Components

Transmission Line Upgrade Component

Component title *	Rebuild 500kV line from Goose Creek - Doubs (FE) with new structures
Impacted transmission line *	Line #514 Goose Creek - Doubs (FE)
Point A *	Goose Creek
Point B *	Doubs (FE)
Point C *	N/A
Terrain description *	The terrain is predominately forested/vegetated existing right-of-way consisting of moderate slopes. Less than 10% of the line traverses commercial parking lots or paved roads.

Existing Line Physical Characteristics

Operating voltage *	500 kV
Conductor size and type *	2-2049.5 AAAC
Hardware plan description *	All conductor and related line hardware will be replaced. In addition, the static wire for this portion of the line will be replaced with AFL AC-105/619 (48 fibers).
Tower line characteristics *	

The structures included in this project were installed in 1966. A recent health assessment of Line #514 was performed by Quanta Technology. In their report Quanta notes that "Corrosion of the COR-TEN steel lattice structures has reached a level that makes reinforcing an impractical solution to restore capacity." As a result "Quanta recommends a comprehensive rebuild project for the sections of line with the COR-TEN steel lattice structures to address the ongoing issues."

Proposed Line Characteristics

	Designed	Operating
Voltage (kV) *	500.000000	500.000000

	Normal ratings	Emergency ratings
Summer (MVA) *	4330.000000	4330.000000
Winter (MVA) *	5177.000000	5177.000000

Conductor size and type *	3-1351.5 ACSR 45/7 110 degrees C MOT
Shield wire size and type *	AFL AC-105/619 (48 fibers)
Rebuild line length *	2.77 miles
Rebuild portion description *	

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This project will involve rebuilding the existing weathering steel F-series tower line number 514 between structure number 514/1841 and 1854. The work includes the installation of a DDE structure at structure number 514/1841. The project includes the following work: 1. Remove approximately 2.77 miles of single circuit 3-phase 2-2049.5 AAAC conductor and two 7#7 alumoweld shield wires from line number 514 between structure number 514/1841 and 1854. 2. Remove 5 FLT towers from line number 514 and demolish foundations to 18” below grade. 3. Remove 3 FHT towers from line number 514 and demolish foundations to 18” below grade. 4. Remove 3 FLA towers from line number 514 and demolish foundations to 18” below grade. 5. Remove 1 FMA towers from line number 514 and demolish foundations to 18” below grade. 6. Remove 1 galvanized steel H-frame from line number 514 and demolish foundations to 18” below grade. 7. Install 3 conductor and 2 shield wire deadend assemblies on 3-pole structure number 514/1854 located north of Goose Creek. 8. Install 9 93JSST towers with foundations for line 514. 9. Install 1 93JLA tower with foundations for line 514. 10. Install 2 93JMA towers with foundations for line 514. 11. Install 1 93JHADE tower with foundations for line 514 at the Potomac River crossing. 12. Install approximately 2.77 miles of 3-phase 3-1351.5 ACSR 45/7 conductor and two OPGW shield wires between structure number 514/1841 and 1854. This will include the installation of splices, spacers, and dampers.

Right of way *

Work will be done within existing right of way. We will not expand nor add to the right of way.

Construction responsibility *

[redacted]

Additional comments

[redacted]

Component Cost Details - In Current Year $

Engineering & design *

[redacted]

Permitting / routing / siting *	[redacted]
ROW / land acquisition *	[redacted]
Materials & equipment *	[redacted]
Construction & commissioning *	[redacted]
Construction management *	[redacted]
Overheads & miscellaneous costs *	[redacted]
Contingency *	[redacted]
Total component cost *	$7,252,220.00
Component cost (in-service year) *	$7,767,129.00

Substation Upgrade Component

Component title *	Goose Creek Substation
Substation name *	Goose Creek Substation
Substation zone *	Dominion
Substation upgrade scope *	Upgrade Line 514 terminal equipment to 5000A at Goose Creek Substation in support of the Line 514 rebuild. The Wave Traps and line risers will be replaced to support the new line ratings. The OPGW fiber on the Dominion portion of the line will be brought to the Substation Control Enclosure and terminated at the existing network panel.
New equipment description *	1. Two (2), 500 kV, 5000 Amps, Wave Traps 2. Line 514 riser conductors, spacers and connectors on both ends. Risers will support the line conductor rating 3. Three (3), 396 kV MO, 318 kV MCOV, Surge Arresters 4. Install conduits, cables, foundations, structures and grounding material as per Dominion Substation Engineering Standards
Substation assumptions *	Any upgrades required at the First Energy Doubs Substation is not part of this open window proposal. Further correspondence with First Energy will be required during the project implementation phase.
Real-estate description	The substation will not be expanded for this project.
Construction responsibility *	[redacted]
Additional comments	[redacted]

Component Cost Details - In Current Year $

Engineering & design *	[redacted]

☐	Permitting / routing / siting *	[redacted]
☐	ROW / land acquisition *	[redacted]
☐	Materials & equipment *	[redacted]
☐	Construction & commissioning *	[redacted]
☐	Construction management *	[redacted]
☐	Overheads & miscellaneous costs *	[redacted]
☐	Contingency *	[redacted]
	Total component cost *	$388,988.00
	Component cost (in-service year) *	$416,606.00

Financial Information

Capital spend start date *	10/2022
Construction start date *	01/2024
Project Duration (In Months)	19

Comments

Additional Comments
None

Internal Comments

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