McCanns Rd 138 kV Switching Station

General Information

Proposing entity name	Confidential Information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Confidential Information
Company proposal ID	Confidential Information
PJM Proposal ID	631
Project title	McCanns Rd 138 kV Switching Station
Project description	Construct the McCanns Rd 138 kV Switching Station and interconnect the existing Redbud – West Winchester 138 kV Line and Bartonville – Stephenson 138 kV Line.
Email	Confidential Information
Project in-service date	06/2030
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	Confidential Information

Project Components

1. McCanns Rd 138 kV Switching Station
2. Redbud - McCanns Rd 138 kV Line

Greenfield Substation Component

Component title	McCanns Rd 138 kV Switching Station

Project description	Confidential Information
Substation name	McCanns Rd
Substation description	Construct McCanns Rd 138 kV Switching Station with four 138 kV circuit breakers in a ring bus configuration, expandable to a six breaker ring bus for future growth. Loop in the Redbud – West Winchester 138 kV Line and the Bartonville – Stephenson 138 kV Line, which share structures and are primarily constructed on double circuit steel monopoles in a vertical configuration. All new angle and dead-end structures will be engineered steel poles on drilled shaft foundations and all in-line tangent structures will be direct-embed light duty steel/wood pole equivalent poles. The new conductor will match the existing conductor which is 954 KCMIL45/7 ACSR.
Nominal voltage	AC
Nominal voltage	138

Transformer Information

None

Major equipment description	At McCanns Rd Switching Station: Install (1 Lot) of conduit, grounding, and foundations for substation expansion. Install (805) feet of fencing, (2) gates. Install driveway. Install (125) feet of cable trench. - Install (4) 138 kV H-Frame dead-end structures. - Install (1) Prefabricated control enclosure (36'x15'). - Install (4) 138kV Circuit breakers, 63 kA, 3000 A. - Install (8) 138kV GOAB disconnect switches, 2000 A. - Install (4) 138kV MOAB disconnect switches, 2000 A. - Install (12) 138 kV Surge arresters. - Install (12) 138kV CVT's. - Install (2) 138 kV Line Traps, Tuners and Coax, 2000 A. - Install (2) 138 kV SSVT's. - Install (1 Lot) of rigid bus, connectors and support structures. - Install substation lighting. - Install (4) Standard breaker panels, consisting of (1) SEL-451 relays with dedicated LOR. - Install (2) Standard line panels, consisting of (2) SEL-411L, over fiber (Redbud and Stephenson 138kV Line Terminals). - Install (2) Standard line panels, consisting of (1) SEL-421, (1) SEL-411L (Bartonville and West Winchester 138 kV Line terminals). - Install (2) carrier panels, consisting of (1) PCM5350, & (1) UPLC-II relays (Bartonville & West Winchester 138kV Line Terminals). - Install (1 Lot) of Control Cables. At Bartonville, West Winchester, Stephenson and Redbud Substations: - Install (3) FE Standard Line Relay Panel consisting of (1) SEL 421, (1) SEL-411L, (1) UPLC-II and (1) PCM 5350 (over PLC). - Install (3) FE Standard Breaker Panel consisting of (1) SEL-451, (1) UPLC -II and (1) PCM 5350(over PLC). - Install (3 Lot) of Control Cables. - Install (1) wave trap and line tuner at Bartonville Substation. - Replace limiting conductor at West Winchester Substation. Bartonville - Stephenson 138 kV Line and Redbud - West Winchester 138 kV Line Cut-ins: - Install (0.1) miles of 3-phase 954 KCMIL 45/7 ACSR conductor shielded by (1) 7#9 Alumoweld wire. - Install (1) SC steel monopole dead-end structure, like TR-138325, drilled shaft foundation. - Install (2) DC steel monopole dead-end structures, like TR-138375, drilled shaft foundations.

	Normal ratings	Emergency ratings
Summer (MVA)	308.000000	376.000000
Winter (MVA)	349.000000	445.000000
Environmental assessment	An environmental review will be required to identify any additional construction constraints or additional permitting requirements. Road Bonds, Environmental Filming Documentation of Existing roads, Environmental Development of Permit Binder, Environmental Cultural Resource Consultation, Environmental Construction Walk down, Wetland delineations and WDR are required. ETR consultation letters are included. Stormwater permits and local approvals are anticipated.	
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 always candid and transparent, 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	Approximately 1.83 acres will be needed for this substation. It is assumed (0.1) miles of new ROW easement will be required along the new lines exit. It is assumed the new lines exit will be located on the new substation property. Real estate costs have been included for: - Internal support including permitting, document review, project planning meetings, subcontractor oversight and assistance with transfer of assets if required. - External support for general project support, acquisition (assuming voluntary, no condemnation); assuming no field construction support will be required. - Easement digitization and other GIS support provided. - Cost of purchasing new land rights and associated fees such as recording costs or permits (estimated - actual cost will depend on current market values, land type, location and negotiations). - Access roads. - Recording fees: do not include taxes that may be required by specific counties via a "Real Estate Transfer Tax Statement of Value."	
Construction responsibility	Confidential Information	
Benefits/Comments	Confidential Information	
Component Cost Details - In Current Year $		
Engineering & design	Confidential Information	
Permitting / routing / siting	Confidential Information	

ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$18,832,333.88
Component cost (in-service year)	$21,082,005.00

Transmission Line Upgrade Component

Component title	Redbud - McCanns Rd 138 kV Line
Project description	Confidential Information
Impacted transmission line	Redbud - McCanns Rd 138 kV Line
Point A	Redbud
Point B	McCanns Rd
Point C	
Terrain description	Terrain is Flat. Access roads will be required along entire line route. Access Roads Assumptions: - If required, Forestry will have clearing accomplished prior to access road construction start.
Existing Line Physical Characteristics	
Operating voltage	138
Conductor size and type	556.5 KCMIL 26/7 ACSR

Hardware plan description	The existing conductor is 556.5 KCMIL 26/7 ACSR shielded by (2) 1/2” 7-Strand EHS steel wires. The new Redbud - McCanns Rd 138 kV Line will utilize 3-phase 795 KCMIL 45/7 ACSS conductor shielded by (1) SFSJ-J-6641 OPGW and (1) 7#9 Alumoweld wire for 0.5 miles. This project replaces limiting substation conductors, (1) 138 kV circuit breaker, and (2) 138 kV disconnect switches at Redbud 138 kV Substation to match the ratings of the new conductor.
Tower line characteristics	The existing line is constructed on single circuit wood multi-pole structures in a horizontal configuration. Due to an increase in conductor size from 556.5 ACSR to 795 ACSS 45/7, it is assumed that a full rebuild of the existing line will be required. The potential of reusing the existing structures was not evaluated. The new structures will be steel H-Frame structures.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	138.000000	138.000000
	Normal ratings	Emergency ratings
Summer (MVA)	435.000000	500.000000
Winter (MVA)	435.000000	526.000000

Conductor size and type	795 KCMIL 45/7 ACSS
Shield wire size and type	SFSJ-J-6641 OPGW and 7#9 Alumoweld wire
Rebuild line length	0.5 miles
Rebuild portion description	Rebuild new Redbud McCanns Rd 138 kV Line with 795 KCMIL 45/7 ACSS for 0.5 miles from Redbud 138 kV Substation to Str. 175 of the existing Redbud - West Winchester 138 kV Line at approximate coordinates (39.217478, -78.128621).
Right of way	It is assumed all construction work areas (including wire-pulling sites) are located within the ROW. A rights and restrictions review by Real Estate will be required. Georeferenced ROW extents will be required to be provided to engineering.
Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information

Component Cost Details - In Current Year $

Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$5,038,249.99
Component cost (in-service year)	$5,524,125.00

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
2025W1-N11-WT24	235502	01REDBUD	235519	01W WINC	1	138	201	N-1-1 Thermal	Excluded
2025W1-N11-WT23	235457	01DTG	235474	01GREENW	1	138	201	N-1-1 Thermal	Excluded
2025W1-N11-ST8	235457	01DTG	235474	01GREENW	1	138	201	N-1-1 Thermal	Excluded
2025W1-N11-ST7	235502	01REDBUD	235519	01W WINC	1	138	201	N-1-1 Thermal	Excluded
2025W1-N11-WLD1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N-1-1 Load Drop	Included
2025W1-N11-WLD2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N-1-1 Load Drop	Included

New Flowgates

Confidential Information

Financial Information

Capital spend start date	12/2025
Construction start date	07/2029
Project Duration (In Months)	54

Additional Comments

None