

Glen Lyn-Peters Mountain 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_D
PJM Proposal ID	234
Project title	Glen Lyn-Peters Mountain Sag Study
Project description	Sag study the 138kV circuit from Glen Lyn station to Peter Mountain station at roughly 3.6 miles. The current line from Glen Lyn to Peters Mountain is sag derated to 205 MVA in the Summer case. To mitigate the overload, the Summer emergency rating needs to be 214 MVA or above.
Email	nckoehler@aep.com
Project in-service date	06/2026
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	

Project Components

1. Glen Lyn-Peters Mountain 138 kV Sag Study

Transmission Line Upgrade Component

Component title	Glen Lyn-Peters Mountain 138 kV Sag Study
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Project description	Sag Study the 3.6 miles of the Glen Lyn - Hancock 138kV line asset from Glen Lyn to Peters Mountain stations.
Impacted transmission line	Glen Lyn-Peters Mountain
Point A	Glen Lyn
Point B	Peters Mountain
Point C	
Terrain description	Mountainous

Existing Line Physical Characteristics

Operating voltage	138 kV
Conductor size and type	556.5 MCM 26/7 ACSR DOVE
Hardware plan description	Existing hardware to remain - no modifications planned.
Tower line characteristics	Existing structures are double circuit lattice steel towers AGE: ~70+ years (1951 vintage) Based on PFL PLS-CADD model of original Plan and Profile: From a Pre-1977 Construction NESC clearances requirement, the Glen Lyn – Hancock 138kV Line between Glen Lyn and Peters Mountain (Celanese – Glen Lyn 138kV Circuit) should be able to operate up to an MOT of 266°F for the existing 556.5 MCM 26/7 ACSR DOVE conductors. A 4 FT buffer has been included to mitigate concerns with unverified wire tensions and unconfirmed ground profile. Based on table top review, only clearance work is required to increase the emergency ratings

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings
Summer (MVA)	205.000000	259.000000
Winter (MVA)	258.000000	289.000000
Conductor size and type	556.5 MCM 26/7 ACSR DOVE	

Shield wire size and type	48-count Fiber OPGW
Rebuild line length	3.59 miles
Rebuild portion description	Approximately 3.59 line miles are being evaluated with the re-rate Sag Study. Applicable section is from the existing Glen Lyn Station Frame to existing Structure 42-16 (Glen Lyn - Hancock 138kV Line) and further through existing Structure 36-1A (Peters Mountain 138kV Loop) into the existing Peters Mountain Station Frame.
Right of way	The following spans may require expanded rights-of-way given evaluated conductor zone under an active blowout condition: a) Span between proposed STRs 42-3 to 42-4: 180 FT blowout width with 1,809 FT of 1,939 FT span meeting clearing criteria. b) Span between proposed STRs 42-6 to 42-7: 180 FT blowout width with 1,136 FT of 1,866 FT span meeting clearing criteria. c) Span between proposed STRs 42-10 to 42-11: 290 FT blowout width with 1,540 FT of 2,710 FT span meeting clearing criteria. d) Span between proposed STRs 42-12 to 42-13: 140 FT blowout width with 1,492 FT of 1,492 FT span meeting clearing criteria. e) Span between proposed STRs 42-14 to 42-15: 120 FT blowout width with 1,388 FT of 1,388 FT span meeting clearing criteria. f) Span between proposed STRs 42-15 to 42-16: 110 FT blowout width with 1,213 FT of 1,213 FT span meeting clearing criteria. Initial findings to be confirmed with a FULL Sag Study evaluation using to-be-acquired LiDAR in support of verifying existing structure locations, conductor attachment points, wires tensions, ground surface, encroachment/objects in the ROW, and vegetation issues. Existing ROW width is assumed to be the historical 100 FT (50 FT to each side of centerline), which is representative of a double circuit 138kV line.
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

\$802,651.00

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_LL15	2242651	05GLENL2	242749	05PETERM	1	138/138	205/205	Light Load Gen Deliv	Included
2022W3-N1-LLT1	2242651	05GLENL2	242749	05PETERM	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT2	2242651	05GLENL2	242749	05PETERM	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT3	2242651	05GLENL2	242749	05PETERM	1	138/138	205/205	Light Load N-1	Included
2022W3-N1-LLT4	2242651	05GLENL2	242749	05PETERM	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)

29

Additional Comments

None