

Boxwood-Scottsville 138 kV Sag Study

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_J
PJM Proposal ID	181
Project title	Boxwood-Scottsville 138 kV Sag Study
Project description	AEP proposes performing a sag study on the line sections between Boxwood and Scottsville 138 kV to identify and mitigate any clearance issues in order to operate above the identified line loadings.
Email	nckoehler@aep.com
Project in-service date	11/2026
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	

Project Components

1. Boxwood-Scottsville 138 kV Sag Study

Transmission Line Upgrade Component

Component title	Boxwood-Scottsville 138 kV Sag Study
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Project description	Perform sag study remediation on the Boxwood-Scottsville 138 kV line to increase the emergency ratings.
Impacted transmission line	Boxwood-Scottsville 138 kV Line
Point A	Boxwood
Point B	Scottsville
Point C	Clifford, Colleen Switch, James River, Soapstone
Terrain description	Terrain of the line is a mix between mountainous and rural.

Existing Line Physical Characteristics

Operating voltage	138 kV
Conductor size and type	397.5 kCM ACSR Lark
Hardware plan description	Existing hardware will remain on the line other than where tower replacements are required. Those will install new hardware on the new towers as needed.
Tower line characteristics	Existing structures are 1940-1950s vintage double circuit lattice towers.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings
Summer (MVA)	167.000000	244.000000
Winter (MVA)	210.000000	270.000000
Conductor size and type	397.5 kCM ACSR Lark	
Shield wire size and type	159 kCM ACSR Guinea	
Rebuild line length	37.5 miles	

Rebuild portion description	Approximately 6 miles of existing line will incorporate new prop structures to accommodate the larger MOT of the circuit. A visual scope map has been provided for the locations. Several existing structures will be modified from suspensions into a floating deadend configuration and prop structures will be installed along the line to mitigate any ground clearance violations not addressed by the new configuration
Right of way	Easements will need to be acquired for the new roads to access existing structures for modification and for installation of the new prop structures. Mitigation efforts will remain in centerline.

Construction responsibility	AEP
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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	\$4,260,557.07
Component cost (in-service year)	\$.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
2022W3-GD-S190	242563	05BOXWD	242603	05CLIFFR	1	138	205	Summer Gen Deliv	Included
2022W3-GD-S176	242563	05BOXWD	242603	05CLIFFR	1	138	205	Summer Gen Deliv	Included
2022W3-GD-S167	242563	05BOXWD	242603	05CLIFFR	1	138	205	Summer Gen Deliv	Included
2022W3-N1-LLT21	242563	05BOXWD	242603	05CLIFFR	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT22	242563	05BOXWD	242603	05CLIFFR	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT23	242563	05BOXWD	242603	05CLIFFR	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT24	242563	05BOXWD	242603	05CLIFFR	1	138/138	205/205	Light Load N-1	Included
2022W3-GD_L81	242563	05BOXWD	242603	05CLIFFR	1	138/138	205/205	Light Load Gen Deliv	Included
2022W3-GD-S264	242603	05CLIFFR	242613	05COLLEEN SS	1	138	205	Summer Gen Deliv	Included
2022W3-GD-S231	242603	05CLIFFR	242613	05COLLEEN SS	1	138	205	Summer Gen Deliv	Included
2022W3-GD-S180	242603	05CLIFFR	242613	05COLLEEN SS	1	138	205	Summer Gen Deliv	Included
2022W3-GD_L89	242603	05CLIFFR	242613	05COLLEEN SS	1	138/138	205/205	Light Load Gen Deliv	Included
2022W3-N1-LLT25	242603	05CLIFFR	242613	05COLLEEN SS	1	138/138	205/205	Light Load N-1	Excluded
2022W3-N1-LLT27	242603	05CLIFFR	242613	05COLLEEN SS	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT28	242603	05CLIFFR	242613	05COLLEEN SS	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT29	242603	05CLIFFR	242613	05COLLEEN SS	1	138/138	205/205	Light Load N-1	Included
2022W3-GD-S304	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138	205	Summer Gen Deliv	Included
2022W3-GD-S270	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138	205	Summer Gen Deliv	Included
2022W3-N1-LLT30	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT37	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT38	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT39	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138/138	205/205	Light Load N-1	Included
2022W3-GD_L104	242613	05COLLEEN SS	244423	05JAMES RIVR	1	138/138	205/205	Light Load Gen Deliv	Included
2022W3-GD-S329	244423	05JAMES RIVR	244446	05SOAPSTONE	1	138	205	Summer Gen Deliv	Included
2022W3-GD-S348	244423	05JAMES RIVR	244446	05SOAPSTONE	1	138	205	Summer Gen Deliv	Included
2022W3-N1-LLT52	244423	05JAMES RIVR	244446	05SOAPSTONE	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT53	244423	05JAMES RIVR	244446	05SOAPSTONE	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT54	244423	05JAMES RIVR	244446	05SOAPSTONE	1	138/138	205/205	Light Load N-1	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-GD_L109	2444423	05JAMES RIVR	244446	05SOAPSTONE	1	138/138	205/205	Light Load Gen Deliv	Included
2022W3-N1-LLT4	2444423	05JAMES RIVR	244446	05SOAPSTONE	1	138/138	205/205	Light Load N-1	Included
2022W3-GD-S372	2444446	05SOAPSTONE	242792	05SCOTSV	1	138	205	Summer Gen Deliv	Included
2022W3-GD_L126	2444446	05SOAPSTONE	242792	05SCOTSV	1	138/138	205/205	Light Load Gen Deliv	Included
2022W3-N1-LLT5	2444446	05SOAPSTONE	242792	05SCOTSV	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT6	2444446	05SOAPSTONE	242792	05SCOTSV	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT6	2444446	05SOAPSTONE	242792	05SCOTSV	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT6	2444446	05SOAPSTONE	242792	05SCOTSV	1	138/138	205/205	Light Load N-1	Included

New Flowgates

None

Financial Information

Capital spend start date 01/2024

Construction start date 10/2025

Project Duration (In Months) 34

Additional Comments

None