

Brewster - Iron Man 69kV Transmission Project

General Information

Proposing entity name	Confidential Information
Company proposal ID	Confidential Information
PJM Proposal ID	185
Project title	Brewster - Iron Man 69kV Transmission Project
Project description	The Brewster - Iron Man 69kV Transmission Project will include a new 3-position substation interconnecting the West Wilmot - Beartown 69kV transmission line. The proposed project will include a new 69kV transmission line to connect the new substation with a new line position at the Brewster 69kV Substation.
Project in-service date	06/2024
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. Brewster 69kV Substation Upgrade
2. Brewster - Iron Man 69kV Transmission Line
3. Iron Man 69kV Transmission Interconnection
4. Iron Man 69kV Substation

Substation Upgrade Component

Component title	Brewster 69kV Substation Upgrade
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Substation name	Brewster 69kV Substation
Substation zone	1234
Substation upgrade scope	The substation scope will involve adding one (1) new 1200A, 69kV breaker in a radial (straight bus) configuration to create a new line position for the new Iron Man 69kV transmission line. The new transmission line will connect to the existing bus at Brewster.

Transformer Information

None	
New equipment description	69kV Circuit Breakers (1): 1200A continuous current rating 69kV Circuit Breaker Isolation Disconnect Switches & associated jumper assemblies: 1200A continuous current rating
Substation assumptions	It appears that the existing bus can be expanded to accommodate the new 69kV transmission line.
Real-estate description	The current substation extents should be able to accommodate the new transmission line position.
Construction responsibility	Confidential Information
Additional 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	\$561,351.00
Component cost (in-service year)	\$600,102.00

Greenfield Transmission Line Component

Component title Brewster - Iron Man 69kV Transmission Line

Point A Brewster

Point B Iron Man

Point C

	Normal ratings	Emergency ratings
Summer (MVA)	95.000000	118.000000
Winter (MVA)	95.000000	118.000000
Conductor size and type	336 "Oriole" ACSS TW	
Nominal voltage	AC	
Nominal voltage	69	
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 farmland.

Right-of-way width by segment The project proposes a right-of-way width of 50 feet.

Electrical transmission infrastructure crossings Electrical infrastructure crossings may be required depending on final line route and substation configuration at Brewster. 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 wood monopole structures with single circuit, single bundle 336 "Oriole" ACSS TW conductor in a delta configuration and a single optical groundwire.

Construction responsibility

Confidential Information

Additional 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

\$2,722,993.00

Component cost (in-service year) \$2,910,963.00

Transmission Line Upgrade Component

Component title Iron Man 69kV Transmission Interconnection

Impacted transmission line West Wilmot - Beartown

Point A Wilmot

Point B Beartown

Point C

Terrain description The terrain description is farmland.

Existing Line Physical Characteristics

Operating voltage 69

Conductor size and type N/A

Hardware plan description N/A

Tower line characteristics N/A

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	69.000000	69.000000
	Normal ratings	Emergency ratings
Summer (MVA)	71.000000	71.000000
Winter (MVA)	71.000000	71.000000
Conductor size and type	N/A	
Shield wire size and type	N/A	

Rebuild line length	<0.25 miles
Rebuild portion description	The existing line will be broken and new deadend towers installed to facilitate looping into the new Iron Man 69kV Substation.
Right of way	The existing right-of-way will be reused to facilitate the transmission interconnection facilities necessary to loop the lines into the new substation.
Construction responsibility	Confidential Information
Additional 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	\$255,554.00
Component cost (in-service year)	\$273,197.00

Greenfield Substation Component

Component title	Iron Man 69kV Substation
Substation name	Iron Man
Substation description	The proposed new Iron Man 69kV substation will be a three-position ring bus that will interconnect the existing West Wilmot to Beartown 69kV transmission line. The third position will connect to the new Brewster - Iron Man 69kV transmission line.

Nominal voltage AC
 Nominal voltage 69

Transformer Information

None

Major equipment description 69kV Circuit Breakers (3): 1600A continuous current rating 69kV Circuit Breaker Isolation Disconnect Switches & associated jumper assemblies: 1600A continuous current rating

	Normal ratings	Emergency ratings
Summer (MVA)	191.000000	191.000000
Winter (MVA)	191.000000	191.000000

Environmental assessment 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.

Outreach plan Central Transmission will identify and engage stakeholders, such as community officials and landowners within the Project area, early in the process and maintain an active dialogue throughout. Public meetings may be held to offer a venue for landowners and other interested community members to learn about the Project and for Central Transmission to learn more about specific landowner and community preferences. Central Transmission plans to make information available on its website and provide notification of public meetings to landowners within the Project area as required in the siting approval process.

Land acquisition plan

The Project will be located primarily on new right-of-way to be purchased by Central Transmission. In addition, Central Transmission will procure any necessary easements required to access the site. Central Transmission will assign a Right-of-Way Manager to oversee all real estate related activities for the Project including appraisals, title work, surveying, land acquisition and restoration. A right-of-way agent will contact the property owner(s) in person to explain the Project and, as necessary, secure permission to conduct surveys, archaeological studies, etc. The right-of-way agent will be the primary point of contact to negotiate with the property owner to acquire the substation site and any required easements on a mutually agreeable basis. To the extent that negotiations reach an impasse, Central Transmission will be able to pursue eminent domain. The right-of-way agents will continue to act as a liaison with the property owners during construction and through the restoration process.

Construction responsibility

Confidential Information

Additional 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

\$3,577,281.00

Component cost (in-service year)

\$3,824,221.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type
AMPT-O1	239767	02BREWSTR	239355	02HARMON	1	69	202	FERC 715

New Flowgates

Confidential Information

Financial Information

Capital spend start date 01/2022

Construction start date 01/2023

Project Duration (In Months) 29

Cost Containment Commitment

Cost cap (in current year) Confidential Information

Cost cap (in-service year) Confidential Information

Components covered by cost containment

1. Brewster - Iron Man 69kV Transmission Line - Proposer
2. Iron Man 69kV Substation - 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	Yes
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