Black Oak - Bismark 500kV Transmission Project

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?	
Company proposal ID	Confidential Information
PJM Proposal ID	547
Project title	Black Oak - Bismark 500kV Transmission Project
Project description	The Black Oak - Bismark 500kV Transmission Project will include a new 500kV Transmission Line connecting to new line positions at Black Oak Substation and Bismark Substation.
Email	
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	Confidential Information

Project Components

1. Black Oak - Bismark 500kV Transmission Line
2. Black Oak 500kV Substation Upgrade
3. Bismark 500kV Substation Upgrade

Greenfield Transmission Line Component

Component title	Black Oak - Bismark 500kV Transmission Line

Project description	
Point A	Black Oak
Point B	Bismark
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	4330.000000	4330.000000
Winter (MVA)	4330.000000	4330.000000

Conductor size and type	Triple Bundle 954 "Cardinal" ACSS
Nominal voltage	AC
Nominal voltage	500
Line construction type	Overhead
General route description	See Routing Map attachment for information on the general project route. Most high-voltage transmission projects will require a state siting approval. To begin the siting approval process, Central Transmission plans to hold pre-application meetings with the regulatory agency to introduce Central Transmission and the Project, as well as confirm its understanding of the process. Shortly thereafter, Central Transmission will simultaneously begin collecting siting data and start its outreach efforts so that public siting input is incorporated at the earliest stages of the Project. Once Central Transmission identifies a preferred site/route and at least one viable alternative site/route, Central Transmission will carry out the environmental and detailed engineering work in order to establish a highly- detailed Project plan to support the siting applications.
Terrain description	The terrain traversed by the project features forested hills.
Right-of-way width by segment	The project proposes to utilize a right-of-way width of 150 feet.
Electrical transmission infrastructure crossings	Electrical infrastructure crossings may be required depending on final line route. This will be coordinated during the detailed design process with the interconnection PTO.
Civil infrastructure/major waterway facility crossing plan	No civil infrastructure or major waterway crossings.

Environmental impacts	The proposed Project was sited to avoid and minimize impacts to wetlands or other areas of environmental concern based on GIS data. It is possible that the Project cannot avoid impacts to a limited number of wetlands and waterways. If so, Central Transmission expects the Project will be subject to regulation under certain permitting programs, namely Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 401 of the Clean Water Act. Central Transmission will engage a qualified consultant to conduct a wetlands delineation of the selected site/route in order to establish the extent of proposed impacts and the need for specific permits from the state or U.S. Army Corps of Engineers. In addition to the permits described above, Central Transmission has identified other permits which may be required for the construction of the Project. Central Transmission considers these permits to be minor due to the more limited effort to prepare applications and the less intensive permitting processes which follow. These include permits related to airspace clearance, stormwater/erosion and sedimentation control, road crossings, and utility and railroad crossings.
Tower characteristics	The preliminary design for the transmission line utilizes tubular steel monopole structures with a single circuit triple bundle, 954 "Cardinal" ACSS conductor in a vertical configuration and one optical groundwire.
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	$113,384,753.00
Component cost (in-service year)	$123,938,981.00

Substation Upgrade Component

Component title	Black Oak 500kV Substation Upgrade
Project description	
Substation name	Black Oak 500kV Substation
Substation zone	1203
Substation upgrade scope	The substation scope will involve adding two (2) new 5000A, 500kV breakers in a breaker and a half configuration to create a new line position for the new Black Oak 500kV transmission line. The new transmission line will connect to a new line position at Black Oak.

Transformer Information

None

New equipment description	500kV Circuit Breakers (2): 5000A continuous current rating 500kV Circuit Breaker Isolation Disconnect Switches & associated jumper assemblies: 5000A continuous current rating, 4330 MVA rating, and a short circuit current rating of 63kA.
Substation assumptions	It appears that the substation can be expanded to accommodate the new 500kV transmission line.
Real-estate description	The current substation extents should be able to accommodate the new transmission line position.
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	$2,641,655.00
Component cost (in-service year)	$2,887,548.00

Substation Upgrade Component

Component title	Bismark 500kV Substation Upgrade
Project description	
Substation name	Bismark 500kV Substation
Substation zone	366
Substation upgrade scope	The substation scope will involve adding one (1) new 6000A, 500kV breakers in a radial (straight bus) configuration to create a new line position for the new Bismark 500kV transmission line. The new transmission line will connect to a new line position at Bismark.

Transformer Information

None

New equipment description	500kV Circuit Breakers (1): 6000A continuous current rating 500kV Circuit Breaker Isolation Disconnect Switches & associated jumper assemblies: 6000A continuous current rating, 5196 MVA rating, and a short circuit current rating of 63kA.
Substation assumptions	It appears that the substation can be expanded to accommodate the new 500kV transmission line.
Real-estate description	The current substation extents should be able to accommodate the new transmission line position.
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	$1,761,103.00
Component cost (in-service year)	$1,925,032.00

Congestion Drivers

CD #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
ME-3	235479	01JUNCTN	235467	01FRNCHM	1	138	201	Market Efficiency	Included

Existing Flowgates

None

New Flowgates

Confidential Information

Financial Information

Capital spend start date	01/2022
Construction start date	01/2024
Project Duration (In Months)	41

Cost Containment Commitment

Cost cap (in current year)	Confidential Information
Cost cap (in-service year)	Confidential Information

Components covered by cost containment

1. Black Oak - Bismark 500kV Transmission Line - Proposer

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	No
Additional Information	Confidential Information
Is the proposer offering a binding cap on ROE?	No
Is the proposer offering a Debt to Equity Ratio cap?	Confidential Information

Additional Comments

None