

# Upgrades for Deans 4500 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-D45
PJM Proposal ID	315
Project title	Upgrades for Deans 4500 MW Injection
Project description	Upgrades for 2-D45 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. Add 1x Phase Shifting Transformer (PST) at Aldene 230kV substation
4. Increase existing Linden Bergen\_4 - Bergen\_R 138 kV bus section ratings
5. Eliminate conditions which derate the Smithburg-E. Windsor 230 kV line

## 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	Brunswick to Deans 230 kV line
Point A	Brunswick
Point B	Deans
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

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	230.000000	230.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1081.000000	1315.000000
Winter (MVA)	1133.000000	1374.000000
Conductor size and type	1590 kcmil Falcon ACSS/TW HS: 1C Bundle	
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**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	230.000000	230.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
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

### 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 Bus Section 2 230 kV line
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 Bus Section 2 230 kV line

### Transformer Information

	Name	Capacity (MVA)	
Transformer	Aldene 230 kV PST	766	
	<b>High Side</b>	<b>Low Side</b>	<b>Tertiary</b>
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	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	\$15,000,000.00
Component cost (in-service year)	\$16,240,000.00

**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

	<b>Name</b>	<b>Capacity (MVA)</b>	
Transformer	Increase existing Linden Bergen_243	Bergen_R 138 kV bus section ratings	
	<b>High Side</b>	<b>Low Side</b>	<b>Tertiary</b>
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		
<b>Component Cost Details - In Current Year \$</b>			
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		

## Transmission Line Upgrade Component

Component title	Eliminate conditions which derate the Smithburg-E. Windsor 230 kV 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 down to 989 MVA from reported Winter Emergency : 1652 MVA. Existing Winter Normal rating: 1476 MVA
Impacted transmission line	Smithburg to East Windsor 230 kV line
Point A	Smithburg
Point B	E. Windsor
Point C	
Terrain description	Existing line to be uprated

### Existing Line Physical Characteristics

Operating voltage	230 kV
Conductor size and type	no change to existing conductor
Hardware plan description	Upgrade existing hardware to eliminate de-rating conditions
Tower line characteristics	Utilize existing towers to extent practicable

### Proposed Line Characteristics

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	230.000000	230.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1245.000000	1394.000000
Winter (MVA)	1476.000000	1652.000000
Conductor size and type	Same as existing	

Shield wire size and type	Same as existing
Rebuild line length	none
Rebuild portion description	eliminate conditions causing derate of the existing line
Right of way	no new ROW anticipated
Construction responsibility	JCPL
Benefits/Comments	

**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

**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