Richlands to East Lepsic 138 kV

General Information

Proposing entity name	COMPANY CONFIDENTIAL INFORMATION
Company proposal ID	COMPANY CONFIDENTIAL INFORMATION
PJM Proposal ID	317
Project title	Richlands to East Lepsic 138 kV
Project description	The Proposing Entity proposes to build a new 27.4 mile-long 138 kV line from First Energy's Richland 138 kV station to AEP's East Leipsic 138 kV station using 795 ACSR 26/7 (Drake) conductors. This will require adding new 3000A, 40 kA, 138 kV circuit breakers at Richlands and East Leipsic stations. Note that FE has proposed to rebuild the FE owned portion of the Richlands - East Leipsic 138 kV line (~15.8 miles) under S2246. The Proposing Entity is proposing to modify that proposal to make it a double circuit in conjunction with this proposal. Proposed Ratings: 246354 to 239070: 257/360/325/404
Project in-service date	05/2025
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	COMPANY CONFIDENTIAL INFORMATION

Project Components

1. Rebuild East Leipsic - Richlands 138 kV line
2. East Leipsic Station Upgrade
3. Richlands Station Upgrade
4. East Leipsic - Richlands 138 kV greenfield line

Transmission Line Upgrade Component

Component title	Rebuild East Leipsic - Richlands 138 kV line
Impacted transmission line	East Leipsic - Richlands 138 kV line
Point A	East Leipsic
Point B	Richlands
Point C	
Terrain description	Flat Rural

Existing Line Physical Characteristics

Operating voltage	138
Conductor size and type	636 Grossbeak
Hardware plan description	Will not be used
Tower line characteristics	1960s wood poles. Mostly H-frame with some single poles near Richlands

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	138.000000	138.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1076.000000	1506.000000
Winter (MVA)	1359.000000	1691.000000
Conductor size and type	795 KCM ACSR (26/7) "DRAKE"	
Shield wire size and type	2 shield wires: OPGW & 7#8	
Rebuild line length	15.8 miles	

Rebuild portion description	Entire line will be rebuilt from single to double circuit to accommodate the second circuit. The total distance is 15.8 miles. Rebuild will be completely on existing centerline.
Right of way	This project addressed the rebuild of the existing East Leipsic – Richland 138kV double-circuit transmission line, owned by FE. Additional right-of-way acquisition is not expected to support the centerline rebuild solution. Existing easements in place for the transmission line, along with a clearly maintained existing line corridor, provide a rebuild solution without additional property right acquisition. The project rebuild will begin at the existing Richland Station site, and run in a general southeastern direction to the future tie-in to the greenfield component of this project. A review of existing easements held provides a solution that does not necessitate additional right-of-way acquisition. Right-of-way will primarily support construction support efforts crossing approximately ninety-seven (97) parcels. A tabletop analysis found there were was one (1) publicly-owned parcel crossed as part of this project, near the Maumee River. At this time, the presumption is that the rebuild of the existing facility is possible under existing easement rights. Land use types within the project footprint are predominantly agricultural, with a small number of residential/agricultural homestead properties identified through Putnam County and Defiance County online property information listings. For all right-of-way work contemplated, the Proposing Entity strives to work collaboratively with landowners along each step of a project. While property right acquisition is not anticipated for this project at this time, if a need does arise, the Proposing Entity will utilize its proven land acquisition process. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title, current property tax status, as well as document any liens, and/or mortgages on each property. The Proposing Entity will research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity negotiates with landowners for the necessary easements in order to educate and inform landowners on the planned transmission line rebuild and existing easement rights held. The Proposing Entity will pay for any crop damage and/or physical damage to property resulting from the construction and/or maintenance of the transmission line.
Construction responsibility	COMPANY CONFIDENTIAL INFORMATION
Additional comments	

Component Cost Details - In Current Year $

Engineering & design	COMPANY CONFIDENTIAL INFORMATION
Permitting / routing / siting	COMPANY CONFIDENTIAL INFORMATION
ROW / land acquisition	COMPANY CONFIDENTIAL INFORMATION
Materials & equipment	COMPANY CONFIDENTIAL INFORMATION
Construction & commissioning	COMPANY CONFIDENTIAL INFORMATION

Construction management	COMPANY CONFIDENTIAL INFORMATION
Overheads & miscellaneous costs	COMPANY CONFIDENTIAL INFORMATION
Contingency	COMPANY CONFIDENTIAL INFORMATION
Total component cost	$34,169,100.27
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	East Leipsic Station Upgrade
Substation name	East Leipsic
Substation zone	205 - AEP
Substation upgrade scope	This scope includes expanding the existing station to the north to allow for another 138kV line exit to be installed. New line exit will involve installing a new 138kV CB, disconnect switches and new dead end structure along with extending existing 138kV bus work.

Transformer Information

None

New equipment description	Qty. 1 – 138kV, 3000A, 40kA circuit breaker Qty. 2 – 138kV, 3000A disconnect switch Qty. 3 – 138kV CCVT
Substation assumptions	Expansion area will be able to be obtained. Outage required will be available.
Real-estate description	Expansion area is owned by customer. Will need to acquire this land.
Construction responsibility	COMPANY CONFIDENTIAL INFORMATION
Additional comments	

Component Cost Details - In Current Year $

Engineering & design	COMPANY CONFIDENTIAL INFORMATION
Permitting / routing / siting	COMPANY CONFIDENTIAL INFORMATION

ROW / land acquisition	COMPANY CONFIDENTIAL INFORMATION
Materials & equipment	COMPANY CONFIDENTIAL INFORMATION
Construction & commissioning	COMPANY CONFIDENTIAL INFORMATION
Construction management	COMPANY CONFIDENTIAL INFORMATION
Overheads & miscellaneous costs	COMPANY CONFIDENTIAL INFORMATION
Contingency	COMPANY CONFIDENTIAL INFORMATION
Total component cost	$1,519,720.80
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Richlands Station Upgrade
Substation name	Richlands
Substation zone	First Energy
Substation upgrade scope	This scope includes expanding existing bus at Richlands station to add a new line exit. New line exit will involve: adding new bent lattice bay, 138kV circuit breaker and associated disconnects, new 138kV line potentials and extending the existing bus work.

Transformer Information

None

New equipment description	Qty. 1 – 138kV, 3000A, 40kA circuit breaker Qty. 2 – 138kV, 3000A disconnect switch Qty. 3 – 138kV CCVT

Substation assumptions	"• Richland station site will not need expanding. Adequate station area is available inside existing station fence to properly operate and maintain new station configuration. • Existing station grounding grid is adequate. Minor grounding grid additional and general equipment grounding needed. • There is space available inside existing station control building for all new breaker and line control relaying. • There are no major below grade obstructions in yard area where new construction is being performed. This include path need to route any control wiring from control house to new line equipment. • There is adequate AC service available for new station configuration. • All cable runs from equipment to control house or end termination is approximately 400 ft. "
Real-estate description	
Construction responsibility	COMPANY CONFIDENTIAL INFORMATION
Additional comments	

Component Cost Details - In Current Year $

Engineering & design	COMPANY CONFIDENTIAL INFORMATION
Permitting / routing / siting	COMPANY CONFIDENTIAL INFORMATION
ROW / land acquisition	COMPANY CONFIDENTIAL INFORMATION
Materials & equipment	COMPANY CONFIDENTIAL INFORMATION
Construction & commissioning	COMPANY CONFIDENTIAL INFORMATION
Construction management	COMPANY CONFIDENTIAL INFORMATION
Overheads & miscellaneous costs	COMPANY CONFIDENTIAL INFORMATION
Contingency	COMPANY CONFIDENTIAL INFORMATION
Total component cost	$1,175,326.90
Component cost (in-service year)	$.00

Greenfield Transmission Line Component

Component title	East Leipsic - Richlands 138 kV greenfield line
Point A	East Leipsic

Point B	Richlands	
Point C		
	Normal ratings	**Emergency ratings**
Summer (MVA)	1076.000000	1506.000000
Winter (MVA)	1359.000000	1691.000000
Conductor size and type	795 KCM ACSR (26/7) "DRAKE"	
Nominal voltage	AC	
Nominal voltage	138	
Line construction type	Overhead	
General route description	Line is proposed to run along an existing railroad and through agricultural fields.	
Terrain description	Flat rural	

Right-of-way width by segment	The new, greenfield Richland – East Leipsic 138kV transmission line will require acquisition of approximately 11.28 miles of right-of-way, defined at 100’ in width (50’ on either side of centerline). The project will begin at AEP’s existing East Leipsic Station, and will proceed in a general northwestern direction to a point near existing Structure 180 of the existing Richland – East Leipsic 138kV transmission line. A review of the project footprint identifies that right-of-way will be required across approximately seventy-one (71) parcels. An initial, high-level analysis found that there were no public lands impacted by this project. Land use types within the project footprint are predominantly agricultural, with a small number of both residential/agricultural homestead properties and commercial properties, as identified through Putnam County online property information listings. For all right-of-way work contemplated, the Proposing Entity will utilize its proven land acquisition process in support of this project. The Proposing Entity’s initial land acquisition step is to verify current ownership by an examination of title, current property tax status, as well as document any liens, and/or mortgages on each property. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity negotiates with landowners for the necessary easements in order to support the project solution. Fair market value is the basis for pursuing any additional property rights. The Proposing Entity will pay for any crop damage and/or physical damage to property resulting from the construction and/or maintenance of the transmission line. Good-faith negotiations must be made with all landowners when acquiring property rights. The same good-faith philosophy also applies to our on-going discussions with landowners in support of our construction and post-construction activities. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident thit becomes evident that a voluntary agreement between the company and the property owner cannot be reached, and no other viable alternatives exist, the Proposing Entity may exercise the right of eminent domain to secure required property rights through condemnation proceedings.
Electrical transmission infrastructure crossings	N/A
Civil infrastructure/major waterway facility crossing plan	N/A
Environmental impacts	Environmental studies were not conducted during scoping window. However, based on the geographic area and existing footpring, AEP does not expect any major concerns.
Tower characteristics	Primarily steel single circuit monopoles. 5 double circuit steel monopoles where the line connects at the East Lima - Richlands 138kV Line.
Construction responsibility	COMPANY CONFIDENTIAL INFORMATION
Additional comments	

Component Cost Details - In Current Year $

Engineering & design	COMPANY CONFIDENTIAL INFORMATION

Permitting / routing / siting	COMPANY CONFIDENTIAL INFORMATION
ROW / land acquisition	COMPANY CONFIDENTIAL INFORMATION
Materials & equipment	COMPANY CONFIDENTIAL INFORMATION
Construction & commissioning	COMPANY CONFIDENTIAL INFORMATION
Construction management	COMPANY CONFIDENTIAL INFORMATION
Overheads & miscellaneous costs	COMPANY CONFIDENTIAL INFORMATION
Contingency	COMPANY CONFIDENTIAL INFORMATION
Total component cost	$21,649,502.12
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
AEP-T63	245743	05E OTTAWA	245805	05LEIPSIC	1	69	205	FERC 715 Thermal
AEP-T64	245805	05LEIPSIC	245806	05DSCHLERT	1	69	205	FERC 715 Thermal
AEP-T65	245806	05DSCHLERT	245810	05NLEIP SW	1	69	205	FERC 715 Thermal
AEP-T66	245792	05E.LEIPSC	245810	05NLEIP SW	1	69	205	FERC 715 Thermal
AEP-T67	242993	05E.LEIPSIC2	245792	05E.LEIPSC	1	138/69	205	FERC 715 Thermal
AEP-T68	245757	05MCCOMB OP	245770	05NEW LIBR	1	35	205	FERC 715 Thermal
AEP-T69	245730	05CAIRO	245740	05E LIMA	1	69	205	FERC 715 Thermal
AEP-T70	245743	05E OTTAWA	245805	05LEIPSIC	1	69	205	FERC 715 Thermal
AEP-T71	245743	05E OTTAWA	245805	05LEIPSIC	1	69	205	FERC 715 Thermal
AEP-T72	245743	05E OTTAWA	245805	05LEIPSIC	1	69	205	FERC 715 Thermal
AEP-T73	245743	05E OTTAWA	245805	05LEIPSIC	1	69	205	FERC 715 Thermal

New Flowgates

None

Financial Information

Capital spend start date	03/2021
Construction start date	03/2023
Project Duration (In Months)	50

Cost Containment Commitment

Cost cap (in current year)	COMPANY CONFIDENTIAL INFORMATION
Cost cap (in-service year)	COMPANY CONFIDENTIAL INFORMATION

Components covered by cost containment

1. East Leipsic - Richlands 138 kV greenfield line - Transource

Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	Yes
ROW / land acquisition	Yes
Materials & equipment	Yes
Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	Yes
Taxes	Yes

AFUDC	Yes
Escalation	Yes
Additional Information	Please see the cost commitment legal language upload document for further details. This cost containment legal language document is confidential and redacted from public view due to company confidential information.
Is the proposer offering a binding cap on ROE?	Yes
Would this ROE cap apply to the determination of AFUDC?	Yes
Would the proposer seek to increase the proposed ROE if FERC finds that a higher ROE would not be unreasonable?	No
Engineering & design	Yes
Permitting / routing / siting	Yes
ROW / land acquisition	Yes
Materials & equipment	Yes
Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	Yes
Taxes	Yes
AFUDC	Yes
Escalation	Yes
Additional Information	COMPANY CONFIDENTIAL INFORMATION
Is the proposer offering a Debt to Equity Ratio cap?	COMPANY CONFIDENTIAL INFORMATION

Additional comments

None