Upgrades for Deans 6000 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-D60
PJM Proposal ID	651
Project title	Upgrades for Deans 6000 MW Injection
Project description	Upgrades for Deans 6000 MW Injection
Email	Johnbinh.Vu@nexteraenergy.com
Project in-service date	10/2025
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	

Project Components

1. Reconductor existing Deans - Brunswick 230 kV OH line
2. Reconductor existing Windsor - Clarksville 230 kV OH line
3. Reconductor existing Gilbert - Springfield 230 kV OH line
4. Reconductor existing Pierson Avenue H - Metuchen 230 kV OH line
5. Increase Deans 500/230 Transformer (ID '3') ratings
6. Put Smithburg 500/230 kV Spare Transformer (ID '1') in service

7. Add 1x Phase Shifting Transformer (PST) at Aldene 230kV substation

8. Increase existing Linden Bergen_4 - Bergen_R 138 kV bus section ratings

Transmission Line Upgrade Component

Component title	Reconductor existing Deans - Brunswick 230 kV OH line
Project description	Reconductor existing Deans - Brunswick 230 kV OH line
Impacted transmission line	Deans - Brunswick 230 kV
Point A	Deans
Point B	Brunswick
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)	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	3.6 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	PSEG
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	$4,680,000.00
Component cost (in-service year)	$5,070,000.00

Transmission Line Upgrade Component

Component title	Reconductor existing Windsor - Clarksville 230 kV OH line
Project description	Reconductor existing Windsor - Clarksville 230 kV OH line
Impacted transmission line	Windsor to Clarksville Bus Section 1 230 kV line

Point A	Windsor
Point B	Clarksville Bus Section 1
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)	812.000000	975.000000
Winter (MVA)	852.000000	1020.000000
Conductor size and type	1033.5 kcmil Snowbird ACSS: 1C Bundle	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	7.75 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	$10,090,000.00
Component cost (in-service year)	$10,910,000.00

Transmission Line Upgrade Component

Component title	Reconductor existing Gilbert - Springfield 230 kV OH line
Project description	Reconductor existing Gilbert - Springfield 230 kV OH line
Impacted transmission line	Gilbert to Springfield 230 kV line
Point A	Gilbert
Point B	Springfield
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)	799.000000	963.000000
Winter (MVA)	837.000000	1008.000000

Conductor size and type	1033.5 kcmil Curlew ACSS HS: 1C Bundle
Shield wire size and type	Utilize existing shield wire to extent practicable
Rebuild line length	11.95 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	$15,530,000.00
Component cost (in-service year)	$16,810,000.00

Transmission Line Upgrade Component

Component title	Reconductor existing Pierson Avenue H - Metuchen 230 kV OH line
Project description	Reconductor existing Pierson Avenue H - Metuchen 230 kV OH line
Impacted transmission line	Pierson Avenue H to Metuchen 230 kV line
Point A	Pierson Avenue H
Point B	Metuchen
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)	937.000000	1123.000000
Winter (MVA)	982.000000	1173.000000
Conductor size and type	1272 kcmil Bittern ACSS HS: 1C Bundle	
Shield wire size and type	Utilize existing shield wire to extent practicable	
Rebuild line length	0.35 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	PSEG	
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	$1,000,000.00	
Component cost (in-service year)	$1,080,000.00	

Substation Upgrade Component

Component title	Increase Deans 500/230 Transformer (ID '3') ratings
Project description	Increase Deans 500/230 Transformer (ID '3')
Substation name	Deans 500/230 kV
Substation zone	PSEG
Substation upgrade scope	Increase Deans 500/230 Transformer (ID '3') to following ratings : Summer Normal :987 MVA Summer Emergency : 1370 MVA

Transformer Information

	Name	Capacity (MVA)
Transformer	Increase Deans 500/230 Transformer (ID '3') ratings	987

	High Side	Low Side	Tertiary
Voltage (kV)	500	230	

New equipment description	AC Substation : Transformer
Substation assumptions	Transformer upgrade is feasible
Real-estate description	No expansion of substation fence anticipated
Construction responsibility	PSEG
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	$8,360,000.00
Component cost (in-service year)	$9,060,000.00

Substation Upgrade Component

Component title	Put Smithburg 500/230 kV Spare Transformer (ID '1') in service
Project description	Put Smithburg 500/230 kV Spare Transformer (ID '1') in service
Substation name	Smithburg 500/230 kV
Substation zone	JCPL
Substation upgrade scope	Put Smithburg 500/230 kV Spare Transformer (ID '1') in service

Transformer Information

	Name	Capacity (MVA)
Transformer	Put Smithburg 500/230 kV Spare Transformer (ID '1') in service	1356

	High Side	Low Side	Tertiary
Voltage (kV)	500	230	
New equipment description	AC Substation : Transformer		
Substation assumptions	Transformer upgrade is feasible		
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	$11,510,000.00
Component cost (in-service year)	$12,450,000.00

Substation Upgrade Component

Component title	Add 1x Phase Shifting Transformer (PST) at Aldene 230kV substation
Project description	Add 1x Phase Shifting Transformer (PST) at Aldene substation in series with Aldene-Springfield Road 230 kV Bus Section 2
Substation name	Aldene 230 kV
Substation zone	PSEG
Substation upgrade scope	Add 1x Phase Shifting Transformers at Aldene substation in series with Aldene-Springfield Road 230 kV Bus Section 2

Transformer Information

Name	Capacity (MVA)

Transformer	Aldene 230 kV PST	766	
	High Side	**Low Side**	**Tertiary**
Voltage (kV)	230	230	
New equipment description	AC Substation : Phase Shifter		
Substation assumptions	Use available space in substation to add phase shifting transformer		
Real-estate description	No expansion of substation fence anticipated		
Construction responsibility	PSEG		
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	$2,500,000.00		
Component cost (in-service year)	$2,710,000.00		

Substation Upgrade Component

Component title	Increase existing Linden Bergen_4 - Bergen_R 138 kV bus section ratings

Project description	Increase existing Linden Bergen_4 - Bergen_R 138 kV bus sections
Substation name	Bergen 138 kV
Substation zone	PSEG
Substation upgrade scope	Upgrade the bus section or the line to obtain the desired rating

Transformer Information

	Name	Capacity (MVA)
Transformer	Increase existing Linden Bergen_4 - Bergen_R 138 kV bus section ratings	243

	High Side	Low Side	Tertiary
Voltage (kV)	138	138	

New equipment description	AC Substation : Busbar
Substation assumptions	Upgrade of bus section and desired line is feasible
Real-estate description	No expansion of substation fence anticipated
Construction responsibility	PSEG
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	$3,000,000.00
Component cost (in-service year)	$3,250,000.00

Congestion Drivers

None

Existing Flowgates

None

New Flowgates

None

Financial Information

Capital spend start date	12/2022
Construction start date	12/2022
Project Duration (In Months)	34

Additional Comments

None