

Canal - Mound Street 138 kV Rebuild

General Information

Proposing entity name	AEPSCT
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	AEP_G
PJM Proposal ID	856
Project title	Canal - Mound Street 138 kV Rebuild
Project description	Project will rebuild the existing 2.2-mile Canal-Mound St 138 kV oil filled pipe-type underground line to address overloads on the existing cable utilizing 5000 MCM XLPE cable.
Email	wrburkett@aep.com
Project in-service date	12/2028
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	AEP previously presented need # AEP-2023-OH024 to PJM stakeholders at the March 17th 2023 SRRTEP-W meeting describing asset renewal concerns we have oil-filled pipe type underground cables that make up a portion of the underground transmission network around Columbus Ohio. The Canal - Mound line is a 1956 vintage oil-filled pipe type cable design that was highlighted a priority as part of the need presentation. Additional details are provided as part of AEP-2023-OH024; to summarize, oil filled pipe type cables carry many concerns including long lead times and availability concerns due to only a single vendor still supplying replacement parts. When replacing these cables, there is a high level of difficulty locating pipe breaches and faults, and extended construction timelines for even minor repairs can contribute to high-impact, extended outages. In many cases, it is expected that repair or replacement of critical underground circuits could take as long as 6 months to a year from the time a fault is identified. To address these needs along with the identified reliability violations, this proposal will rebuild the oil-filled, underground 2.2-mile Canal-Mound St 138 kV line with a new underground 5000 MCM XLPE conductor.

Project Components

1. Rebuild Canal - Mound 138 kV underground line.

Transmission Line Upgrade Component

Component title	Rebuild Canal - Mound 138 kV underground line.	
Project description	This proposal will rebuild the oil-filled, underground 2.2-mile Canal-Mound St 138 kV line with a new underground 5000 MCM XLPE conductor. Relay settings associated with the line settings will be updated as needed.	
Impacted transmission line	Canal - Mound 138 kV	
Point A	Canal	
Point B	Mound Street	
Point C		
Terrain description	The existing underground line traverses through a highly dense urban metropolitan area near downtown Columbus, Ohio.	
Existing Line Physical Characteristics		
Operating voltage	138	
Conductor size and type	600 and 750 MCM Cu underground cable	
Hardware plan description	N/A. The existing oil filled pipe type cable design will be replaced utilizing modern XLPE.	
Tower line characteristics	The existing line is a 1956 vintage oil-filled pipe (HPFF) type underground design that utilizes a 600 and 750 MCM Cu cable.	
Proposed Line Characteristics		
	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings

Summer (MVA)	296.000000	400.000000
Winter (MVA)	375.000000	450.000000
Conductor size and type	5000 MCM XLPE Underground Cable	
Shield wire size and type	N/A	
Rebuild line length	2.2 miles	
Rebuild portion description	The project proposed to rebuild the 2.2 miles of oil-filled pipe type cable between Canal and Mound stations by replacing it with a modern XLPE type cable.	
Right of way	Existing ROW will be used for this rebuild. ROW rights to be obtained through Road Right-of-Way and Franchise Agreement with City of Columbus.	
Construction responsibility	AEP	
Benefits/Comments		
Component Cost Details - In Current Year \$		
Engineering & design	Detailed cost breakdown	
Permitting / routing / siting	Detailed cost breakdown	
ROW / land acquisition	Detailed cost breakdown	
Materials & equipment	Detailed cost breakdown	
Construction & commissioning	Detailed cost breakdown	
Construction management	Detailed cost breakdown	
Overheads & miscellaneous costs	Detailed cost breakdown	
Contingency	Detailed cost breakdown	
Total component cost	\$31,090,083.78	
Component cost (in-service year)	\$31,090,083.78	

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
2024W1-N11-ST7	243481	05CANAL	243548	05MOUND ST	1	138	205	Summer N-1-1 Thermal	Included
2024W1-N1-ST43	243481	05CANAL	243548	05MOUND ST	1	138/138	205/205	Summer Thermal	Included
2024W1-N11-ST11	243481	05CANAL	243548	05MOUND ST	1	138	205	Summer N-1-1 Thermal	Included
2024W1-N11-ST10	243481	05CANAL	243548	05MOUND ST	1	138	205	Summer N-1-1 Thermal	Included
2024W1-GD-S870	243481	05CANAL	243548	05MOUND ST	1	138	205	Summer Gen Deliv	Included
2024W1-N11-ST8	243481	05CANAL	243548	05MOUND ST	1	138	205	Summer N-1-1 Thermal	Included

New Flowgates

None

Financial Information

Capital spend start date 01/2025

Construction start date 12/2026

Project Duration (In Months) 47

Additional Comments

None