

Johnson Fork – Willey 138 kV

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	994
Project title	Johnson Fork – Willey 138 kV
Project description	Build a new 138 kV 3-breaker ring station called “Johnson Fork” just North of the existing Wesley SW 138 kV station (AEP). Bring the existing Tanners Creek–College Corner 138 kV line (AEP) “in and out” of Johnson Fork. Build a new 138 kV line from Johnson Fork (AEP) to Willey (Duke) stations (13 miles). Install 2 breakers at Willey 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. Johnson Fork – Willey 138 kV
2. Johnson Fork Station
3. Tanner's Creek – College Corner Tie-in
4. Willey Station Upgrade

Greenfield Transmission Line Component

Component title	Johnson Fork – Willey 138 kV	
Project description	Company confidential and proprietary information	
Point A	Johnson Fork 138 kV	
Point B	Willey 138 kV	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	205.000000	285.000000
Winter (MVA)	284.000000	320.000000
Conductor size and type	This project requires construction of a 12.5 mile long 138kV AC overhead transmission line between the existing Willey Station and the proposed Johnson Fork Station. The new line will be constructed using 556.5 kcmil (26/7) ACSR "Dove" conductor.	
Nominal voltage	AC	
Nominal voltage	138	
Line construction type	Overhead	

General route description

The Conceptual Route is mostly located in open undeveloped rural areas crossing through agricultural lands, including cultivated fields and pastures, along with forest patches and smaller streams. There are no significant river or large waterbody crossings. The Proposed Solution will require one CSX Transportation Inc. railroad crossing but no State highway crossings. Multiple local road crossings will be required. Three existing transmission lines will also be crossed which are at one location. These include the Willey-Miami Fort 138kV (Duke), Westinghouse-Morgan 138kV (Ohio Power), and Westinghouse-Miami Fort 138kV (Ohio Power). 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. 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 existing Willey Substation to the new Johnson Fork Substation. 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 proposed Willey Substation in Hamilton County, OH, the Conceptual Route will generally extend westward and northward for approximately 2.85 miles through Hamilton County, OH, and then extend northwesterly for approximately 7.76 miles through Butler County, OH. It will then extend westward for approximately 1.8 miles within Franklin County, IN, terminating at the new Johnson Fork Substation. The Conceptual Route is approximately 12.5 miles in length.

Terrain description

The Conceptual Route is mostly located in open rural areas crossing through agricultural lands, including cultivated fields and pastures. Topography on the eastern half of the route is relatively flat to gently rolling, while the western half is gently rolling to moderately hilly. The western portion of the route tends to increase in overall elevation as the route extends westward.

Right-of-way width by segment

The proposed Johnson Fork-Willey 138kV line will require the acquisition of 12.5 miles of transmission line with 80' wide ROW. The OH portion is 10.7 miles and the IN portion is 1.8 miles. The desktop analysis found there were no public lands required for this project, with the exception of public roadway crossings. Private land use is predominantly agricultural mixed with some rural residences as identified through the desktop analysis. The private land requirements include acquiring 80' (40'/40') wide ROW where the land use is predominantly flat to moderately hilly agricultural lands. The Proposing Entity will use proven land acquisition processes and approaches that have successfully been employed on projects over the years in both OH and 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 will 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

Three existing transmission lines will be crossed by the Proposed Solution, including the Willey-Miami Fort 138kV (Duke), Westinghouse-Morgan 138kV (Ohio Power), and Westinghouse-Miami Fort 138kV (Ohio Power). These will all be crossed at the same location, approximately at latitude 39.283676° and longitude -84.693983°.

Civil infrastructure/major waterway facility crossing plan

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

Environmental impacts	<p>Land use along the proposed corridor is predominantly undeveloped open lands or agricultural, with periodic forest patches. The proposed line intersects only 2 FEMA-mapped floodplains while avoiding designated floodways. Three wetlands, identified as wetlands in the National Wetland Inventory (NWI), are located within the potential ROW, along with multiple small stream crossings and 2 larger stream crossings. 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, Ohio EPA, or Indiana Department of Environmental Management (IDEM). Construction should be covered under a general construction storm water permit from Ohio EPA and IDEM, which will also require appropriate best management practices to be installed prior to construction to manage storm water runoff. The proposed solution and all associated impacts are typical of electrical transmission infrastructure projects and would not typically represent a risk to the overall project schedule or cost.</p>
Tower characteristics	<p>The new 138kV line will require (92) tubular galvanized steel pole pole structures. The predominate structure type (74 structures) will be tangent monopoles with braced post insulators arranged in an alternating configuration. Additionally, the line will require (4) vertically configured running angle poles, and (14) deadend structures. The tangent pole structures will be supported by direct embedded foundations. The running angle pole structures will be supported by direct embedded foundations and guy and anchor systems. Ten (10) deadend pole structures will be supported by a combination of direct embedded foundations with guy and anchor systems, and (4) deadend structures will utilize concrete pier foundations with full length anchor bolts. A sketch of the predominant structures is attached.</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	\$19,053,455.00
Component cost (in-service year)	\$20,820,225.00

Greenfield Substation Component

Component title	Johnson Fork Station
Project description	Company confidential and proprietary information
Substation name	Johnson Fork
Substation description	Construct a greenfield station to install a proposed 3-breaker ring configuration on the Tanners Creek–College Corner 138KV Line as well as the new greenfield Willey 138KV Line. This scope will be installing a 3–breaker ring bus so that lines involved are electrically tied.
Nominal voltage	AC
Nominal voltage	138

Transformer Information

None		
Major equipment description	3 – 138kV, 3000A, 40kA CB 6 – 138kV, 3000A, 40kA double-end break disconnect switches 3 – 138KV, 3000A, 40KA line side 3-phase disconnect switches 9 – 138KV line CCVTs 2 – 138KV Wave Traps and tuners 9 – 88kV MCOV line side station class surge arresters 1 – 3 phase 138KV CT/PT Metering Combo Unit	
	Normal ratings	Emergency ratings
Summer (MVA)	223.000000	281.000000

Winter (MVA)

292.000000

319.000000

Environmental assessment

The Proposing Entity considered a general study area within relatively close proximity to the Wesley SW Substation or near the Wesley SW-College Corner 138kV transmission lines in Franklin County, IN. The Proposed Solution within the general study area was evaluated with respect to potential impacts to the surrounding communities and the environment, constructability, operations and maintenance considerations, and cost effectiveness. The selected site area is located on one parcel that is relatively flat cultivated cropland that is located just northeast of the Wesley SW Substation and adjacent to the Wesley SW-College Corner 138kV lines, at latitude 39.351327° and longitude -84.852829°. A driveway approximately 615' long will be needed from Wesley Chapel Road to access the site. There are no FEMA-mapped floodplains or NWI wetlands or streams within the site area or along the access driveway, although the driveway may cross a field drainage ditch. To ensure appropriate due diligence for environmental protection, studies will be completed for the site and proposed access including a wetland and stream delineation, habitat assessment, threatened and endangered species review, and a cultural resources review. Following these studies, the driveway or layout may be adjusted to avoid or minimize impacts to environmental resources. 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. Additionally, appropriate post-construction storm water controls will be implemented as necessitated by the design.

Outreach plan

Public outreach is a critical component to the Proposing Entity's siting process, so efforts will include properly informing the public; federal, state, and local agencies; local governments; and other key stakeholders on the need for, and benefits of, this Project. The Proposing Entity's approach to public outreach is to be candid and transparent at all times, and to offer a variety of tools and means for directly impacted parties to engage with our staff. The Proposing Entity will provide development updates to local government officials, key stakeholders, and impacted parties as the Project progresses. Public outreach also will involve collecting information about landowner properties and communicating with directly affected landowners during the final siting process.

Land acquisition plan

The desktop analysis found there were no public lands required for this Proposed Solution. The private land use is agricultural as identified through desktop analysis. The private land requirements include approximately 3.71 acres for the new station site/detention pond/grading and 1.35 acres for the access road area. The total Proposed Solution acreage is 5.06 acres to be purchased in fee. Station site and access road placement were chosen to minimize impacting farming operations. 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 property owners based on the fair market value of the property needed for the station site and access road (fee purchase). Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. Good Faith negotiations will 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.

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	\$4,814,213.00
Component cost (in-service year)	\$5,260,621.00

Transmission Line Upgrade Component

Component title	Tanner's Creek – College Corner Tie-in
Project description	Company confidential and proprietary information
Impacted transmission line	Tanner's Creek-College Corner 138 kV
Point A	Tanner's Creek
Point B	Johnson Fork
Point C	College Corner
Terrain description	The Project terrain along the approximate 120-foot-long Tanner's Creek-College Corner 138 kV transmission line upgrade component is relatively flat cultivated lands.

Existing Line Physical Characteristics

Operating voltage	138 kV
Conductor size and type	The new cut-in line will match existing conductor of 636 kcmil (26/7) ACSR "Grosbeak".
Hardware plan description	No existing hardware will be utilized. The existing line will deadend on a new structure located on cL to turn the Tanners Creek-College Corner 138kV Circuit In/Out of the proposed Johnson Fork Station.
Tower line characteristics	The existing line is predominantly 138kV double circuit lattice towers. The proposed structure located on cL will be a double circuit custom steel pole with flared arms on the tap span to bring the conductor in/out of the proposed Johnson Fork Station.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings

Summer (MVA)	204.000000	258.000000
Winter (MVA)	284.000000	319.000000
Conductor size and type	This project requires construction of a 120 foot double circuit section of 138kV AC transmission line between Tanners Creek-College Corner 138kV Line and Johnson Fork Station. The cut-in will be constructed using 636 kcmil(26/7)ACSR Grosbeak conductor	
Shield wire size and type	This line will utilize two (2) 7#10 Alumoweld shield wires into the proposed Johnson Fork Station.	
Rebuild line length	This project requires construction of a 120 foot double circuit section of 138kV AC overhead transmission line between the existing Tanners Creek-College Corner 138kV Line and the proposed Johnson Fork Station.	
Rebuild portion description	Upgrading the existing Tanner's Creek-College Corner 138kV transmission line will occur in flat cultivated cropland and should not require new ROW or Siting.	
Right of way	It is anticipated that the Proposed Solution would not require new ROW; however, current landowners 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	\$442,695.00
Component cost (in-service year)	\$483,746.00

Substation Upgrade Component

Component title	Willey Station Upgrade
Project description	Company confidential and proprietary information
Substation name	Willey Station
Substation zone	Duke
Substation upgrade scope	Install 2 new breakers at Willey Station to terminate new line from new Johnson Fork station.

Transformer Information

None	
New equipment description	Two new 138 kV breakers and necessary foundations
Substation assumptions	Willey Station has enough area for the new installation without having to expand the existing station.
Real-estate description	It is anticipated that the Proposed Solution would be contained within the existing substation site and be upgraded to the same voltage, so no new siting and 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	\$1,215,867.00
Component cost (in-service year)	\$1,328,610.00

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-S586243262	05COLLEGE C	250001	08COLINV	1	138	205/212	Summer Gen Deliv	Included	
2022W1-GD-W377243262	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	07/2023
Construction start date	08/2024
Project Duration (In Months)	23

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. Johnson Fork – Willey 138 kV - Transource
2. Johnson Fork Station - 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