Oceanview 3,000 MW DC 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	2-O30
PJM Proposal ID	15
Project title	Oceanview 3,000 MW DC Injection
Project description	Two 1,500 MW HVDC Symmetrical Monopole systems connecting offshore platforms in the Hudson South lease area to a new Neptune 230 kV switchyard near the existing Oceanview 230 kV substation. Loop in the existing Oceanview-Atlantic 230 kV double circuit tower into Neptune 230 kV. Reterminate the Oceanview-Larrabee 230 kV line from Oceanview to the new Neptune 230 kV switchyard.
Email	Johnbinh.Vu@nexteraenergy.com
Project in-service date	06/2028
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	See Attachment 1, Section 3.4

Project Components

1. Offshore Platform A –Asbury Park Landing HVDC
2. Offshore Platform B –Asbury Park Landing HVDC
3. Asbury Park Landing – Neptune Converter Station HVDC

4. Offshore Platform A

5. Offshore Platform B

6. Neptune Converter Station

7. Loop in existing Atlantic - Oceanview 230 kV OH line Circuit X at NEETMA...

8. Loop in existing Atlantic - Oceanview 230 kV OH line Circuit Y at NEETMA...

9. Loop in existing Atlantic - Oceanview 230 kV OH line Circuit X at NEETM...

10. Loop in existing Atlantic - Oceanview 230 kV OH line Circuit Y at NEETM...

11. Reconductor and reterminate existing Larrabee - Oceanview 230 kV OH line

Greenfield Transmission Line Component

Component title	Offshore Platform A –Asbury Park Landing HVDC
Project description	Submarine HVDC Symmetrical monopole system from Offshore Platform A to Asbury Park Landing. NEETMA will deliver 1,500 MW at the onshore point of injection. Actual losses will be calculated based upon the exact location of the offshore platform and incorporated into the final cable design
Point A	Offshore Platform A
Point B	Asbury Park Landing
Point C	

	Normal ratings	**Emergency ratings**
Summer (MVA)	1500.000000	1500.000000
Winter (MVA)	1500.000000	1500.000000
Conductor size and type	2000mm2 copper	
Nominal voltage	DC	
Nominal voltage	400	
Line construction type	Submarine	
General route description	See Attachments 4, 19, and 22	

Terrain description	See Attachments 19 and 22
Right-of-way width by segment	See Attachments 4 and 22
Electrical transmission infrastructure crossings	See Attachment 7
Civil infrastructure/major waterway facility crossing plan	See Attachment 7
Environmental impacts	See Attachment 19
Tower characteristics	See Attachment 6
Construction responsibility	Proposer
Benefits/Comments	See Attachment 1, Section 3.4
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	$275,609,997.00
Component cost (in-service year)	$290,667,192.00

Greenfield Transmission Line Component

Component title	Offshore Platform B –Asbury Park Landing HVDC

Project description	Submarine HVDC Symmetrical monopole system from Offshore Platform B to Asbury Park Landing. NEETMA will deliver 1,500 MW at the onshore point of injection. Actual losses will be calculated based upon the exact location of the offshore platform and incorporated into the final cable design	
Point A	Offshore Platform B	
Point B	Asbury Park Landing	
Point C		
	Normal ratings	**Emergency ratings**
Summer (MVA)	1500.000000	1500.000000
Winter (MVA)	1500.000000	1500.000000
Conductor size and type	2000mm2 copper	
Nominal voltage	DC	
Nominal voltage	400	
Line construction type	Submarine	
General route description	See Attachments 4, 19, and 22	
Terrain description	See Attachments 19 and 22	
Right-of-way width by segment	See Attachments 4 and 22	
Electrical transmission infrastructure crossings	See Attachment 7	
Civil infrastructure/major waterway facility crossing plan	See Attachment 7	
Environmental impacts	See Attachment 19	
Tower characteristics	See Attachment 6	
Construction responsibility	Proposer	
Benefits/Comments	See Attachment 1, Section 3.4	

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	$303,069,119.00
Component cost (in-service year)	$318,789,001.00

Greenfield Transmission Line Component

Component title	Asbury Park Landing – Neptune Converter Station HVDC
Project description	Two terrestrial HVDC Symmetrical monopole systems in a common duct bank from Asbury Park Landing to Neptune Converter Station
Point A	Asbury Park Landing
Point B	Neptune Converter Station
Point C	

	Normal ratings	**Emergency ratings**
Summer (MVA)	1500.000000	1500.000000
Winter (MVA)	1500.000000	1500.000000
Conductor size and type	6000kcmil copper	

Nominal voltage	DC
Nominal voltage	400
Line construction type	Underground
General route description	See Attachments 4, 19, and 22
Terrain description	See Attachments 19 and 22
Right-of-way width by segment	See Attachments 4 and 22
Electrical transmission infrastructure crossings	See Attachment 7
Civil infrastructure/major waterway facility crossing plan	See Attachment 7
Environmental impacts	See Attachment 19
Tower characteristics	See Attachment 6
Construction responsibility	Proposer
Benefits/Comments	See Attachment 1, Section 3.4
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	$153,924,840.00

Component cost (in-service year)	$174,894,840.00

Greenfield Substation Component

Component title	Offshore Platform A
Project description	Offshore Platform A to collect offshore wind and deliver 1,500 MW at the point of injection at the Neptune Converter Station
Substation name	Offshore Platform A
Substation description	Offshore platform with an HVDC VSC technology converter station that will allow offshore wind generation to interconnect at 66 kV AC
Nominal voltage	DC
Nominal voltage	400

Transformer Information

	Name	**Capacity (MVA)**
Transformer	TBD	TBD

	High Side	**Low Side**	**Tertiary**
Voltage (kV)			

Major equipment description	Offshore platform with an HVDC VSC technology converter station that will allow offshore wind generation to interconnect at 66 kV AC

	Normal ratings	**Emergency ratings**
Summer (MVA)	0.000000	0.000000
Winter (MVA)	0.000000	0.000000

Environmental assessment	See Attachment 19
Outreach plan	See Attachment 12

Land acquisition plan	See Attachment 22
Construction responsibility	Proposer
Benefits/Comments	See Attachment 1, Section 3.4

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	$784,424,269.00
Component cost (in-service year)	$902,807,540.00

Greenfield Substation Component

Component title	Offshore Platform B
Project description	Offshore Platform B to collect offshore wind and deliver 1,500 MW at the point of injection at the Neptune Converter Station
Substation name	Offshore Platform B
Substation description	Offshore platform with an HVDC VSC technology converter station that will allow offshore wind generation to interconnect at 66 kV AC
Nominal voltage	DC
Nominal voltage	400

Transformer Information

	Name	Capacity (MVA)	
Transformer	TBD	TBD	
	High Side	**Low Side**	**Tertiary**
Voltage (kV)			
Major equipment description	Offshore platform with an HVDC VSC technology converter station that will allow offshore wind generation to interconnect at 66 kV AC		
	Normal ratings	**Emergency ratings**	
Summer (MVA)	0.000000	0.000000	
Winter (MVA)	0.000000	0.000000	
Environmental assessment	See Attachment 19		
Outreach plan	See Attachment 12		
Land acquisition plan	See Attachment 22		
Construction responsibility	Proposer		
Benefits/Comments	See Attachment 1, Section 3.4		
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	$784,419,409.00
Component cost (in-service year)	$902,802,680.00

Greenfield Substation Component

Component title	Neptune Converter Station
Project description	Onshore Converter station site with two 1,500 MW HVDC converters to connect to the existing 230 kV system to deliver 3,000 MW of offshore wind from Offshore Platforms A and B
Substation name	Neptune Converter Station
Substation description	Two HVDC VSC 1500 MW converters, tieing into a new 230 kV AC switchyard, with the existing 230 kV Atlantic-Oceanview lines looped in and re-termination of the existing 230 kV Larrabee-Oceanview into Neptune
Nominal voltage	AC
Nominal voltage	230

Transformer Information

None

Major equipment description	Two HVDC VSC 1500 MW converters, tieing into a new 230 kV AC switchyard, with the existing 230 kV Atlantic-Oceanview lines looped in and re-termination of the existing 230 kV Larrabee-Oceanview into Neptune

	Normal ratings	**Emergency ratings**
Summer (MVA)	0.000000	0.000000
Winter (MVA)	0.000000	0.000000

Environmental assessment	See Attachment 19

Outreach plan	See Attachment 12
Land acquisition plan	See Attachment 22
Construction responsibility	Proposer
Benefits/Comments	See Attachment 1, Section 3.4

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	$681,048,977.00
Component cost (in-service year)	$775,054,928.00

Transmission Line Upgrade Component

Component title	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit X at NEETMA proposed Neptune 230 kV substation and reconductor the line section from Atlantic to Neptune
Project description	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit X at NEETMA proposed Neptune 230 kV substation and reconductor the line section from Atlantic- Neptune
Impacted transmission line	Atlantic to New NEETMA Neptune substation 230 kV line
Point A	Atlantic
Point B	Neptune

Point C

Terrain description	Terrain is cleared land area in sub-urban settings. Cut-ins will occur on ROW/easements owned by incumbent, and substation will be constructed on property NEETMA will obtain site control for

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	New dead end structures will need to be installed in order to loop existing lines into the NEETMA Neptune substation

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1337.000000	1642.000000
Winter (MVA)	1403.000000	1720.000000
Conductor size and type	795 kcmil Drake ACSS/TW HS: 2C Bundle	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	4.76 miles	
Rebuild portion description	Construct new ~0.25 mi long 230 kV loop-ins to tie into the NEETMA Neptune AC substation	
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	$6,210,000.00
Component cost (in-service year)	$6,700,000.00

Transmission Line Upgrade Component

Component title	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit Y at NEETMA proposed Neptune 230 kV substation and reconductor the line section from Atlantic to Neptune
Project description	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit Y at NEETMA proposed Neptune 230 kV substation and reconductor the line section from Atlantic- Neptune
Impacted transmission line	Atlantic to New NEETMA-Neptune substation 230 kV line
Point A	Atlantic
Point B	Neptune
Point C	
Terrain description	Terrain is cleared land area in sub-urban settings. Cut-ins will occur on ROW/easements owned by incumbent, and substation will be constructed on property NEETMA will obtain site control for

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	New dead end structures will need to be installed in order to loop existing lines into the NEETMA Neptune substation

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1337.000000	1642.000000
Winter (MVA)	1403.000000	1720.000000

Conductor size and type	795 kcmil Drake ACSS/TW HS: 2C Bundle
Shield wire size and type	Utilize existing shield wire to extent practicable
Rebuild line length	4.76 miles
Rebuild portion description	Construct new ~0.25 mi long 230 kV loop-ins to tie into the NEETMA Neptune AC substation
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	$6,190,000.00
Component cost (in-service year)	$6,700,000.00

Transmission Line Upgrade Component

Component title	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit X at NEETMA proposed Neptune 230 kV substation and reconductor the line section from Neptune - Oceanview
Project description	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit X at Neptune and reconductor the line section from Neptune - Oceanview
Impacted transmission line	New NEETMA-Neptune substation to Oceanview 230 kV line
Point A	Neptune
Point B	Oceanview
Point C	
Terrain description	Terrain is cleared land area in sub-urban settings. Cut-ins will occur on ROW/easements owned by incumbent, and substation will be constructed on property NEETMA will obtain site control for

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	New dead end structures will need to be installed in order to loop existing lines into the NEETMA Neptune substation

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1322.000000	1600.000000
Winter (MVA)	1385.000000	1668.000000
Conductor size and type	2156 kcmil Bluebird ACSS/TW HS: 1C	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	0.3 miles	
Rebuild portion description	Construct new ~0.25 mi long 230 kV loop-ins to tie into the NEETMA Neptune AC substation	
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	$2,000,000.00
Component cost (in-service year)	$2,160,000.00

Transmission Line Upgrade Component

Component title	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit Y at NEETMA proposed Neptune 230 kV substation and reconductor the circuit section from Neptune - Oceanview 230 kV OH line circuit -Y
Project description	Loop in existing Atlantic - Oceanview 230 kV OH line Circuit Y at NEETMA proposed Neptune 230 kV substation and reconductor the line section from Neptune - Oceanview
Impacted transmission line	New NEETMA-Neptune substation to Oceanview 230 kV line
Point A	Neptune
Point B	Oceanview
Point C	
Terrain description	Terrain is cleared land area in sub-urban settings. Cut-ins will occur on ROW/easements owned by incumbent, and substation will be constructed on property NEETMA will obtain site control for

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	New dead end structures will need to be installed in order to loop existing lines into the NEETMA Neptune substation

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000

	Normal ratings	Emergency ratings
Summer (MVA)	1322.000000	1600.000000
Winter (MVA)	1385.000000	1668.000000
Conductor size and type	2156 kcmil Bluebird ACSS/TW HS: 1C	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	0.30 miles	
Rebuild portion description	Construct new ~0.25 mi long 230 kV loop-ins to tie into the NEETMA Neptune AC substation	
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	$2,000,000.00	
Component cost (in-service year)	$2,160,000.00	

Transmission Line Upgrade Component

Component title	Reconductor and reterminate existing Larrabee - Oceanview 230 kV OH line
Project description	Reconductor existing Larrabee - Oceanview 230 kV line, and reterminate the Oceanview end into NEETMA's new Neptune 230 kV substation
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, but new structures for retermination will utilize existing property owned by incumbent transmission owner

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)	1337.000000	1642.000000
Winter (MVA)	1403.000000	1720.000000
Conductor size and type	795 kcmil Drake ACSS/TW HS: 2C Bundle	

Shield wire size and type	Utilize existing shield wire to extent practicable
Rebuild line length	16.6 miles
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	$23,830,000.00
Component cost (in-service year)	$25,360,000.00

Congestion Drivers

None

Existing Flowgates

None

New Flowgates

None

Financial Information

Capital spend start date	01/2022
Construction start date	12/2025
Project Duration (In Months)	77

Cost Containment Commitment

Cost cap (in current year)	Confidential competitive information
Cost cap (in-service year)	Confidential competitive information

Components covered by cost containment

1. Offshore Platform A –Asbury Park Landing HVDC - Proposer
2. Offshore Platform B –Asbury Park Landing HVDC - Proposer
3. Asbury Park Landing – Neptune Converter Station HVDC - Proposer
4. Offshore Platform A - Proposer
5. Offshore Platform B - Proposer
6. Neptune Converter Station - 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 competitive 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 competitive information
Additional cost containment measures not covered above	

Additional Comments

None