

Becco-Pine Gap 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_I
PJM Proposal ID	310
Project title	Becco-Pine Gap Rebuild
Project description	AEP proposes to rebuild the Becco - Pine Gap 46kV circuit with 556 ACSR. Upgrade relaying at Pine Gap station. Proposed Ratings for all rebuilt branches (SN/SE/WN/WE MVA): 68/95/86/107
Email	nckoebler@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	This project will address the needs reviewed with stakeholders under need number AEP-2020-AP044 in the November 20, 2020 SRRTEP Western meeting.

Project Components

1. Becco-Pine Gap Line Rebuild
2. Pine Gap Relaying Replacement

Transmission Line Upgrade Component

Component title	Becco-Pine Gap Line Rebuild
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Project description	Rebuild approximately 21 miles of 46kV line from Pine Gap Station to Becco Station.
Impacted transmission line	Becco-Pine Gap
Point A	Becco
Point B	Pine Gap
Point C	Slagle, Dehue
Terrain description	The majority of the line traverses mountainous terrain. The existing lines are built on steep side slope.

Existing Line Physical Characteristics

Operating voltage	46
Conductor size and type	336.4 KCM ACSR 30/7 (Oriole), 3/0 ACSR 6/1, 4/0 ACSR 6/1, 1/0 Copper , 336.4 KCM ACSR 12/7 (Dotterel)
Hardware plan description	Existing hardware will not be used for the line rebuild.
Tower line characteristics	Wood tower construction originally built in 1930. 117 of the 160 structures are original.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	69.000000	46.000000
	Normal ratings	Emergency ratings
Summer (MVA)	68.000000	95.000000
Winter (MVA)	86.000000	107.000000
Conductor size and type	556.5 KCM ACSR (26/7) "Dove"	
Shield wire size and type	7#8 Alumoweld, 0.646" OPGW	
Rebuild line length	21 miles	

Rebuild portion description	The entirety of line section between Pine Gap and Becco is planned to be rebuilt. This is due to the majority of structures being of the same vintage year, with newer structures built only in small sections of the overall line.
Right of way	The Project will rebuild the Becco-Pine Gap 46kV Line on existing ROW 21 miles begin at AEP's existing Becco Station in Logan County, West Virginia & running in a northwesterly toward AEP's existing Logan Station in Logan County, West Virginia & running southwesterly to AEP's existing Pine Gap in in Logan County, West Virginia. The tabletop analysis found the private land use is predominantly residential & commercial as verified through the Logan County Clerk's Office classifications/assessments. The private land requirements include rebuilding the existing Becco-Pine Gap line utilizing the existing 100' (50'/50') wide ROW in Logan County, West Virginia where land use is predominantly residential & commercial with mountainous terrain.
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	\$49,136,789.00
Component cost (in-service year)	\$.00
Substation Upgrade Component	
Component title	Pine Gap Relaying Replacement

Project description	Expand Pine Gap Station to fit the new equipment required for relay upgrades. Includes cost for relay settings updates only at Dehue and Becco stations.
Substation name	Pine Gap
Substation zone	205 - AEP
Substation upgrade scope	Install 3 single phase 46kV Potential transformers and a new control house at Pine Gap Station. A new steel beam can be added to the top of the wooden pole structure above the outgoing transmission line for mounting the new PTs. The new control house is facing a space constraint inside the station but can be resolved by expanding the station in the North side.

Transformer Information

None	
New equipment description	TRANSFORMER, INSTRUMENT VT, METERING, OUTDOOR, 46KV NOMINAL SYSTEM VOLTAGE, 48.3KV
Substation assumptions	- Assuming the weight of the beam is supported by the structure. - Assuming 25x25ft is available to purchase for DICM installation to the North side of the station. - Assuming soil is compatible with the foundation type
Real-estate description	The proposed Pine Gap Station expansion will be north of the existing station located approximately 0.05 of a mile southeast of Whitman Creek Road in Logan County, West Virginia. The tabletop analysis found there were no public lands required for this Project. The private land use is mineral processing as tabletop analysis found and was verified through the Logan County Clerk's Office classification/ assessment. The private land requirements include approximately 0.05 of an acre for expansion of existing station site. The additional Project acreage of 0.05 of an acre will be purchased in easement.
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	\$1,054,215.00
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 -T6	244471	05BECCO	244517	05SLAGLE	1	46	205	FERC 715 Thermal	Included
AEP-VD7	244471	05BECCO	244471	05BECCO	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VM7	244471	05BECCO	244471	05BECCO	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VM9	244482	05DEHUE	244482	05DEHUE	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VD9	244482	05DEHUE	244482	05DEHUE	0	46	205	FERC 715 Voltage Drop	Excluded
AEP -T7	244482	05DEHUE	244509	05PINE GAP	1	46	205	FERC 715 Thermal	Included
AEP -T8	244482	05DEHUE	244517	05SLAGLE	1	46	205	FERC 715 Thermal	Included
AEP-VM1	244526	05THREEFRK	244526	05THREEFRK	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VD1	244526	05THREEFRK	244526	05THREEFRK	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VD2	244520	05TONEYFRK	244520	05TONEYFRK	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VM2	244520	05TONEYFRK	244520	05TONEYFRK	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VD3	244541	05CYCLONE	244541	05CYCLONE	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VM3	244541	05CYCLONE	244541	05CYCLONE	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VM4	244505	05PARDEE SS	244505	05PARDEE SS	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VD4	244505	05PARDEE SS	244505	05PARDEE SS	0	46	205	FERC 715 Voltage Drop	Excluded

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
AEP-VM5	244537	05CRANEC2	244537	05CRANEC2	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VD5	244537	05CRANEC2	244537	05CRANEC2	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VD6	244481	05LATROBE	244481	05LATROBE	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VM6	244481	05LATROBE	244481	05LATROBE	0	46	205	FERC 715 Voltage Magnitude	Excluded
AEP-VD8	244517	05SLAGLE	244517	05SLAGLE	0	46	205	FERC 715 Voltage Drop	Excluded
AEP-VM8	244517	05SLAGLE	244517	05SLAGLE	0	46	205	FERC 715 Voltage Magnitude	Excluded

New Flowgates

None

Financial Information

Capital spend start date 01/2022

Construction start date 10/2024

Project Duration (In Months) 53

Additional Comments

None