

Delphos Area Line Rebuilds

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_F
PJM Proposal ID	202
Project title	Delphos Area Line Rebuilds
Project description	AEP is proposing a rebuild of approximately 3.5 miles of the overloaded sections on the 69 kV lines around the Delphos area with 556 ACSR conductor. Expected branch ratings after completion of proposal (SN/SE/WN/WE MVA): 243175 - 245902: 68/73/90/91 245871 - 245902: 73/73/91/91 243175 - 245874: 68/71/71/71 247376 - 245874: 82/90/107/113
Email	nckoebler@aep.com
Project in-service date	04/2025
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	The lines that are will addressed on the proposal are primarily made up of wood pole structures and conductors that date back to the 1940's and 1960's. Any remaining supplemental needs not addressed by this baseline proposal will continue through the M-3 process.

Project Components

1. North Delphos-Elida Road Switch Rebuild
2. South Delphos Line Entrance Spans

Transmission Line Upgrade Component

Component title	North Delphos-Elida Road Switch Rebuild
Project description	Rebuild approximately 3.5 miles of overloaded 69 kV line between North Delphos-East Delphos-Elida Road switch. This includes approximately 1.1 miles of double circuit line that makes up a portion of the North Delphos-South Delphos 69 kV line and the North Delphos-East Delphos 69 kV line. Approximately 2.4 miles of single circuit line will also be rebuilt between the double circuit portion to East Delphos station and from East Delphos to Elida Road Switch. Note that only the overloaded portions of the line with 2/0 Copper, 4/0 Copper, and 4/0 ACSR will be rebuilt as part of this proposal.
Impacted transmission line	North Delphos-Elida Road and North Delphos-South Delphos 69 kV Lines
Point A	North Delphos
Point B	Elida Road Switch
Point C	East Delphos, South Delphos
Terrain description	For the most part the terrain is flat and traverses Rural/Industrial areas.
Existing Line Physical Characteristics	
Operating voltage	69
Conductor size and type	4/0 ACSR 6/1 (Penguin), 4/0 Copper 7, 336,400 CM ACSR 18/1 (Merlin) and 2/0 COPPER 7
Hardware plan description	Hardware will not be reused on the rebuilt portions of the line.
Tower line characteristics	The North Delphos – South Delphos 69kV line asset is 5.26 miles long and consists of wood pole structures, originally installed in 1943 primarily with 4/0 ACSR 6/1 (Penguin), 4/0 Copper 7 (4/0COP), 336,400 CM ACSR 18/1 (Merlin) and 2/0 COPPER 7 (20COP) conductor. The line asset is part of two circuits: North Delphos – Van Wert 69kV and North Delphos-West Moulton 69kV circuits. There are currently 30 structure related open conditions specifically affecting the crossarm or pole including rot, split, woodpecker, and bowed conditions. The Delphos Junction – East Delphos 69kV Line asset is 2.29 miles long and consists of wood pole structures, originally installed in 1939 primarily with 2/0 COPPER 7 (2/0COP) conductor. The line asset is part of the North Delphos-West Moulton 69kV circuit which is 30 miles long. There are 40 structures with at least one open condition, which relates to 74% of the structures on the line. There are 36 open conditions related to broken or missing ground lead wires which could lead to the poor lightning performance. There are currently 9 structure related open conditions specifically affecting the Knee/Vee Brace (broken/rot).

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	69.000000	69.000000
	Normal ratings	Emergency ratings
Summer (MVA)	102.000000	142.000000
Winter (MVA)	129.000000	160.000000
Conductor size and type	556 ACSR Dove	
Shield wire size and type	7#10 Alumoweld	
Rebuild line length	3.5 miles	
Rebuild portion description	Rebuild 1.1 mi of double circuit 69 kV line between Structures 72 and 95 utilizing 556 ACSR conductor. Rebuild 2.4 mi of 69 kV line between Structure 95 and Elida Road Switch utilizing 556 ACSR conductor.	
Right of way	<p>The Project will rebuild AEP's existing North Delphos-East Delphos & North Delphos-South Delphos 69kV double circuit Line for 60' (30'/30') wide ROW for 1 mile and the existing North Delphos-East Delphos 69kV single circuit Line for 50' (25'/25') wide ROW for 2.3 miles. The Project begins at AEP's existing Elida Road Switch in Allen County, Ohio & runs in a general northwesterly direction to AEP's existing North Delphos-South Delphos 69kV Line in Allen County, Ohio. The Project then runs in a general northerly direction to AEP's existing Structure 74 on the North Delphos-East Delphos & North Delphos-South Delphos 69kV Line in Allen County, Ohio. The tabletop analysis found there were no public lands required for this Project. The private land use is predominantly agricultural & commercial that were verified through the Allen County Clerk's Office classifications/assessments. The private land requirements include rebuilding the AEP's existing North Delphos-East Delphos & North Delphos-South Delphos 69kV double circuit line and the North Delphos-Elida Road 69 KV single circuit line. The rebuild line will require supplementing the existing lands rights in Allen County, Ohio where the land use is predominantly agricultural & commercial with flat terrain.</p>	
Construction responsibility	AEP	
Benefits/Comments	Business confidential practices.	

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	\$8,433,436.00
Component cost (in-service year)	\$.00

Transmission Line Upgrade Component

Component title	South Delphos Line Entrance Spans
Project description	Replace the line entrance spans at South Delphos to eliminate the overloaded 4/0 Copper and 4/0 ACSR conductor.
Impacted transmission line	North Delphos-Delphos 69 kV
Point A	North Delphos
Point B	Delphos
Point C	South Delphos
Terrain description	Area near South Delphos is Flat/Industrial

Existing Line Physical Characteristics

Operating voltage	69
Conductor size and type	4/0 ACSR 6/1 (Penguin), 4/0 Copper 7 (4/0COP), 336,400 CM ACSR 18/1 (Merlin) and 2/0 COPPER 7

Hardware plan description

Hardware will not be reused on the rebuilt portion of the line.

Tower line characteristics

The North Delphos – South Delphos 69kV line asset is 5.26 miles long and consists of wood pole structures, originally installed in 1943 primarily with 4/0 ACSR 6/1 (Penguin), 4/0 Copper 7 (4/0COP), 336,400 CM ACSR 18/1 (Merlin) and 2/0 COPPER 7 (20COP) conductor. The line asset is part of two circuits: North Delphos – Van Wert 69kV and North Delphos-West Moulton 69kV circuits. There are currently 30 structure related open conditions specifically affecting the crossarm or pole including rot, split, woodpecker, and bowed conditions. The South Delphos – Delphos 69kV line asset is 2.00 miles long and consists of wood pole structures, originally installed in 1962 primarily with 4/0 ACSR 6/1 (Penguin) conductor. It is part of the 20.4 mile North Delphos-Van Wert 69kV circuit. Currently, there are 6 structures with at least one open condition, which relates to 60% of the structures on the line asset. There is currently 1 open condition related to the Guy Guard, 1 related to burnt insulators and 4 related to conductor splice issues. There are currently 3 structure related open conditions specifically affecting the pole including rot and insect damage

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	69.000000	69.000000
	Normal ratings	Emergency ratings
Summer (MVA)	102.000000	142.000000
Winter (MVA)	129.000000	160.000000
Conductor size and type	556.5 KCM ACSR (26/7) "Dove"	
Shield wire size and type	7#10 Alumoweld	
Rebuild line length	0.04 miles	
Rebuild portion description	Rebuild the station entrance spans to South Delphos station that currently limit the South Delphos-Delphos line and a portion of the North Delphos-South Delphos line.	
Right of way	The component will involve no new right-of-way nor right-of-way expansion. This rebuild component piece of the South Delphos entrance spans will be entirely located on AEP's existing South Delphos Station located in Allen County, Ohio.	
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	\$437,375.00
Component cost (in-service year)	\$.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
AEP -T53	245871	05DELPHOS	245902	05S DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T54	245871	05DELPHOS	245902	05S DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T55	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T56	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T57	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T58	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T22	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
AEP -T23	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T24	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T25	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T26	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T27	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T28	245874	05E DELPHO	247376	05ELIDA ROAD	1	69	205	FERC 715 Thermal	Included
AEP -T15	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T16	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T17	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T18	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T19	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T20	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T21	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T47	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T48	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T49	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T50	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T51	243175	05N DELPHO	245902	05S DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T52	243175	05N DELPHO	245902	05S DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T73	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T74	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T75	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included
AEP -T76	243175	05N DELPHO	245874	05E DELPHO	1	69	205	FERC 715 Thermal	Included

New Flowgates

None

Financial Information

Capital spend start date	09/2022
Construction start date	02/2024
Project Duration (In Months)	31

Additional Comments

None