Smith Mountain - Rockcastle - Moneta 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_B
PJM Proposal ID	63
Project title	Smith Mountain - Rockcastle - Moneta 138 kV Rebuild
Project description	Rebuild 12.2 miles of the Smith Mountain - Rockcastle - Moneta 138 kV line and replace station conductor at Smith Mountain station.
Email	jlmoore2@aep.com
Project in-service date	05/2030
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	

Project Components

1. Smith Mountain-Rockcastle-Moneta 138 kV Rebuild
2. Smith Mountain Station Conductor

Transmission Line Upgrade Component

Component title	Smith Mountain-Rockcastle-Moneta 138 kV Rebuild

Project description	The project will consist of rebuilding approximately 12.25 miles of the 138kV line between Smith Mountain and Moneta station with approximately 53 guyed V and self-supporting lattice towers carrying 1272 KCM ACSR "Pheasant" conductor. The new centerline with be adjacent to the existing centerline paralleling as much as possible. Some locations, such as entrances into existing stations, will be on existing centerline.
Impacted transmission line	Cloverdale - Smith Mountain 138 kV Line
Point A	Smith Mountain
Point B	Moneta
Point C	Rockcastle
Terrain description	The terrain is very mountainous at Smith Mountain station transitioning into hilly terrain as the line moves north toward Moneta.

Existing Line Physical Characteristics

Operating voltage	138
Conductor size and type	2 bundle 555.6 KCm ACSR "Dove"
Hardware plan description	All hardware to be replaced with new for the rebuild.
Tower line characteristics	The existing line is 1962 vintage guyed V and self-supporting Aluminum Lattice Structures.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings
Summer (MVA)	337.000000	481.000000
Winter (MVA)	426.000000	538.000000
Conductor size and type	1272 kcm ACSR "Pheasant"	
Shield wire size and type	7 no. 8 Alumoweld Shieldwire and 0.646" OPGW fiber 144 Count	

Rebuild line length	12.25 miles
Rebuild portion description	The project will consist of rebuilding approximately 12.25 miles of the 138kV line between Smith Mountain and Moneta station with approximately 53 guyed V and self-supporting lattice towers carrying 1272 KCM ACSR "Pheasant" conductor. The new centerline with be adjacent to the existing centerline paralleling as much as possible. Some locations, such as entrances into existing stations, will be on existing centerline.
Right of way	Supplemental Right of Way may need to be obtained to accommodate the new centerline that parallels and is adjacent to the existing centerline. New third-party accesses will be required for all structure access roads.
Construction responsibility	AEP
Benefits/Comments	Addresses a line asset that is 63 years old. Overall ratings will be set by station equipment limits (see idv) and the conductor ratings are listed above.
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	$39,119,102.84
Component cost (in-service year)	$39,119,102.84

Substation Upgrade Component

Component title	Smith Mountain Station Conductor

Project description	Replace the 2" IPS Sch. 40 conductor with 4" IPS Sch. 40 conductor at Smith Mountain station on the Smith Mountain Rockcastle branch.
Substation name	Smith Mountain
Substation zone	205
Substation upgrade scope	Replace the 2" IPS Sch. 40 conductor with 4" IPS Sch. 40 conductor on the Smith Mountain Rockcastle branch

Transformer Information

None

New equipment description	4" IPS Sch. 40 bus/conductor
Substation assumptions	Outages are available. Work will be contained in existing footprint.
Real-estate description	N/A
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	$283,725.18

Component cost (in-service year)	$283,725.18

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
2025W1-GD-S488	242775	05ROCKCAS SS	242720	05MONETA	1	138	205	Generation Deliverability	Included
2025W1-GD-S480	242802	05SMITHMTN	242775	05ROCKCAS SS	1	138	205	Generation Deliverability	Included

New Flowgates

None

Financial Information

Capital spend start date	01/2026
Construction start date	11/2028
Project Duration (In Months)	52

Additional Comments

None