

Tanners Creek - Miami Fort 345kV

General Information

Proposing entity name	Company confidential and proprietary information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Company confidential and proprietary information
Company proposal ID	Company confidential and proprietary information
PJM Proposal ID	893
Project title	Tanners Creek - Miami Fort 345kV
Project description	Build a new 345 kV line from Tanners Creek station (AEP) to Miami Fort (Duke) station (11.4 miles). Rebuild a portion of the existing Tanners Creek – Hanna 345 kV and Greendale – Miami Fort 138 kV lines to double circuit (4 & 3 miles respectively) to facilitate construction of the new line. Install 1 breaker at Tanners Creek and 2 breakers at Miami Fort to terminate the new line.
Email	Company confidential and proprietary information
Project in-service date	06/2025
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Company confidential and proprietary information

Project Components

1. Tanners Creek Station to Tanners Creek - College Corner 345kV Structure #22A
2. Tanners Creek - College Corner 345kV Structure #22A to Miami Fort - Hubbell 138kV Structure GM#1
3. Miami Fort Station - Hubbell 138kV Structure GM#1 (Duke)
4. Miami Fort Upgrade

5. Tanners Creek Upgrade

Transmission Line Upgrade Component

Component title	Tanners Creek Station to Tanners Creek - College Corner 345kV Structure #22A
Project description	Company confidential and proprietary information
Impacted transmission line	Tanners Creek - Hanna 345 kV
Point A	Tanners Creek Station 345 kV
Point B	Structure #22A
Point C	Hanna Station 345 kV
Terrain description	The Tanners Creek-Breakaway upgrade is approximately 3.97 miles in length from the Tanners Creek Substation to the proposed tap point. From Tanners Creek Substation the terrain of the first mile is relatively flat and located partially within floodplain, while the remaining portion is moderately steep to hilly.

Existing Line Physical Characteristics

Operating voltage	345 kV
Conductor size and type	The double circuit line will be constructed using two-bundle 954 (54/7) ACSS Cardinal conductor. The existing 345kV circuit between Tanners Creek and Hanna will be carried on the left-hand side of the double circuit line.
Hardware plan description	No existing hardware will be utilized. From Tanners Creek station to an interconnection point designated Breakaway near structure 22A, will require a complete rebuild of the existing 345kV line.
Tower line characteristics	The new 345kV line will require 22 structures. The last structure will interconnect the Breakaway-Greendale line. The predominant structure type will be a galvanized custom steel pole with davit arms to carry the proposed Hanna-Tanners Creek 345kV circuit and the proposed Miami Fort – Tanners Creek 345kV Circuit.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000

	Normal ratings	Emergency ratings
Summer (MVA)	1740.000000	2201.000000
Winter (MVA)	2304.000000	2420.000000
Conductor size and type	The double circuit line will be constructed using two-bundle 954 (54/7) ACSS Cardinal conductor.	
Shield wire size and type	The line will utilize a 0.646" 96ct fiber OPGW and a 7#8 Alumoweld as the shield wires.	
Rebuild line length	This project requires the construction of a 3.97-mile double circuit 345kV AC overhead line between the existing Tanners Creek station and a proposed interconnection point (structure 22A) owned by Indiana-Michigan Power Co. (AEP).	
Rebuild portion description	It is anticipated that the Proposed Solution would be contained within the existing maintained ROW, therefore, no new Siting or ROW would be required.	
Right of way	It is anticipated that the Proposed Solution would not require new ROW; however, current landowners that are crossed by the existing transmission line would need to be notified of the proposed upgrades.	
Construction responsibility	Company confidential and proprietary information	
Benefits/Comments	Company confidential and proprietary information	
Component Cost Details - In Current Year \$		
Engineering & design	Company confidential and proprietary information	
Permitting / routing / siting	Company confidential and proprietary information	
ROW / land acquisition	Company confidential and proprietary information	
Materials & equipment	Company confidential and proprietary information	
Construction & commissioning	Company confidential and proprietary information	
Construction management	Company confidential and proprietary information	
Overheads & miscellaneous costs	Company confidential and proprietary information	
Contingency	Company confidential and proprietary information	

Total component cost	\$20,832,092.00
Component cost (in-service year)	\$22,763,789.00

Greenfield Transmission Line Component

Component title	Tanners Creek - College Corner 345kV Structure #22A to Miami Fort - Hubbell 138kV Structure GM#1
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Project description	Company confidential and proprietary information
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Point A	Structure #22A
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Point B	Structure GM#1
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Point C	
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	Normal ratings	Emergency ratings
Summer (MVA)	1740.000000	2201.000000
Winter (MVA)	2034.000000	2420.000000

Conductor size and type	The new line will be constructed using two-bundle 954 kcmil (54/7) Strand ACSS Cardinal conductor.
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Nominal voltage	AC
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Nominal voltage	345
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Line construction type	Overhead
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General route description

The Proposing Entity reviewed a range of siting alternatives for the Proposed Solution evaluating each with respect to potential impacts to the surrounding communities and the environment, constructability, operations and maintenance considerations, and cost effectiveness. Solutions were initially considered within a broad study area, as the solution needed to connect the Tanners Creek-Breakaway line and the Greendale-Miami Fort line. Potential routes that were evaluated and determined to be unsuitable due to length, circuitousness, constructability issues, major permitting concerns, or expected high costs, were dismissed, and not investigated further. Starting at the existing Tanners Creek-Breakaway transmission line the Conceptual Route will generally extend northeasterly for about 1.5 miles, then head southeasterly for about 2.1 miles, then extends back to the southwest for about 0.8 miles to the tap point of the Greendale-Miami Fort transmission line. The Conceptual Route is about 4.4 miles long and entirely within Dearborn County, IN. The Conceptual Route is in undeveloped pasture, forested areas, some residential and commercial areas, and floodplain. The route crosses Tanners Creek and 3 smaller streams, 2 wetlands as identified in the National Wetland Inventory (NWI), and 3 FEMA-mapped floodplains. The project will require 2 crossings of a Central Railroad of Indiana (CIND) railroad and 5 State roadway crossings. Multiple local road crossings will also be required. Two existing transmission lines will also be crossed, which are Tanners Creek-Drewersburg 138 kV and Miami Fort-Hubbell 138 kV. There are no identified habitable structures located within the proposed ROW. There are no FAA regulated airports within the vicinity of the Conceptual Route. Based on the constraints identified within the routing study area, the Conceptual Route represents a logical and constructible route.

Terrain description

The first 3.5 miles from the Tanners Creek-Breakaway tap point going northward and eastward is moderately hilly to relatively steep terrain, while the remaining 0.9-mile eastern portion is relatively flat and partially located within a floodplain.

Right-of-way width by segment

The Proposed Solution will require the acquisition of 4.4 miles of new 150'-wide transmission line ROW. The desktop analysis found there were no public lands required for this Proposed Solution, except for public roadway crossings. The private land use is mixed with some agricultural, residential, and commercial areas as identified through the desktop analysis. Private land requirements include acquiring 150' (75'/75') wide ROW where the terrain ranges from relatively steep to flat. The Proposing Entity will use proven land acquisition processes and approaches that have been successfully employed on projects in IN. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title and current property tax status, as well as document any liens or mortgages. The Proposing Entity will also determine if the subsurface estate is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with landowners based on the fair market value of the property needed for the ROW easements. Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. The Proposing Entity will also 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. Negotiations will be conducted in an ethical, non-confrontational and non-threatening manner with the landowners. The long-term relationship with the landowners is paramount and will be kept in mind in all negotiations and honesty, integrity and professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the Proposing Entity and the property owner cannot be reached, and other viable alternatives do not exist, the Proposing Entity may exercise the right of eminent domain to secure required property through condemnation proceedings.

Electrical transmission infrastructure crossings

Two existing transmission lines will also be crossed, which are Tanners Creek-Drewersburg 138 kV and Miami Fort-Hubbell 138 kV, located approximately at latitude 39.132616° and longitude -84.893368°, and latitude 39.137752° and longitude -84.879945°, respectively.

Civil infrastructure/major waterway facility crossing plan

The Proposed Solution will not involve any civil infrastructure/major waterway facility crossings.

Environmental impacts	<p>Land use along the proposed corridor includes forested areas, pasture, residential, commercial, floodplain, along with roads, railroads, and utilities. The route crosses Tanners Creek and 3 smaller streams, 2 wetlands as identified in the NWI, and 3 FEMA-mapped floodplains. Based on existing aerial photography, the proposed route likely has unmapped wetland and stream features. To ensure appropriate due diligence for environmental protection, studies will be completed for the ROW and proposed access routes including a wetland and stream delineation, habitat assessment, threatened and endangered species review, and cultural resources studies. Following these studies, the route alignment or structure locations may be adjusted to avoid or minimize impacts to sensitive environmental features. Examples of minimizing impacts to regulated waters or floodplains along the proposed route include installing timber mats within regulated wetlands or floodplains and temporarily bridging across streams. All areas designated for temporary impact will be restored to pre-existing condition following construction. It is anticipated unavoidable impacts to regulated wetlands or streams would be covered under a Nationwide Permit with appropriate offsetting mitigation as directed by the US Army Corps of Engineers or Indiana Department of Environmental Management (IDEM). Construction should be covered under a general construction storm water permit from IDEM, which will also require appropriate best management practices to be installed prior to construction to manage storm water runoff.</p>
Tower characteristics	<p>The new 345kV line will require 25 tubular galvanized steel self-supporting structures. The predominate structure type (17 structures) will be a tangent monopole with V-string suspension insulators supported by davit arms arranged in an alternating configuration. Additionally, the line will also require seven (7) vertically configured dead-end poles and one (1) angle pole for a running corner-suspension structure. The alternating configured tangent poles will be constructed on a combination of direct embedded and concrete pier foundations utilizing full-length anchor bolt cages. The dead-end and angle poles will be constructed on concrete pier foundations utilizing full-length anchor bolt cages.</p>
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information
Component Cost Details - In Current Year \$	
Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information
ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information

Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$11,101,600.00
Component cost (in-service year)	\$12,131,018.00

Transmission Line Upgrade Component

Component title	Miami Fort Station - Hubbell 138kV Structure GM#1 (Duke)
Project description	Company confidential and proprietary information
Impacted transmission line	Miami Fort - Greendale
Point A	Miami Fort Station 138 kV
Point B	Structure GM#1
Point C	
Terrain description	The transmission line upgrade is approximately 3.2 miles long and mostly located within relatively flat open floodplain areas.

Existing Line Physical Characteristics

Operating voltage	138kV (The new line will be constructed as a 345kV AC line.)
Conductor size and type	The double circuit line will be constructed using two-bundle 954 (54/7) ACSS Cardinal conductor. The existing 138kV circuit between Greendale and Miami Fort will be carried on the right-hand side of the double circuit line.
Hardware plan description	No existing hardware will be utilized. From an interconnection point designated near Greendale to Miami Fort station will require a complete rebuild of the existing 138kV line to 345kV standards.
Tower line characteristics	The new 345kV line will require 15 structures. The first structure will interconnect the Breakaway-Greendale line. The predominant structure type will be a galvanized custom steel pole with davit arms to carry the proposed Miami Fort-Tanners Creek 345kV circuit and the existing Greendale-Miami Fort 138kV Circuit.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	345.000000	345.000000
	Normal ratings	Emergency ratings
Summer (MVA)	1740.000000	2201.000000
Winter (MVA)	2034.000000	2420.000000
Conductor size and type	The double circuit line will be constructed using two-bundle 954 (54/7) ACSS Cardinal conductor.	
Shield wire size and type	The line will utilize a 0.646" 96ct fiber OPGW and a 7#8 Alumoweld as the shield wires.	
Rebuild line length	This project requires the construction of a 2.96-mile double circuit 345kV AC overhead line between the existing Greendale and Miami Fort stations owned by Duke Energy.	
Rebuild portion description	It is anticipated that the Proposed Solution will be upgraded to include both 138 kV and 345 kV circuits. The rebuild portion in OH is greater than 0.2 miles in length and less than 2 miles in length, and since it will be upgraded to include a 345-kV circuit, a Letter of Notification (LON) approval from the Ohio Power Siting Board (OPSB) will likely be required.	
Right of way	The Proposed Solution will require the expansion of ROW from 100' to 150'. This would likely result in a 25' additional on either side of the existing ROW. Current and potentially affected landowners would need to be notified of the proposed upgrades individually or as part of the OPSB LON process (OH portion).	
Construction responsibility	Company confidential and proprietary information	
Benefits/Comments	Company confidential and proprietary information	
Component Cost Details - In Current Year \$		
Engineering & design	Company confidential and proprietary information	
Permitting / routing / siting	Company confidential and proprietary information	
ROW / land acquisition	Company confidential and proprietary information	
Materials & equipment	Company confidential and proprietary information	
Construction & commissioning	Company confidential and proprietary information	

Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$20,483,192.00
Component cost (in-service year)	\$22,382,537.00

Substation Upgrade Component

Component title	Miami Fort Upgrade
Project description	Company confidential and proprietary information
Substation name	Miami Fort
Substation zone	DEOK
Substation upgrade scope	Install 2 breakers to terminate rebuilt line.

Transformer Information

None	
New equipment description	2 new breakers to terminate new 345 kV line
Substation assumptions	It is anticipated there is suitable land to the west of the existing station to accommodate the 2 new breakers to terminate the new 345 kV line.
Real-estate description	It is anticipated the Proposed Solution would be contained within the incumbent's property west of the existing substation site and therefore no new siting or land purchase would be required.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information

Component Cost Details - In Current Year \$

Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information

ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$4,307,624.00
Component cost (in-service year)	\$4,707,057.00

Substation Upgrade Component

Component title	Tanners Creek Upgrade
Project description	Company confidential and proprietary information
Substation name	Tanners Creek
Substation zone	DEOK
Substation upgrade scope	Install 1 Breaker to terminate new line

Transformer Information

None	
New equipment description	1 new breaker to terminate new 345 kV circuit
Substation assumptions	It is assumed that there is room within the existing footprint of the station to install the new breaker.
Real-estate description	It is anticipated that the Proposed Solution would be contained within the existing substation site and therefore no new siting or land purchase would not be required.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information

Component Cost Details - In Current Year \$

Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information
ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$1,393,422.00
Component cost (in-service year)	\$1,522,628.00

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
2022W1-GD-S586	243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Summer Gen Deliv	Included
2022W1-GD-W377	243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Winter Gen Deliv	Included

New Flowgates

Company confidential and proprietary information

Financial Information

Capital spend start date	06/2023
Construction start date	08/2024
Project Duration (In Months)	24

Cost Containment Commitment

Cost cap (in current year)	Company confidential and proprietary information
Cost cap (in-service year)	Company confidential and proprietary information

Components covered by cost containment

1. Tanners Creek - College Corner 345kV Structure #22A to Miami Fort - Hubbell 138kV Structure GM#1 - 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	Company confidential and proprietary 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

Is the proposer offering a Debt to Equity Ratio cap?

Company confidential and proprietary information

Additional Comments

None