Brewster Muni (Harmon) 69 kV - 2nd Source - Proposal #2

General Information

Proposing entity name	Information is considered confidential and proprietary.
Company proposal ID	Information is considered confidential and proprietary.
PJM Proposal ID	207
Project title	Brewster Muni (Harmon) 69 kV - 2nd Source - Proposal #2
Project description	Expand the Harmon 69 kV bus and add one 69 kV circuit breaker to provide a line exit to Brewster for a second 69 kV line. Build a new 69 kV line from Harmon to Brewster (Brewster-Harmon #2 69kV) in a different ROW and on independent structures than the existing Brewster-Harmon 69 kV line with 556 kcmil ACSR conductor, terminate the line just outside of the Brewster Muni substation at the customer dead end structure
Project in-service date	06/2024
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	Information is considered confidential and proprietary.

Project Components

1. Cloverdale-Harmon No 1 69 kV Line
2. Expand Harmon 69 kV Bus
3. Brewster-Harmon #2 Line

Transmission Line Upgrade Component

Component title	Cloverdale-Harmon No 1 69 kV Line
Impacted transmission line	Cloverdale-Harmon No 1 69 kV Line

Point A	Cloverdale
Point B	Harmon
Point C	
Terrain description	Relatively flat. Located on cleared substation property.

Existing Line Physical Characteristics

Operating voltage	69
Conductor size and type	477 kcmil 24/7 ACSR
Hardware plan description	Existing structures are 6 years old. Condition unknown.
Tower line characteristics	N/A

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	69.000000	69.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	80.000000	96.000000
Winter (MVA)	90.000000	114.000000
Conductor size and type	477 kcmil 24/7 ACSR	
Shield wire size and type	7#8 Alumoweld	
Rebuild line length	0.1 miles	

Rebuild portion description	Re-terminate the Cloverdale-Harmon No1 69kV line (1) substation bay to the East. The existing line is constructed on single circuit wood monopole structures. In order to shift the substation termination point (1) bay to the east and to allow for the use of existing substation assemblies the following items of work are required: - Remove (1) single circuit wood monopole deadend structure (TR-069030) - Remove approximately (0.1) miles of 477 kcmil 24/7 ACSR “Hawk” shielded by (1) 7#8 Alumoweld - Install (1) single circuit wood monopole deadend structure (TR-069030) approximately 20’ east of the existing structure location. - Install approximately (0.1) miles of 477 kcmil 24/7 ACSR “Hawk” shielded by (1) 7#8 Alumoweld - Assumed the existing conductors and shield wire are in good condition and can be transferred to the new structures. - Assumed the adjacent structure to the newly installed structures can take the change in loading for the new configuration. - Assumed no siting is required due to line voltage. - Assumed the Harmon and Cloverdale substations will need to remain energized during construction. Temporary construction may be required.
Right of way	Company fee owned property.
Construction responsibility	Information is considered confidential and proprietary.
Additional comments	N/A

Component Cost Details - In Current Year $

Engineering & design	Information is considered confidential and proprietary.
Permitting / routing / siting	Information is considered confidential and proprietary.
ROW / land acquisition	Information is considered confidential and proprietary.
Materials & equipment	Information is considered confidential and proprietary.
Construction & commissioning	Information is considered confidential and proprietary.
Construction management	Information is considered confidential and proprietary.
Overheads & miscellaneous costs	Information is considered confidential and proprietary.
Contingency	Information is considered confidential and proprietary.
Total component cost	$646,349.39
Component cost (in-service year)	$667,400.00

Substation Upgrade Component

Component title	Expand Harmon 69 kV Bus
Substation name	Harmon
Substation zone	ATSI
Substation upgrade scope	Expand the Harmon 69 kV bus and add one 69 kV circuit breaker to provide a new line exit to Brewster for a second 69 kV line.

Transformer Information

	Name	**Capacity (MVA)**	
Transformer	N/A	N/A	
	High Side	**Low Side**	**Tertiary**
Voltage (kV)	N/A	N/A	N/A

New equipment description	New 69 kV circuit breaker (3000 A, 40kA) Install (3) 69kV, 2000A hook-stick disconnect switches. Bus side disconnect switches already exist. Install (1) 69kV, 2000A GOAB switch for the transfer bus. Install (3) 69kV surge arresters Install (1) line relaying panel with dual SEL-421 relays and a SEL-501 BFT. Modifications to existing 69 kV Brewster No. 1 and Cloverdale No. 1 line relaying for position shifts on the box structure. Modifications to existing bus differential relaying for new breaker addition.
Substation assumptions	- No substation fence expansion needed. - Bus PTs to be reused
Real-estate description	All on company fee owned property. No new rights needed.
Construction responsibility	Information is considered confidential and proprietary.
Additional comments	Information is considered confidential and proprietary.

Component Cost Details - In Current Year $

Engineering & design	Information is considered confidential and proprietary.
Permitting / routing / siting	Information is considered confidential and proprietary.

ROW / land acquisition	Information is considered confidential and proprietary.
Materials & equipment	Information is considered confidential and proprietary.
Construction & commissioning	Information is considered confidential and proprietary.
Construction management	Information is considered confidential and proprietary.
Overheads & miscellaneous costs	Information is considered confidential and proprietary.
Contingency	Information is considered confidential and proprietary.
Total component cost	$1,030,234.71
Component cost (in-service year)	$1,058,600.00

Greenfield Transmission Line Component

Component title	Brewster-Harmon #2 Line
Point A	Brewster Muni
Point B	Harmon
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	111.000000	134.000000
Winter (MVA)	125.000000	159.000000

Conductor size and type	556.5 kcmil 26/7 ACSR conductor
Nominal voltage	AC
Nominal voltage	69
Line construction type	Overhead
General route description	Proposed route selected for estimate is purple colored route in attached kmz file.

Terrain description	Gently rolling. Primarily undeveloped forested or agricultural land use.
Right-of-way width by segment	New 60' wide independent right of way. Parallel use of shared corridor where available. Assumes voluntary and timely acquisition of all rights needed for project at cost commensurate with current market. Assume no condemnation. Two known railroad crossing permits required. See attached kmz and feasibility review files for additional details.
Electrical transmission infrastructure crossings	None
Civil infrastructure/major waterway facility crossing plan	See feasibility review file for details
Environmental impacts	Stormwater permit required. Wetland/Stream delineation will be completed. Assumes no wetland permit needed. Desktop review for sensitive habitats and cultural features. Assumes no significant findings.
Tower characteristics	Wood monopoles with steel monopoles utilized where wood pole/guying constraints have been identified.
Construction responsibility	Information is considered confidential and proprietary.
Additional comments	Information is considered confidential and proprietary.

Component Cost Details - In Current Year $

Engineering & design	Information is considered confidential and proprietary.
Permitting / routing / siting	Information is considered confidential and proprietary.
ROW / land acquisition	Information is considered confidential and proprietary.
Materials & equipment	Information is considered confidential and proprietary.
Construction & commissioning	Information is considered confidential and proprietary.
Construction management	Information is considered confidential and proprietary.
Overheads & miscellaneous costs	Information is considered confidential and proprietary.
Contingency	Information is considered confidential and proprietary.
Total component cost	$7,534,969.22
Component cost (in-service year)	$7,772,600.00

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

None

Financial Information

Capital spend start date	06/2022
Construction start date	06/2023
Project Duration (In Months)	24

Additional comments

None