

# 69kV Circuit Reinforcement from Cedar Grove to Jackson Road

## General Information

Proposing entity name	Competitive and Confidential
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Competitive and Confidential
Company proposal ID	Competitive and Confidential
PJM Proposal ID	998
Project title	69kV Circuit Reinforcement from Cedar Grove to Jackson Road
Project description	Construct a new dual manhole and conduit system out of Jackson Rd on Madison Street to Riverview Drive. The existing E-759 would be reconfigured to utilize the new duct back to Jackson Rd. The existing N-664 would be rerouted underground between Rt. 80 and Rt. 46 off ramp. This would free up part of the existing E-759 and N-664 circuit to be reconfigured and tap into the I-633. The other new circuit of approximately 4.5mi would exit Jackson Road underground and rise up overhead before the Vreeland Ave Railroad Crossing. The circuit would then continue overhead on the other side of Riverview Drive to run a new pole line and create a new circuit between Jackson and Cedar Grove. Open positions will be utilized at Jackson Road and Cedar Grove to accommodate the new circuits. The breakers at Cedar Grove will need to be replaced with 3000A continuous 63kA fault duty breakers.
Email	Proposer contact information
Project in-service date	12/2027
Tie-line impact	No
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	Competitive and Confidential

## Project Components

1. New 69kV Line Connecting Jackson Road and Cedar Grove
2. Cedar Grove 69kV Station
3. Jackson Road 69kV Station
4. Reroute a Portion of the existing N-664 underground
5. Tap into the existing I-633 creating a 3-ended circuit
6. Customer Station
7. Reroute a Portion of the existing E-759 Underground

## Greenfield Transmission Line Component

Component title New 69kV Line Connecting Jackson Road and Cedar Grove

Project description Competitive and Confidential

Point A Cedar Grove 69kV Station

Point B Jackson Road 69kV Station

Point C

### Normal ratings

### Emergency ratings

Summer (MVA) 95.000000 131.500000

Winter (MVA) 128.500000 155.400000

Conductor size and type 800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)

Nominal voltage AC

Nominal voltage 69

Line construction type Overhead, Underground

General route description The route exits Jackson Road 69kV Station underground travels about 0.5mi before transitioning to overhead. The remaining 4 miles of the route are overhead until it reaches Cedar Grove 69kV Station where it transitions back to underground.

Terrain description The route is completely along existing roadways and within the public right-of-way.

Right-of-way width by segment	The route is completely along existing roadways and within the public right-of-way.
Electrical transmission infrastructure crossings	The route will require crossing an existing underground transmission circuit.
Civil infrastructure/major waterway facility crossing plan	Manhole and conduit will be installed for the underground portions of the circuit. The installation process will typically involve the following tasks: - Trench Excavation/Duct Bank Installation. - Splice Vault Excavation/Installation. At intervals along the cable route, areas will be excavated for the installation of below-grade of reinforced-concrete vaults, within which cable sections will be connected. - Proofing/Cable Installation. After successful proofing, the transmission cables will be installed and spliced within the vaults. Special Crossings: The route will need to cross the Passaic River and a railroad near Vreeland Ave. For both crossings, the team plans to install laminated poles for these crossings. If it is determined that laminated poles will not work for either or both crossings then monopole structures will be used.
Environmental impacts	A GIS analysis was performed to locate and avoid known public lands and environmentally sensitive areas for this project scope. NJDEP, FEMA, and NJGeoWeb data layers were reviewed as part of the proposed routing analysis. Upon award a detailed field based analysis will be completed. Field based delineations and assessments will include wetlands and streams delineations, and as applicable, habitat surveys and cultural resource studies. Construction timing will be scheduled in accordance with USFWS and NJDEP specifications to minimize adverse project impacts. At a minimum, approvals and permits are anticipated to be acquired from the NJDEP, NJDOT, Passaic County, local road opening permits, and HEP (Hudson, Essex Passaic) Soil Conservation District. Work will be planned and completed in accordance with the standards and specifications of applicable regulations and ordinances.
Tower characteristics	65 Foot to 95 foot Utility Wood Poles on the side of Public Right of Way with Open - Wire Armless Construction. Pole may have distribution under-build. At the special crossings at the Passaic River and the railroad, laminated poles will be used.
Construction responsibility	Competitive and Confidential
Benefits/Comments	Competitive and Confidential
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Competitive and Confidential
Permitting / routing / siting	Competitive and Confidential
ROW / land acquisition	Competitive and Confidential
Materials & equipment	Competitive and Confidential

Construction & commissioning	Competitive and Confidential
Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$35,444,008.86
Component cost (in-service year)	\$38,762,712.12

### **Substation Upgrade Component**

Component title	Cedar Grove 69kV Station
Project description	Competitive and Confidential
Substation name	Cedar Grove 69kV Station
Substation zone	PSEG
Substation upgrade scope	Replace (3) 72.5kV 40kA breakers with (3) 72.5 kV 63kA breakers. For the new 69kV line between Cedar Grove and Jackson Road. Replace the existing overhead termination structure with an underground termination structure. Replace line relay for the new 69kV line and the new extension.

### **Transformer Information**

None	
New equipment description	Install (3) 72.5kV 3000A 63kA AIS breakers.
Substation assumptions	This proposal assumes that all necessary outages will be available; existing AC, DC, and telecom. Systems will accommodate the new equipment; geotechnical data is available; new foundations will be required for the breaker replacements; the existing cable trench has space for the new cables; existing yard station equipment does not need to be replaced except for the associated relays.
Real-estate description	No additional property required in order to expand the existing station.
Construction responsibility	Competitive and Confidential
Benefits/Comments	Competitive and Confidential

### **Component Cost Details - In Current Year \$**

Engineering & design	Competitive and Confidential
Permitting / routing / siting	Competitive and Confidential
ROW / land acquisition	Competitive and Confidential
Materials & equipment	Competitive and Confidential
Construction & commissioning	Competitive and Confidential
Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$5,099,423.58
Component cost (in-service year)	\$5,576,894.22

### **Substation Upgrade Component**

Component title	Jackson Road 69kV Station
Project description	Competitive and Confidential
Substation name	Jackson Road 69kV Station
Substation zone	PSEG
Substation upgrade scope	For the new 69kV line between Cedar Grove and Jackson Road, installing a new UG termination structure. Replace line relay for the new 69kV line and the new extension

### **Transformer Information**

None	
New equipment description	Not Applicable

Substation assumptions	This proposal assumes that all necessary outages will be available; existing AC, DC, and telecom. Systems will accommodate the new equipment; Geotechnical data is available; New foundations will be required for the breaker replacements; The existing cable trench has space for the new cables; existing yard station equipment does not need to be replaced except for the associated relays.
Real-estate description	No additional property required in order to expand the existing station.
Construction responsibility	Competitive and Confidential
Benefits/Comments	Competitive and Confidential
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Competitive and Confidential
Permitting / routing / siting	Competitive and Confidential
ROW / land acquisition	Competitive and Confidential
Materials & equipment	Competitive and Confidential
Construction & commissioning	Competitive and Confidential
Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$1,279,708.70
Component cost (in-service year)	\$1,399,530.73
<b>Transmission Line Upgrade Component</b>	
Component title	Reroute a Portion of the existing N-664 underground
Project description	Competitive and Confidential
Impacted transmission line	N-664
Point A	Totowa 69kV Station

Point B	Jackson Road 69kV Station
Point C	
Terrain description	The route is completely along existing roadways and within the public right-of-way.
<b>Existing Line Physical Characteristics</b>	
Operating voltage	69
Conductor size and type	800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)
Hardware plan description	Existing Towers will be reused for other circuits. New Manhole and Conduit be be added.
Tower line characteristics	No New Towers.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	69.000000	69.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	95.000000	131.500000
Winter (MVA)	128.500000	155.400000
Conductor size and type	800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)	
Shield wire size and type	1/0 AAAC	
Rebuild line length	Approximately 0.25 mi Underground	
Rebuild portion description	Existing Portions: Section 1: Between intersection of Minnisink Road & Riverview Drive and Totowa Section 2: Between intersection of West End Road & Riverview Drive and Jackson Road to remain in place. Section between existing section 1 and 2 to be undergrounded.	
Right of way	No New Right-of-Way is required.	
Construction responsibility	Competitive and Confidential	

Benefits/Comments	Competitive and Confidential
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Competitive and Confidential
Permitting / routing / siting	Competitive and Confidential
ROW / land acquisition	Competitive and Confidential
Materials & equipment	Competitive and Confidential
Construction & commissioning	Competitive and Confidential
Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$6,169,414.43
Component cost (in-service year)	\$6,747,070.38

**Transmission Line Upgrade Component**

Component title	Tap into the existing I-633 creating a 3-ended circuit
Project description	Competitive and Confidential
Impacted transmission line	I-633
Point A	Cedar Grove 69kV Station
Point B	Jackson Road 69kV Station
Point C	Customer 69kV Station
Terrain description	The route is completely along existing roadways and within the public right-of-way.

**Existing Line Physical Characteristics**

Operating voltage	69
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Conductor size and type	800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)
Hardware plan description	N/A
Tower line characteristics	65 Foot to 95 foot Utility Wood Poles on the side of Public Right of Way with Open - Wire Armless Construction. Pole may have distribution under-build.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	69.000000	69.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	95.000000	131.500000
Winter (MVA)	128.500000	155.400000
Conductor size and type	800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)	
Shield wire size and type	1/0 AAAC	
Rebuild line length	N/A	
Rebuild portion description	There is an existing portion of the N-664 between intersection of Minnisink Rd & Riverview Dr to intersection of W End Ave & Riverview Dr and an existing portion of the E-759 between Vreeland Ave & Riverview Dr and Jackson Road 69kV Station that will be reused for this new circuit. In addition to the portions of overhead circuits that the project is reusing, about 1 mile of new overhead will be needed in order to connect to Jackson Road Station and tap into the existing I-633 at the intersection of Union Blvd and Riverview Dr.	
Right of way	No New Right of Way will be required	
Construction responsibility	Competitive and Confidential	
Benefits/Comments	Competitive and Confidential	
<b>Component Cost Details - In Current Year \$</b>		
Engineering & design	Competitive and Confidential	

Permitting / routing / siting	Competitive and Confidential
ROW / land acquisition	Competitive and Confidential
Materials & equipment	Competitive and Confidential
Construction & commissioning	Competitive and Confidential
Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$6,169,414.37
Component cost (in-service year)	\$6,747,070.38

### **Substation Upgrade Component**

Component title	Customer Station
Project description	Competitive and Confidential
Substation name	Customer Station
Substation zone	PSEG
Substation upgrade scope	Relay replacement

### **Transformer Information**

None	
New equipment description	Not Applicable
Substation assumptions	Customer will allow line relays to be replaced
Real-estate description	
Construction responsibility	Competitive and Confidential
Benefits/Comments	Competitive and Confidential

**Component Cost Details - In Current Year \$**

Engineering & design	Competitive and Confidential
Permitting / routing / siting	Competitive and Confidential
ROW / land acquisition	Competitive and Confidential
Materials & equipment	Competitive and Confidential
Construction & commissioning	Competitive and Confidential
Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$232,070.87
Component cost (in-service year)	\$253,799.91

**Transmission Line Upgrade Component**

Component title	Reroute a Portion of the existing E-759 Underground
Project description	Competitive and Confidential
Impacted transmission line	E-759
Point A	Customer 69kV Station
Point B	Jackson Road 69kV Station
Point C	
Terrain description	The route is completely along existing roadways and within the public right-of-way.

**Existing Line Physical Characteristics**

Operating voltage	69
Conductor size and type	800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)

Hardware plan description	Existing Towers will be reused. New Manhole and Conduct be be added.
Tower line characteristics	No New Towers.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	69.000000	69.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	95.000000	131.500000
Winter (MVA)	128.500000	155.400000
Conductor size and type	800 kcmil ACSR (OH) / 1500 kcmil EPR (UG)	
Shield wire size and type	1/0 AAAC	
Rebuild line length	0.5 mi	
Rebuild portion description	Underground approximately 0.5 miles of the existing E-759 69kV line near the intersection of Vreeland Ave and Riverview Dr to Jackson Road.	
Right of way	No New Right-of-Way is required.	
Construction responsibility	Competitive and Confidential	
Benefits/Comments	Competitive and Confidential	
<b>Component Cost Details - In Current Year \$</b>		
Engineering & design	Competitive and Confidential	
Permitting / routing / siting	Competitive and Confidential	
ROW / land acquisition	Competitive and Confidential	
Materials & equipment	Competitive and Confidential	
Construction & commissioning	Competitive and Confidential	

Construction management	Competitive and Confidential
Overheads & miscellaneous costs	Competitive and Confidential
Contingency	Competitive and Confidential
Total component cost	\$6,169,414.37
Component cost (in-service year)	\$6,747,070.38

## Congestion Drivers

None

## Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2023W2-PSEG-T1	18159	TOTOWA69	218196	JACKSON_69	1	69/69	231/231	FERC 715	Included
2023W2-PSEG-T2	18159	TOTOWA69	218196	JACKSON_69	1	69/69	231/231	FERC 715	Included
2023W2-PSEG-T3	18159	TOTOWA69	218196	JACKSON_69	1	69/69	231/231	FERC 715	Included
2023W2-PSEG-T22	18155	CEDARGROVE69	218760	DRTTOTOWA	1	69	231	FERC 715	Included
2023W2-PSEG-T12	18159	TOTOWA69	218196	JACKSON_69	1	69	231	FERC 715	Included
2023W2-PSEG-T42	18155	CEDARGROVE69	218760	DRTTOTOWA	1	69	231	FERC 715	Included
2023W2-PSEG-T32	18159	TOTOWA69	218760	DRTTOTOWA	1	69	231	FERC 715	Included
2023W2-PSEG-T62	18159	TOTOWA69	218196	JACKSON_69	1	69	231	FERC 715	Included
2023W2-PSEG-T52	18155	CEDARGROVE69	218161	GR NOTCH69	2	69	231	FERC 715	Included
2023W2-PSEG-T82	18159	TOTOWA69	218196	JACKSON_69	1	69	231	FERC 715	Included
2023W2-PSEG-T10	18159	TOTOWA69	218760	DRTTOTOWA	1	69	231	FERC 715	Included
2023W2-PSEG-T92	18155	CEDARGROVE69	218760	DRTTOTOWA	1	69	231	FERC 715	Included

## New Flowgates

Competitive and Confidential

## Financial Information

Capital spend start date	06/2024
Construction start date	01/2026
Project Duration (In Months)	42

## Additional Comments

All attachments included in this proposal are considered confidential.