Bancroft-Milton 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	116
Project title	Bancroft-Milton Rebuild
Project description	Rebuild approximately 20 miles of the overloaded Bancroft-Milton 69kV line with 556 ACSR. Replace risers/jumpers at Hurricane and Teays switches. Update relay settings at Milton, Putnam Village, Winfield, and Bancroft stations. Proposed ratings after upgrade: 244863-244873: 102/142/129/159 SN/SE/WN/WE 244873-247774: 102/142/129/159 SN/SE/WN/WE 247774-244732: 102/142/129/159 SN/SE/WN/WE 244732-244715: 102/142/129/159 SN/SE/WN/WE 244715-244722: 102/142/129/159 SN/SE/WN/WE
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	The Bancroft - Milton 69 kV line is mostly comprised of 1920s and 1930s steel lattice construction and has experienced 28 momentary outages and 10 permanent outages since 2015, resulting in 840,000 CMI. Any supplemental needs not addressed in this proposal will go through the M-3 process as needed.

Project Components

1. Bancroft-Milton 69 kV Line Rebuild

2. Hurricane Switch Jumper Replacement
3. Teays Switch Jumper Replacement
4. Winfield Station Relay Settings
5. Bancroft Station Relay Settings
6. Milton Station Relay Settings
7. Putnam Village Station Relay Settings

Transmission Line Upgrade Component

Component title	Bancroft-Milton 69 kV Line Rebuild
Project description	Rebuild approximately 20 miles of line between Bancroft and Milton stations with 556 ACSR conductor.
Impacted transmission line	Bancroft-Milton 69 kV Line
Point A	Bancroft
Point B	Milton
Point C	Winfield Hydro, Putnam Village, Teays, Hurricane
Terrain description	Approximately 20 miles of rebuild. 5.5 miles of urban single circuit design through the city of Hurricane, WV until the line crosses i-64 into Putnam Village station. The remainder of the line, 15 miles, is in generally mountainous hilly terrain and will utilize long span construction. A portion of the line, 0.5 miles, will operate as a double circuit line to bring the circuits in/out of Winfield Hydro.

Existing Line Physical Characteristics

Operating voltage	69
Conductor size and type	4/0 ACSR 6/1 "Penguin"
Hardware plan description	Existing hardware will be retired. 1921, 1935, and some 1990s vintage hardware. Existing conditions show signs of heavy rust on hardware, section loss, and broken insulator bells.
Tower line characteristics	The existing line is a combination of 1920s and 1930s vintage towers, single wood pole construction, and H-frames. Multiple towers have bent members, heavy rust, and section loss. Broken bracing members and crossarms have been found throughout the wood structure sections along with pole 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	556.5 KCM ACSR (26/7) "Dove"	
Shield wire size and type	0.646" 96ct OPGW/7#10 Alumoweld	
Rebuild line length	20 miles	
Rebuild portion description	Approximately 20 miles of line will be rebuilt as part of this proposal. The majority of this line will be rebuilt on centerline utilizing sectionalizing capability between stations for outage coordination. Milton - Hurricane - Teays - Putnam Village - Winfield Hydro - Bancroft	
Right of way	The Project will widen the existing ROW by 30’ for 3.46 miles begin at AEP’s Bancroft Station in Putnam Co., WV & running in a NW direction to AEP’s Winfield Station in Putnam Co., WV then widen the existing ROW by 30’ for 11.5 mi. begin at AEP’s Winfield Station in Putnam Co., WV & running in a SW toward the towns of Hurricane & Milton, where due to urban constraints, segments will be relocated for 5 mi. @ 60’ ROW & then easterly to AEP’s Milton Station in Cabell Co., WV. The tabletop analysis found the private land use is predominantly agricultural, residential & commercial as verified through the Putnam & Cabell Co. Clerk’s Offices classifications/assessments. The private land requirements include expanding the existing the ROW to 100’ (50’/50’) wide ROW in Putnam Co., WV where the land use is predominantly agricultural, residential & vacate/miscellaneous & the relocated segments is 60’ ROW due to urban constraints in the towns of Hurricane & Milton where land use is predominantly residential & commercial in an urban setting.	
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	$56,553,380.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Hurricane Switch Jumper Replacement
Project description	Replace the jumpers around Hurricane switch with 556 ACSR.
Substation name	Hurricane
Substation zone	205 - AEP
Substation upgrade scope	Replace jumpers for 69kV Phase over Phase switch poles at Hurricane station.

Transformer Information

None

New equipment description	Replace jumpers with 556 ACSR line equivalent. Ratings will be at least 102/142/129/159 SN/SE/WN/WE MVA.
Substation assumptions	Assumes switch pole and switches will remain in place as only the jumpers need replaced to meet the overall ratings.
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	$13,631.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Teays Switch Jumper Replacement
Project description	Replace the jumpers around Teays switch with 556 ACSR.
Substation name	Hurricane
Substation zone	205 - AEP
Substation upgrade scope	Replace jumpers for 69kV Phase over Phase switch poles at Teays station.

Transformer Information

None

New equipment description	Replace jumpers with 556 ACSR line equivalent. Ratings will be at least 102/142/129/159 SN/SE/WN/WE MVA.

Substation assumptions	Assumes switch pole and switches will remain in place as only the jumpers need replaced to meet the overall ratings.
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	$13,631.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Winfield Station Relay Settings
Project description	Update relay settings to coordinate with remote ends on line rebuild.
Substation name	Winfield
Substation zone	205 - AEP
Substation upgrade scope	Upgrade relay settings at Winfield station. No new equipment needed.

Transformer Information

None

New equipment description	No new equipment needed. Scope is relay settings updates only.
Substation assumptions	Updates to existing relays only.
Real-estate description	
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	$46,942.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Bancroft Station Relay Settings
Project description	Update relay settings to coordinate with remote ends on line rebuild.
Substation name	Bancroft

Substation zone	205 - AEP
Substation upgrade scope	Upgrade relay settings at Bancroft station. No new equipment needed.

Transformer Information

None

New equipment description	No new equipment needed. Scope is relay settings updates only.
Substation assumptions	Updates to existing relays only.
Real-estate description	
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	$27,480.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Milton Station Relay Settings

Project description	Update relay settings to coordinate with remote ends on line rebuild.
Substation name	Milton
Substation zone	205 - AEP
Substation upgrade scope	Upgrade relay settings at Milton station. No new equipment needed.

Transformer Information

None

New equipment description	No new equipment needed. Scope is relay settings updates only.
Substation assumptions	Updates to existing relays only.
Real-estate description	
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	$27,480.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Putnam Village Station Relay Settings
Project description	Update relay settings to coordinate with remote ends on line rebuild.
Substation name	Putnam Village
Substation zone	205 - AEP
Substation upgrade scope	Upgrade relay settings at Putnam Village station. No new equipment needed.

Transformer Information

None

New equipment description	No new equipment needed. Scope is relay settings updates only.
Substation assumptions	Updates to existing relays only.
Real-estate description	
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	$46,942.00
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 -T9	244715	05HURRICAN	244722	05MILTON	1	69	205	FERC 715 Thermal	Included
AEP -T10	244715	05HURRICAN	244732	05TEAYS	1	69	205	FERC 715 Thermal	Included
AEP -T11	244715	05HURRICAN	244732	05TEAYS	1	69	205	FERC 715 Thermal	Included
AEP -T12	244732	05TEAYS	247774	05PUTNAM VLG	1	69	205	FERC 715 Thermal	Included
AEP -T14	244873	05WINFIELD	247774	05PUTNAM VLG	1	69	205	FERC 715 Thermal	Included
AEP -T13	244863	05BANCROFT	244873	05WINFIELD	1	69	205	FERC 715 Thermal	Included

New Flowgates

None

Financial Information

Capital spend start date	01/2022
Construction start date	10/2024
Project Duration (In Months)	53

Additional Comments

None