

Clean Energy Gateway - Solution A

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	781
Project title	Clean Energy Gateway - Solution A
Project description	See BPU Supplemental Form.
Email	Confidential Information
Project in-service date	04/2028
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Confidential Information

Project Components

1. Lighthouse Substation
2. Gateway Substation
3. Lighthouse - Gateway 500kV Transmission Line #1
4. Well's Landing Substation
5. Crossroads Substation
6. Lighthouse - Crossroads 500kV Transmission Line #1

7. Gateway - Well's Landing 500kV Transmission Line Circuit #1
8. Gilbert - Springfield - Terminal Equipment Upgrades
9. Trenton - Devils Brook 230kV Transmission Interconnection
10. Trenton - Hunters Glen 230kV Transmission Interconnection
11. Deans - East Windsor 500kV Transmission Interconnection
12. Midpoint Reactor Station
13. Larrabee - Substation Interconnection
14. Lighthouse - Gateway 500kV Transmission Line #2
15. Lighthouse - Gateway 500kV Transmission Line #3
16. Lighthouse - Gateway 500kV Transmission Line #4
17. Gateway - Well's Landing 500kV Transmission Line #2
18. Lighthouse - Crossroads 500kV Transmission Line #2

Greenfield Substation Component

Component title	Lighthouse Substation
Project description	Confidential Information
Substation name	Lighthouse Substation
Substation description	The Lighthouse substation will connect submarine cables directly from wind farms or Option 2 proposals. The Lighthouse substation can accommodate up to fifteen (15) submarine cables. Cables can be either 275kV or 345kV. The substation will have four (4) power transformers to step the voltage up to 500kV. The 500kV yard will have four (4) connections to the Gateway 500kV substation and two (2) connections to the Crossroads 500 / 230kV substation. The Lighthouse substation has been designed with space for dynamic reactive support devices and harmonic filter banks necessary for offshore generators to meet power factor and harmonic mitigation requirements. Shunt reactor sizes to connect offshore generators will be determined once offshore wind farm locations are determined.
Nominal voltage	AC
Nominal voltage	500 / 345kV or 275kV

Transformer Information

	Name	Capacity (MVA)	
Transformer	Transformer #1	1640 / 2050	
	High Side	Low Side	Tertiary
Voltage (kV)	500	345 or 275	
	Name	Capacity (MVA)	
Transformer	Transformer #2	1640 / 2050	
	High Side	Low Side	Tertiary
Voltage (kV)	500	345 or 275	
	Name	Capacity (MVA)	
Transformer	Transformer #3	1640 / 2050	
	High Side	Low Side	Tertiary
Voltage (kV)	500	345 or 275	
	Name	Capacity (MVA)	
Transformer	Transformer #4	1640 / 2050	
	High Side	Low Side	Tertiary
Voltage (kV)	500	345 or 275	
Major equipment description	See BPU Supplemental Attachment.		
	Normal ratings	Emergency ratings	
Summer (MVA)	6600.000000	6600.000000	

Winter (MVA)	6600.000000	6600.000000
Environmental assessment	See BPU Supplemental Attachment Section VI & VII.	
Outreach plan	See BPU Supplemental Attachment Section VI & VII.	
Land acquisition plan	See BPU Supplemental Attachment Section VI & VII.	
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	\$198,499,572.00	
Component cost (in-service year)	\$224,151,604.00	

Greenfield Substation Component

Component title	Gateway Substation	
Project description	Confidential Information	
Substation name	Gateway 500kV Substation	

Substation description The Gateway Substation will interconnection four (4) circuits from the Lighthouse substation and two (2) circuits from the Well's Landing Substation. Gateway will have twelve (12) 500kV Gas-Insulated Circuit Breakers.

Nominal voltage AC

Nominal voltage 500

Transformer Information

None

Major equipment description Four (4) - 215MVAR 500kV Shunt Reactors Two (2) - 115MVAR 500kV Shunt Reactors Twelve (12) - 500kV GIS Circuit Breakers One (1) - +/- 450 MVAR STATCOM

	Normal ratings	Emergency ratings
Summer (MVA)	5190.000000	5190.000000
Winter (MVA)	5190.000000	5190.000000

Environmental assessment See BPU Supplemental Attachment Section VI & VII.

Outreach plan See BPU Supplemental Attachment Section VI & VII.

Land acquisition plan See BPU Supplemental Attachment Section VI & VII.

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	\$109,840,489.00
Component cost (in-service year)	\$126,288,958.00

Greenfield Transmission Line Component

Component title	Lighthouse - Gateway 500kV Transmission Line #1
Project description	Confidential Information
Point A	Lighthouse Substation
Point B	Gateway Substation
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	1125.000000	1609.000000
Winter (MVA)	1229.000000	1758.000000
Conductor size and type	2500mm ² - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Supplemental Attachment Section VI and Section VII.	
Terrain description	See BPU Supplemental Attachment Section VI and Section VII.	
Right-of-way width by segment	See BPU Supplemental Attachment Section VI and Section VII, specifically Attachment 6-3.	

Electrical transmission infrastructure crossings	See Attachment 6-3 of BPU Submittal Form.
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 and Attachment 6-6 of BPU Supplemental Attachment
Environmental impacts	See BPU Supplemental Attachment Section VII.
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.
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	\$246,198,809.00
Component cost (in-service year)	\$272,264,919.00
Greenfield Substation Component	
Component title	Well's Landing Substation
Project description	Confidential Information
Substation name	Well's Landing Substation

Substation description 500 / 230kV Gas-Insulated Substation. Two (2) 500kV underground cables connect from the Lighthouse substation and are transformed to 230kV. The 230kV substation will have eight (8) circuit breakers and will interconnect the Trenton - Devils Brook and Trenton - Hunters Glen 230kV transmission lines with the two (2) 500kV underground cable positions.

Nominal voltage AC

Nominal voltage 500 / 230 kV

Transformer Information

	Name	Capacity (MVA)		
Transformer	Well's Landing 500 / 230kV Transformer #00	1050	1050	0
		High Side	Low Side	Tertiary
Voltage (kV)		500	230	
Major equipment description	Two (2) 500kV GIS circuit breakers Two (2) 150 MVAR shunt reactors Two (2) 1050 MVA, 500 / 230kV Auto Transformers Eight (8) 230kV GIS circuit breakers			

	Normal ratings	Emergency ratings
Summer (MVA)	2387.000000	2387.000000
Winter (MVA)	2387.000000	2387.000000

Environmental assessment See BPU Supplemental Attachment Section VII.

Outreach plan See BPU Supplemental Attachment 6-4 - Stakeholder Engagement Plan

Land acquisition plan See BPU Supplemental Attachment 6-3 - Site Acquisition Plan

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	\$59,249,240.00
Component cost (in-service year)	\$69,283,988.00

Greenfield Substation Component

Component title	Crossroads Substation
Project description	Confidential Information
Substation name	Crossroads Substation
Substation description	500 / 230kV gas insulated substation. The substation will have two radial (2) 500kV circuit breakers (connecting to Lighthouse substation) with two (2) 500kV shunt reactors, on on each 500kV line. Each 500kV cable will be transformed to 230kV via a 500/230kV transformer. After transforming to 230kV each line will make a separate connection to the existing 230kV Larrabee substation.
Nominal voltage	AC
Nominal voltage	500 / 230kV

Transformer Information

	Name	Capacity (MVA)		
Transformer	Crossroads 500 / 230kV Transformer #1	1500 / 1800		
	High Side	Low Side		Tertiary

Voltage (kV)	500	230	
	Name	Capacity (MVA)	
Transformer	Crossroads 500 / 230kV Transformer	1200# / 1500 / 1800	
	High Side	Low Side	Tertiary
Voltage (kV)	500	230	
Major equipment description	Two (2) - 500kV GIS Circuit Breakers Two (2) - 230kV Circuit Breakers Two (2) - 500 / 230kV Transformers Two (2) - 500kV 150MVAR Shunt Reactors		
	Normal ratings	Emergency ratings	
Summer (MVA)	2400.000000	3600.000000	
Winter (MVA)	2400.000000	3600.000000	
Environmental assessment	See BPU Supplemental Attachment Section VII.		
Outreach plan	See BPU Supplemental Attachment 4-1 - Stakeholder Engagement Plan.		
Land acquisition plan	See BPU Supplemental Attachment 6-3 - Site Acquisition Plan.		
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	\$38,815,617.00
Component cost (in-service year)	\$43,005,274.00

Greenfield Transmission Line Component

Component title	Lighthouse - Crossroads 500kV Transmission Line #1
Project description	Confidential Information
Point A	Lighthouse Substation
Point B	Crossroads Substation
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	1229.000000	1758.000000
Winter (MVA)	1342.000000	1919.000000
Conductor size and type	2500mm ² - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII.	

Electrical transmission infrastructure crossings	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 of BPU Submittal Form.
Environmental impacts	See BPU Submittal Form Section VII.
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.
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	\$90,269,260.00
Component cost (in-service year)	\$100,343,978.00
Greenfield Transmission Line Component	
Component title	Gateway - Well's Landing 500kV Transmission Line Circuit #1
Project description	Confidential Information
Point A	Gateway 500kV
Point B	Well's Landing 500kV

Point C

	Normal ratings	Emergency ratings
Summer (MVA)	1229.000000	1758.000000
Winter (MVA)	1342.000000	1919.000000
Conductor size and type	2500mm ² - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.	
Electrical transmission infrastructure crossings	See Attachment 6-3 of BPU Submittal Form.	
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 and Attachment 6-6 of BPU Submittal Form.	
Environmental impacts	See BPU Submittal Form Section VII.	
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.	
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	\$72,789,862.00
Component cost (in-service year)	\$85,635,145.00

Transmission Line Upgrade Component

Component title	Gilbert - Springfield - Terminal Equipment Upgrades
Project description	Confidential Information
Impacted transmission line	Gilbert - Springfield Terminate Equipment Upgrade
Point A	Gilbert Substation
Point B	Springfield Substation
Point C	
Terrain description	N/A

Existing Line Physical Characteristics

Operating voltage	N/A
Conductor size and type	N/A
Hardware plan description	N/A
Tower line characteristics	N/A

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000

	Normal ratings	Emergency ratings
Summer (MVA)	0.000000	0.000000
Winter (MVA)	805.000000	1031.000000
Conductor size and type	N/A	
Shield wire size and type	N/A	
Rebuild line length	N/A	
Rebuild portion description	N/A	
Right of way	N/A	
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	\$99,750.00	
Component cost (in-service year)	\$110,559.00	

Transmission Line Upgrade Component

Component title	Trenton - Devils Brook 230kV Transmission Interconnection
Project description	Confidential Information
Impacted transmission line	Trenton - Devils Brook 230kV
Point A	Trenton
Point B	Devils Brook
Point C	
Terrain description	Agricultural Field

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	N/A
Hardware plan description	N/A
Tower line characteristics	N/A

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	731.000000	887.000000
Winter (MVA)	823.000000	980.000000
Conductor size and type	N/A	
Shield wire size and type	N/A	

Rebuild line length	N/A
Rebuild portion description	N/A
Right of way	N/A
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	\$671,013.00
Component cost (in-service year)	\$763,708.00

Transmission Line Upgrade Component

Component title	Trenton - Hunters Glen 230kV Transmission Interconnection
Project description	Confidential Information
Impacted transmission line	Trenton - Hunters Glen 230kV
Point A	Trenton
Point B	Hunters Glen

Point C		
Terrain description	Agricultural Field	
Existing Line Physical Characteristics		
Operating voltage	230kV	
Conductor size and type	N/A	
Hardware plan description	N/A	
Tower line characteristics	N/A	
Proposed Line Characteristics		
	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	731.000000	887.000000
Winter (MVA)	823.000000	980.000000
Conductor size and type	N/A	
Shield wire size and type	N/A	
Rebuild line length	N/A	
Rebuild portion description	N/A	
Right of way	N/A	
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	\$671,013.00
Component cost (in-service year)	\$763,651.00

Transmission Line Upgrade Component

Component title	Deans - East Windsor 500kV Transmission Interconnection
Project description	Confidential Information
Impacted transmission line	Deans - East Windsor 500kV Transmission Interconnection
Point A	Deans
Point B	East Windsor
Point C	
Terrain description	Agricultural Fields

Existing Line Physical Characteristics

Operating voltage	500kV
Conductor size and type	N/A
Hardware plan description	N/A
Tower line characteristics	N/A

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2656.000000	2983.000000
Winter (MVA)	2931.000000	2983.000000
Conductor size and type	N/A	
Shield wire size and type	N/A	
Rebuild line length	N/A	
Rebuild portion description	N/A	
Right of way	N/A	
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	\$1,282,050.00
Component cost (in-service year)	\$1,410,014.00

Greenfield Substation Component

Component title	Midpoint Reactor Station
Project description	Confidential Information
Substation name	Midpoint Reactor Station
Substation description	Eight (8) - 215MVAR Shunt Reactors for midpoint cable compensation
Nominal voltage	AC
Nominal voltage	500kV

Transformer Information

None

Major equipment description Eight (8) - 215MVAR Shunt Reactors

	Normal ratings	Emergency ratings
Summer (MVA)	1125.000000	1609.000000
Winter (MVA)	1229.000000	1758.000000
Environmental assessment	See BPU Supplemental Attachment Section VII.	
Outreach plan	See BPU Supplemental Attachment 6-4 - Stakeholder Engagement Plan	
Land acquisition plan	See BPU Supplemental Attachment 6-3 - Site Acquisition Plan	
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	\$42,665,649.00
Component cost (in-service year)	\$48,837,209.00

Substation Upgrade Component

Component title	Larrabee - Substation Interconnection
Project description	Confidential Information
Substation name	Larrabee 230kV
Substation zone	226
Substation upgrade scope	Add three (3) 230kV circuit breakers to the Larrabee 230kV substation to create two (2) new positions for the connections to Crossroads. To create these positions the western most main bus will need reconfigured as shown in the attached general arrangement drawing.

Transformer Information

None	
New equipment description	Three (3) 230kV circuit breakers - 5000A 63kA
Substation assumptions	Two bays appear available based on aerial imagery and current substation one-lines.

Real-estate description	
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	\$7,448,556.00
Component cost (in-service year)	\$8,301,189.00

Greenfield Transmission Line Component

Component title	Lighthouse - Gateway 500kV Transmission Line #2
Project description	Confidential Information
Point A	Lighthouse Substation
Point B	Gateway Substation
Point C	

Normal ratings

Emergency ratings

Summer (MVA)	1125.000000	1609.000000
Winter (MVA)	1229.000000	1758.000000
Conductor size and type	2500mm^2 - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.	
Electrical transmission infrastructure crossings	See Attachment 6-3 of BPU Submittal Form.	
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 and Attachment 6-6 of BPU Submittal Form.	
Environmental impacts	See BPU Submittal Form Section VII.	
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.	
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	\$246,198,810.00
Component cost (in-service year)	\$272,264,919.00

Greenfield Transmission Line Component

Component title	Lighthouse - Gateway 500kV Transmission Line #3
Project description	Confidential Information
Point A	Lighthouse Substation
Point B	Gateway Substation
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	1125.000000	1609.000000
Winter (MVA)	1229.000000	1758.000000
Conductor size and type	2500mm ² - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.	
Electrical transmission infrastructure crossings	See Attachment 6-3 of BPU Submittal Form.	

Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 and Attachment 6-6 of BPU Submittal Form.
Environmental impacts	See BPU Submittal Form Section VII.
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.
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	\$247,072,930.00
Component cost (in-service year)	\$286,486,602.00

Greenfield Transmission Line Component

Component title	Lighthouse - Gateway 500kV Transmission Line #4
Project description	Confidential Information
Point A	Lighthouse Substation
Point B	Gateway Substation
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	1125.000000	1609.000000
Winter (MVA)	1229.000000	1758.000000
Conductor size and type	2500mm^2 - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.	
Electrical transmission infrastructure crossings	See Attachment 6-3 of BPU Submittal Form.	
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 and Attachment 6-6 of BPU Submittal Form.	
Environmental impacts	See BPU Submittal Form Section VII.	
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.	
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	\$247,072,930.00
Component cost (in-service year)	\$286,468,602.00

Greenfield Transmission Line Component

Component title	Gateway - Well's Landing 500kV Transmission Line #2
Project description	Confidential Information
Point A	Gateway 500kV
Point B	Well's Landing 500kV
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	1229.000000	1758.000000
Winter (MVA)	1342.000000	1919.000000
Conductor size and type	2500mm ² - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.	

Electrical transmission infrastructure crossings	See Attachment 6-3 of BPU Submittal Form.
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 and Attachment 6-6 of BPU Submittal Form.
Environmental impacts	See BPU Submittal Form Section VII.
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.
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	\$72,789,858.00
Component cost (in-service year)	\$85,635,145.00
Greenfield Transmission Line Component	
Component title	Lighthouse - Crossroads 500kV Transmission Line #2
Project description	Confidential Information
Point A	Lighthouse Substation
Point B	Crossroads Substation

Point C

	Normal ratings	Emergency ratings
Summer (MVA)	1229.000000	1758.000000
Winter (MVA)	1342.000000	1919.000000
Conductor size and type	2500mm^2 - XLPE Copper Milliken Shape	
Nominal voltage	AC	
Nominal voltage	500kV	
Line construction type	Underground	
General route description	See BPU Submittal Form Section VI and Section VII.	
Terrain description	See BPU Submittal Form Section VI and Section VII.	
Right-of-way width by segment	See BPU Submittal Form Section VI and Section VII.	
Electrical transmission infrastructure crossings	See BPU Submittal Form Section VI and Section VII, specifically Attachment 6-3.	
Civil infrastructure/major waterway facility crossing plan	See Attachment 6-3 of BPU Submittal Form.	
Environmental impacts	See BPU Submittal Form Section VII.	
Tower characteristics	Cables will be contained within buried duct banks. See Attachment 3-5 of the BPU Submittal Form.	
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	\$90,269,253.00
Component cost (in-service year)	\$100,343,978.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
28-GD-S2-W9	232012	HOPE CREEK	232014	LSPWR CABLE	1	230	225	Gen Deliv (winter)	Included
28-GD-S2-W9	232012	HOPE CREEK	232014	LSPWR CABLE	2	230	225	Gen Deliv (winter)	Included
28-GD-S2-W9	232014	LSPWR CABLE	232013	SILVER RUN	1	230	225	Gen Deliv (winter)	Included
28-GD-S2-S8	206302	28OYSTER C	206297	28MANITOU	1	230	228	Gen Deliv (Summer)	Included
28-GD-S2-S9	206302	28OYSTER C	206297	28MANITOU	1	230	228	Gen Deliv (Summer)	Included
28-GD-S2-S11	206302	28OYSTER C	206297	28MANITOU	2	230	228	Gen Deliv (Summer)	Included
28-GD-W18	206236	28GILBERT	208091	SFLD	1	230	228/229	Gen Deliv (winter)	Included
35-GD-S2-W18	206236	28GILBERT	208091	SFLD	1	230/230	228/229	Gen Deliv (winter)	Included
28-GD-S66	206316	28WINDSOR	219752	CLRKSVLL_1	1	230	228/231	Gen Deliv (Summer)	Included
28-GD-S2-S3	206316	28WINDSOR	219752	CLRKSVLL_1	1	230	228/231	Gen Deliv (Summer)	Included
28-GD-S72	219104	CLRKSVLL_2	217150	LAWRENCE	1	230	231	Gen Deliv (Summer)	Included
28-GD-L14	218306	DEANS	218304	BRUNSWCK	1	230	231	Light Load - Gen Deliv	Included
35-GD-L14	218306	DEANS	218304	BRUNSWCK	1	230	231	Light Load - Gen Deliv	Included
28-GD-S64	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (Summer)	Included
28-GD-S65	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (Summer)	Included

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
28-GD-W109	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-W108	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-W3	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-W8	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-W6	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-S2-S1	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (Summer)	Included
28-GD-S2-S2	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (Summer)	Included
28-GD-S2-W7	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-S2-W6	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-S2-W9	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-S2-W9	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-S2-W9	218306	DEANS	218304	BRUNSWCK	1	230	231	Gen Deliv (winter)	Included
28-GD-S73	200006	DEANS C	218306	DEANS	3	500/230	231	Gen Deliv (Summer)	Included
35-GD-S2-W1	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (winter)	Included
35-GD-S2-W1	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (winter)	Included
35-GD-S2-W1	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (winter)	Included
35-GD-W4	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (winter)	Included
35-GD-W7	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (winter)	Included
35-GD-W9	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (winter)	Included
35-GD-S2-S2	218306	DEANS	218304	BRUNSWCK	1	230/230	231/231	Gen Deliv (Summer)	Included
28-GD-S2-S1	227900	CARDIFF C	219100	NEWFRDM	1	230	231/234	Gen Deliv (Summer)	Included
28-GD-S2-W1	227900	CARDIFF C	219100	NEWFRDM	1	230	231/234	Gen Deliv (winter)	Included
28-GD-S2-W1	227900	CARDIFF C	219100	NEWFRDM	1	230	231/234	Gen Deliv (winter)	Included
28-GD-S2-W1	227900	CARDIFF C	219100	NEWFRDM	1	230	231/234	Gen Deliv (winter)	Included
28-GD-S2-W1	227900	CARDIFF C	219100	NEWFRDM	1	230	231/234	Gen Deliv (winter)	Included
28-GD-S2-S1	227934	CARDIFF2	227945	LEWIS #2	1	138	234	Gen Deliv (Summer)	Included
28-GD-S2-S1	227945	LEWIS #2	227902	LEWIS #1	1	138	234	Gen Deliv (Summer)	Included
35-GD-S2-S8	227900	CARDIFF C	219100	NEWFRDM	1	230/230	234/231	Gen Deliv (Summer)	Included

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
35-GD-S2-W7	227900	CARDIFF C	219100	NEWFRDM	1	230/230	234/231	Gen Deliv (winter)	Included
35-GD-S2-W3	227900	CARDIFF C	219100	NEWFRDM	1	230/230	234/231	Gen Deliv (winter)	Included
35-GD-S2-W1	227900	CARDIFF C	219100	NEWFRDM	1	230/230	234/231	Gen Deliv (winter)	Included
35-GD-S2-W9	227900	CARDIFF C	219100	NEWFRDM	1	230/230	234/231	Gen Deliv (winter)	Included

New Flowgates

None

Financial Information

Capital spend start date 08/2022

Construction start date 02/2025

Project Duration (In Months) 68

Cost Containment Commitment

Cost cap (in current year) Confidential Information

Cost cap (in-service year) Confidential Information

Components covered by cost containment

1. Lighthouse Substation - Proposer
2. Gateway Substation - Proposer
3. Lighthouse - Gateway 500kV Transmission Line #1 - Proposer
4. Well's Landing Substation - Proposer
5. Crossroads Substation - Proposer
6. Lighthouse - Crossroads 500kV Transmission Line #1 - Proposer
7. Gateway - Well's Landing 500kV Transmission Line Circuit #1 - Proposer
8. Midpoint Reactor Station - Proposer

- 9. Lighthouse - Gateway 500kV Transmission Line #2 - Proposer
- 10. Lighthouse - Gateway 500kV Transmission Line #3 - Proposer
- 11. Lighthouse - Gateway 500kV Transmission Line #4 - Proposer
- 12. Gateway - Well's Landing 500kV Transmission Line #2 - Proposer
- 13. Lighthouse - Crossroads 500kV Transmission Line #2 - 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?	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?	Confidential Information
Additional cost containment measures not covered above	Confidential Information

Additional Comments

None