

Midway - Melbourne 345kV

General Information

Proposing entity name	Company proprietary information.
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Company proprietary information.
Company proposal ID	Company proprietary information.
PJM Proposal ID	523
Project title	Midway - Melbourne 345kV
Project description	Build approximately 11-mile greenfield 345kV double circuit line in a BOLD configuration between Midway Station and Melbourne Station. Perform Station upgrades at Midway and Melbourne to interconnect the new 345kV line.
Email	Company proprietary information.
Project in-service date	04/2031
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Company proprietary information.

Project Components

1. Midway - Melbourne 345kV
2. Midway 345kV Station upgrade
3. Melbourne 345kV Station upgrade

Greenfield Transmission Line Component

Component title	Midway - Melbourne 345kV	
Project description	Company proprietary information.	
Point A	Midway	
Point B	Melbourne	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	1385.000000	1841.000000
Winter (MVA)	1750.000000	2092.000000
Conductor size and type	2 - 954 ACSR Rail Conductor	
Nominal voltage	AC	
Nominal voltage	345	
Line construction type	Overhead	
General route description	The Proposing Entity assessed environmental and land use constraints and opportunities within an area that included the existing Midway substation and Melbourne substation (in development) as the two endpoints. The evaluation resulted in the Bid Route of approximately 11 miles of greenfield line through Henry and Fulton Counties in Ohio. The 345kV greenfield line exits the existing Midway substation from the north and travels in a predominantly northeastern direction until it reaches the greenfield Melbourne substation from the south. No habitable structures are present within the proposed ROW. Overall, the Bid Route selected is the most direct route between the existing and greenfield substations and has the least overall impact on land use and environmental resources based on the Proposing Entity's qualitative review. The Bid Route significantly reduces the number of new access roads, enhancing overall constructability.	
Terrain description	The topography along the Midway - Melbourne 345kV greenfield line is relatively flat with some gently rolling hills. Land use in the area encompasses mostly agricultural lands with some rural residential parcels. The line crosses low density developed areas, a small amount of highly vegetated (wooded) rural land, state/county highways, railroads, streams, and existing utilities.	

Right-of-way width by segment	The Midway - Melbourne 345 kV greenfield route ROW will be 130 feet in width and will parallel/cross existing rights-of-way to include interstates, roads, railroads, existing transmission lines/utilities, existing pipelines and best minimizes potential impacts to the natural and human environments.
Electrical transmission infrastructure crossings	41.477311, -83.924003, 41°28'35.47"N, 83°55'6.16"W
Civil infrastructure/major waterway facility crossing plan	Body of Water, Coordinates Bad Creek, 41.483982° -83.952248° Railroad, Coordinates Norfolk Southern, 41.561486° -84.057347° Genesee & Wyoming Inc., 41.552903° -84.032739°
Environmental impacts	Land use along the Bid Route corridor is a predominantly rural agricultural landscape with pockets of residential development. The route intersects FEMA-mapped floodplains and/or floodways, and NWI-mapped wetlands primarily adjacent to streams and low-lying areas. The route also crosses named and unnamed streams in various locations. Based on existing aerial photography, the proposed route likely has unmapped wetland or drainage features. The timing of construction will be executed in accordance with state and federal agency criteria as needed. Desktop studies and record reviews for the line route will be conducted for wetlands and streams and cultural resources prior to onsite investigations. Following field studies, data will be digitized and provided to engineering so that pole locations maximize avoidance of sensitive resources. For example, poles will be placed outside of or span wetlands, streams, and floodplains to the greatest extent possible. Existing access and roads will be utilized to access pole locations. If necessary, temporary access roads to pole locations will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts.
Tower characteristics	This double circuit 345kV line is proposed to utilize self-supporting steel lattice tower structures with the phases arranged in AEP's patented BOLD configuration. All towers are expected to be supported by drilled concrete pier foundations.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.

Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$86,779,940.00
Component cost (in-service year)	\$106,600,181.00
Substation Upgrade Component	
Component title	Midway 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Midway
Substation zone	ATSI
Substation upgrade scope	Add two new line exits to Midway station to accommodate the proposed Midway to Melbourne double circuit 345kV line. Re-locate existing circuit breaker(s) and buswork to convert the station to a to a breaker-and-a-half configuration.
Transformer Information	
None	
New equipment description	Install: two 345kV, 4000A Circuit Breakers; six 345KV 4000A double end break switches; two 345kV A-Frame deadend structures; six 345kV Bus Support structures; two 345kV Bi-Level Bus Support structures; two 3-phase sets of 345KV CCVTs; (75) ft Bus Tubing and jumper/connector assemblies; six 345kV surge arresters
Substation assumptions	There is sufficient space in the substation to accommodate the breaker-and-a-half design without the purchase of new land. The existing station service is sufficient to handle the AC load of the new equipment. The existing control house has sufficient space to add new line relaying, bus protection, and breaker control panels.
Real-estate description	The acquisition of additional fee lands is not required for the Midway Substation located in Washington County, Ohio.
Construction responsibility	Company proprietary information.

Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$8,926,152.00
Component cost (in-service year)	\$10,964,854.00
Substation Upgrade Component	
Component title	Melbourne 345kV Station upgrade
Project description	Company proprietary information.
Substation name	Melbourne
Substation zone	ATSI
Substation upgrade scope	Reconfigure a four breaker 345kV ring bus station into a three string breaker-and-half configuration, while adding two new 345kV line exits. Station expansion will add a new string with two 345kV circuit breakers. Additionally, the existing two strings at Melbourne will receive an additional breaker to complete the string. P&C upgrades will include new line relays, breaker control relays, and bus protection for the breaker-and-half configuration.
Transformer Information	

None	
New equipment description	Install: four 345kV, 4000A Circuit Breakers; eight 345KV 4000A double end break switches; two 345kV A-Frame deadend structures; 345kV Bus Support structures; 3-phase sets of 345KV CCVTs; Bus Tubing and jumper/connector assemblies; 345kV surge arresters; new relaying panels for line protection and bus protection.
Substation assumptions	Melbourne station is still in development, and it is assumed the work to re-configure the station layout, protection & control design modifications, and site layout updates can be accommodated in the existing design work.
Real-estate description	The acquisition of additional fee lands is not required for the Melbourne Substation located in Fulton County, Ohio.
Construction responsibility	Company proprietary information.
Benefits/Comments	Company proprietary information.
Component Cost Details - In Current Year \$	
Engineering & design	Company proprietary information.
Permitting / routing / siting	Company proprietary information.
ROW / land acquisition	Company proprietary information.
Materials & equipment	Company proprietary information.
Construction & commissioning	Company proprietary information.
Construction management	Company proprietary information.
Overheads & miscellaneous costs	Company proprietary information.
Contingency	Company proprietary information.
Total component cost	\$15,872,306.00
Component cost (in-service year)	\$19,497,486.00
Congestion Drivers	
None	

Existing Flowgates

None

New Flowgates

Company proprietary information.

Financial Information

Capital spend start date 03/2027

Construction start date 10/2029

Project Duration (In Months) 49

Cost Containment Commitment

Cost cap (in current year) Company proprietary information.

Cost cap (in-service year) Company proprietary information.

Components covered by cost containment

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Cost elements covered by cost containment

Engineering & design Yes

Permitting / routing / siting No

ROW / land acquisition No

Materials & equipment No

Construction & commissioning No

Construction management	No
Overheads & miscellaneous costs	No
Taxes	No
AFUDC	No
Escalation	No
Additional Information	Company proprietary information.
Is the proposer offering a binding cap on ROE?	No
Is the proposer offering a Debt to Equity Ratio cap?	Company proprietary information.
Additional cost containment measures not covered above	Company proprietary information.

Additional Comments

None