

Upgrades for Oceanview 2400 MW Injection

General Information

Proposing entity name	NEETMH
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	1A-O24
PJM Proposal ID	878
Project title	Upgrades for Oceanview 2400 MW Injection
Project description	Required upgrades to facilitate 2-O24 injection
Email	Johnbinh.Vu@nexteraenergy.com
Project in-service date	10/2025
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	

Project Components

1. Build one new Atlantic - Smithburg 230 kV OH circuit
2. Reconductor existing Windsor - Clarksville 230 kV OH line
3. Atlantic 230kV Substation Upgrade
4. Smithburg 230kV Substation Upgrade
5. Add 1x Phase Shifting Transformer (PST) at Raritan River substation for ...
6. Add 1x Phase Shifting Transformer (PST) at Raritan River substation for ...

- 7. Eliminate conditions (contingencies such as as "JC-P1-2-JCC-230-018") ...
- 8. Retire existing Larrabee - Atlantic 230 kV OH line
- 9. Build one new Larrabee - Oceanview sub 230 kV OH circuit

Transmission Line Upgrade Component

Component title	Build one new Atlantic - Smithburg 230 kV OH circuit
Project description	Add one new circuit from Atlantic - Smithburg utilizing open tower positions or by reconfiguring or rebuilding existing single circuit lines to include a new double-circuit in order to stay within the existing rights of way
Impacted transmission line	Atlantic to Smithburg 230 kV line
Point A	Atlantic
Point B	Smithburg
Point C	
Terrain description	Expect to utilize existing easements/utility owned property, no expansion is anticipated.

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	same as existing
Hardware plan description	Utilize existing line hardware to the extent practicable
Tower line characteristics	Utilize existing towers to the extent practicable

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	678.000000	813.000000

Winter (MVA)	805.000000	929.000000
Conductor size and type	2156 kcmil Bluebird ACSR: 1 conductor per bundle	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	23.58 mi	
Rebuild portion description	Proposing to add one new circuit from Atlantic - Smithburg utilizing open tower positions or by reconfiguring or rebuilding the existing lines to include the new circuit in order to stay within the existing ROW to achieve the specified rating.	
Right of way	Use of existing ROW, no expansion anticipated	
Construction responsibility	JCPL	
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process	
Component Cost Details - In Current Year \$		
Engineering & design	Confidential competitive information	
Permitting / routing / siting	Confidential competitive information	
ROW / land acquisition	Confidential competitive information	
Materials & equipment	Confidential competitive information	
Construction & commissioning	Confidential competitive information	
Construction management	Confidential competitive information	
Overheads & miscellaneous costs	Confidential competitive information	
Contingency	Confidential competitive information	
Total component cost	\$58,952,000.00	
Component cost (in-service year)	\$63,809,000.00	
Transmission Line Upgrade Component		
Component title	Reconductor existing Windsor - Clarksville 230 kV OH line	

Project description	Reconductor existing Windsor - Clarksville 230 kV line to following ratings - Summer Normal:812 MVA Summer Emergency: 975 MVA
Impacted transmission line	Windsor to Clarksville Bus Section 1 230 kV line
Point A	Windsor
Point B	Clarksville
Point C	
Terrain description	Expect to utilize existing easements/utility owned property, no expansion is anticipated

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	Same as existing
Hardware plan description	Utilize existing line hardware to extent practicable
Tower line characteristics	Utilize existing towers to extent practicable

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	812.000000	975.000000
Winter (MVA)	852.000000	1020.000000
Conductor size and type	1033.5 kcmil Snowbird ACSS: 1 conductor per bundle	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	7.75	
Rebuild portion description	Proposing to reconductor the entire line (or necessary portion) to achieve the specified rating	

Right of way	Use of existing ROW, no expansion anticipated
Construction responsibility	JCPL
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process

Component Cost Details - In Current Year \$

Engineering & design	Confidential competitive information
Permitting / routing / siting	Confidential competitive information
ROW / land acquisition	Confidential competitive information
Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information
Contingency	Confidential competitive information
Total component cost	\$10,081,000.00
Component cost (in-service year)	\$10,912,000.00

Substation Upgrade Component

Component title	Atlantic 230kV Substation Upgrade
Project description	Add one 230 kV line termination at Atlantic, or reconfigure the existing substation to breaker and a half with 9 positions (10 existing CB + 4 new CB)
Substation name	Atlantic 230 kV
Substation zone	JCPL
Substation upgrade scope	Add one 230 kV line termination at Atlantic, or reconfigure the existing substation to a breaker and a half with 9 positions (10 existing CB + 4 new CB)

Transformer Information

None

New equipment description	Add one 230 kV line termination at Atlantic, or reconfigure the existing substation to the breaker and a half with 9 positions (10 existing CB + 4 new CB)
Substation assumptions	Use available space to rebuild the sub
Real-estate description	No expansion of substation fence anticipated
Construction responsibility	JCPL
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process

Component Cost Details - In Current Year \$

Engineering & design	Confidential competitive information
Permitting / routing / siting	Confidential competitive information
ROW / land acquisition	Confidential competitive information
Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information
Contingency	Confidential competitive information
Total component cost	\$13,983,000.00
Component cost (in-service year)	\$15,135,000.00

Substation Upgrade Component

Component title	Smithburg 230kV Substation Upgrade
Project description	Add one new line position (2 CBs) at Smithburg substation to land the new Atlantic -Smithburg 230 kV OH circuit

Substation name	Smithburg 230 kV
Substation zone	JCPL
Substation upgrade scope	Add one new line position (2 CBs) at Smithburg substation to land the new Atlantic -Smithburg 230 kV OH circuit

Transformer Information

None	
New equipment description	AC Substation : Upgrade - add one line position
Substation assumptions	Open positions available per TO provided one-lines
Real-estate description	No expansion of substation fence anticipated
Construction responsibility	JCPL
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process

Component Cost Details - In Current Year \$

Engineering & design	Confidential competitive information
Permitting / routing / siting	Confidential competitive information
ROW / land acquisition	Confidential competitive information
Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information
Contingency	Confidential competitive information
Total component cost	\$8,072,000.00
Component cost (in-service year)	\$8,737,000.00

Substation Upgrade Component

Component title	Add 1x Phase Shifting Transformer (PST) at Raritan River substation for Raritan River- Red Oak 230 OH line Circuit 1
Project description	Add 1x Phase Shifting Transformer (PST) at Raritan River substation for Raritan River- Red Oak 230 OH line Circuit 1
Substation name	Raritan River 230 kV
Substation zone	JCPL
Substation upgrade scope	Add 1x Phase Shifting Transformer at Raritan River substation to prevent downstream overload on Raritan River- Red Oak 230kV OH line (PSSE ID # : 206305- 206314 Circuit 1)

Transformer Information

	Name	Capacity (MVA)	
Transformer	Raritan River PST 1 (Ckt. 1)	766	
	High Side	Low Side	Tertiary
Voltage (kV)	230	230	
New equipment description	AC Substation : Phase Shifter		
Substation assumptions	Use available space in sub to add phase shifting transformer		
Real-estate description	No expansion of substation fence anticipated		
Construction responsibility	JCPL		
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process		
Component Cost Details - In Current Year \$			
Engineering & design	Confidential competitive information		
Permitting / routing / siting	Confidential competitive information		
ROW / land acquisition	Confidential competitive information		

Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information
Contingency	Confidential competitive information
Total component cost	\$15,000,000.00
Component cost (in-service year)	\$16,236,000.00

Substation Upgrade Component

Component title	Add 1x Phase Shifting Transformer (PST) at Raritan River substation for Raritan River- Red Oak 230 OH line Circuit 2
Project description	Add 1x Phase Shifting Transformer (PST) at Raritan River substation for Raritan River- Red Oak 230 OH line Circuit 2
Substation name	Raritan River 230 kV
Substation zone	JCPL
Substation upgrade scope	Add 1x Phase Shifting Transformers at Raritan River substation to prevent downstream overload on Raritan River- Red Oak 230kV OH line (PSSE ID # : 206305- 206315 Circuit 2)

Transformer Information

	Name	Capacity (MVA)	
Transformer	Raritan River PST 1 (Ckt. 2)	766	
	High Side	Low Side	Tertiary
Voltage (kV)	230	230	
New equipment description	AC Substation : Phase Shifter		
Substation assumptions	Use available space in sub to add phase shifting transformer		

Real-estate description	No expansion of substation fence anticipated
Construction responsibility	JCPL
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process

Component Cost Details - In Current Year \$

Engineering & design	Confidential competitive information
Permitting / routing / siting	Confidential competitive information
ROW / land acquisition	Confidential competitive information
Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information
Contingency	Confidential competitive information
Total component cost	\$15,000,000.00
Component cost (in-service year)	\$16,236,000.00

Transmission Line Upgrade Component

Component title	Eliminate conditions (contingencies such as as "JC-P1-2-JCC-230-018") which derate short-term winter emergency ratings of Smithburg - E. Windsor 230 kV OH line
Project description	Eliminate conditions (contingencies such as as "JC-P1-2-JCC-230-018") which derate short-term winter emergency ratings of Smithburg - E. Windsor 230 kV OH line
Impacted transmission line	Smithburg to E Windsor 230 kV OH line
Point A	Smithburg
Point B	E. Windsor
Point C	

Terrain description Expect to utilize existing easements/utility owned property, no expansion anticipated

Existing Line Physical Characteristics

Operating voltage 230
Conductor size and type Same as existing
Hardware plan description Utilize existing line hardware to extent practicable
Tower line characteristics Utilize existing towers to extent practicable

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	1245.000000	1394.000000
Winter (MVA)	1476.000000	1652.000000
Conductor size and type	Same as existing	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	N/A	
Rebuild portion description	Proposing to reconductor the entire line (or necessary portion) to achieve the specified rating	
Right of way	Use of existing ROW, no expansion anticipated	
Construction responsibility	JCPL	
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process	

Component Cost Details - In Current Year \$

Engineering & design Confidential competitive information
Permitting / routing / siting Confidential competitive information

ROW / land acquisition	Confidential competitive information
Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information
Contingency	Confidential competitive information
Total component cost	\$5,000,000.00
Component cost (in-service year)	\$5,410,000.00

Transmission Line Upgrade Component

Component title	Retire existing Larrabee - Atlantic 230 kV OH line
Project description	Retire existing Larrabee - Atlantic 230 kV OH line
Impacted transmission line	Atlantic to Larrabee 230 kV line
Point A	Atlantic
Point B	Larrabee
Point C	
Terrain description	Existing easements/utility owned property

Existing Line Physical Characteristics

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

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	0.000000	0.000000
	Normal ratings	Emergency ratings
Summer (MVA)	0.000000	0.000000
Winter (MVA)	0.000000	0.000000
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	JCPL	
Benefits/Comments	Needed for reliability	

Component Cost Details - In Current Year \$

Engineering & design	Confidential competitive information
Permitting / routing / siting	Confidential competitive information
ROW / land acquisition	Confidential competitive information
Materials & equipment	Confidential competitive information
Construction & commissioning	Confidential competitive information
Construction management	Confidential competitive information
Overheads & miscellaneous costs	Confidential competitive information

Contingency	Confidential competitive information
Total component cost	\$3,000,000.00
Component cost (in-service year)	\$3,247,000.00

Transmission Line Upgrade Component

Component title	Build one new Larrabee - Oceanview sub 230 kV OH circuit
Project description	Build one new Oceanview to Larrabee 230 kV OH circuit using the open position on existing Oceanview - Larrabee 230 kV tower
Impacted transmission line	Larrabee to Oceanview 230 kV line
Point A	Larrabee
Point B	Oceanview
Point C	
Terrain description	Expect to utilize existing easements/utility owned property, no expansion anticipated

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	Same as existing
Hardware plan description	Utilize existing line hardware to extent practicable
Tower line characteristics	Utilize existing towers to extent practicable

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	887.000000	1195.000000

Winter (MVA)	997.000000	1322.000000
Conductor size and type	2156 kcmil Bluebird ACSR:1C Bundle	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	16.6 miles	
Rebuild portion description	Proposing to add one new circuit from Larrabee to Oceanview utilizing open tower positions or by reconfiguring or rebuilding the existing lines to include the new circuit in order to stay within the existing ROW to achieve the specified rating.	
Right of way	Use of existing ROW, no expansion anticipated	
Construction responsibility	JCPL	
Benefits/Comments	Resolves reliability issues identified per PJM's Gen. Deliv. Process	
Component Cost Details - In Current Year \$		
Engineering & design	Confidential competitive information	
Permitting / routing / siting	Confidential competitive information	
ROW / land acquisition	Confidential competitive information	
Materials & equipment	Confidential competitive information	
Construction & commissioning	Confidential competitive information	
Construction management	Confidential competitive information	
Overheads & miscellaneous costs	Confidential competitive information	
Contingency	Confidential competitive information	
Total component cost	\$21,577,000.00	
Component cost (in-service year)	\$23,560,000.00	

Congestion Drivers

None

Existing Flowgates

None

New Flowgates

None

Financial Information

Capital spend start date 12/2022

Construction start date 12/2025

Project Duration (In Months) 34

Additional Comments

None