

Edge Moor to Pedricktown Reliability Link

General Information

Proposing entity name	Confidential/proprietary information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	Confidential/proprietary information
PJM Proposal ID	808
Project title	Edge Moor to Pedricktown Reliability Link
Project description	The Edge Moor to Pedricktown Reliability Link (EPRL) is a proposed 5.88-mile, new underground and submarine 230kV AC transmission line connecting the Edge Moor Substation in Delaware and the Pedricktown Substation in New Jersey. In addition, EPRL includes expansions at both points of interconnection. While the proposed project will be physically located between Delaware and New Jersey, it is designed to address a projected 2031 reliability violation between Delco Tap Substation in PECO's Pennsylvania service territory and Mickleton Substation in Atlantic City Electric's New Jersey service territory and provide additional benefits in the E-MAAC region.
Email	Confidential/proprietary information
Project in-service date	06/2031
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Confidential/proprietary information

Project Components

1. Edge Moor to Pedricktown Reliability Link: Greenfield Line
2. Edge Moor Substation Expansion

3. Pedricktown Substation Expansion

Greenfield Transmission Line Component

Component title	Edge Moor to Pedricktown Reliability Link: Greenfield Line	
Project description	Construct a new underground and submarine 230kV transmission line between Edge Moor substation and Pedricktown Substation.	
Point A	Edge Moor Substation	
Point B	Pedricktown Substation	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	825.000000	1430.000000
Winter (MVA)	825.000000	1430.000000
Conductor size and type	The terrestrial cable shall be double circuit Single Core 5,000 kcmil CU, XLPE insulated. The submarine cable shall be double circuit Tri-core 5,000 kcmil CU, Non Magnetic Armour, SPB	
Nominal voltage	AC	
Nominal voltage	230	
Line construction type	Underground, Submarine	
General route description	The proposed transmission connection extends approximately 5.88 miles underground and submarine between Edge Moor Substation in New Castle County, Delaware, and Pedricktown Substation in Salem County, New Jersey. The proposed alignment was selected through multidisciplinary screening of environmental constraints, land and right-of-way requirements, constructability, infrastructure crossings, permitting, capital cost, schedule risk and long-term access. The route uses existing roadways, utility, industrial, and previously disturbed corridors where it is practicable to limit new corridor development and private-property impacts while accommodating construction and maintenance. Additional details on the proposed route can be found in the Routing and Environmental Analysis Attachment.	

Terrain description	The proposed route traverses a predominantly flat, low-relief coastal plain and tidal river environment. The terrestrial portion of the route includes industrial and utility settings, while the submarine portion crosses an active tidal and navigable environment. Additional details on the terrain can be found in the Routing and Environmental Analysis Attachment.
Right-of-way width by segment	For the terrestrial portion of the route, approximately 20-24-foot width will be necessary to perform construction activities. Upon completion, EPRL will require an approximately 15-25 feet wide permanent easement. The submarine portion will be approximately 100-feet wide upon project completion and during construction. Additional details on project width and construction requirements can be found in the Land Acquisition Plan by Segment and the Civil and Waterway Crossing and Construction Plan Attachments.
Electrical transmission infrastructure crossings	ACE Bridgeport to Pedricktown 230kV line, ACE Oldman to Nortonville 69kV line, ACE Pennsgrove to Oldman 69kV line
Civil infrastructure/major waterway facility crossing plan	EPRL combines terrestrial underground duct-bank construction, shore-based HDD installations, and a Delaware River submarine cable crossing. Terrestrial work will rely primarily on staged open-cut construction through private property, public roadways, with careful coordination around roadway authorities, utilities, rail interfaces, traffic control, and restoration. The waterway portion will use four shore HDDs, four transition vaults, and two continuous submarine cables installed through a combination of HDD conduits and jet-plow burial across the river. Additional details included in Civil and Waterway Crossing and Construction Plan Attachment.
Environmental impacts	EPRL has been planned to minimize environmental impacts by using existing roadways, previously disturbed areas, and underground/submarine construction methods. Based on the current alignment and available desktop review, no major permanent environmental impacts have been identified along the Project route. However, several sensitive environmental resources will require additional field verification and agency coordination. Potential impacts to wetlands, waterbodies, aquatic species, cultural resources, air quality, noise, and navigation are expected to be primarily temporary and localized, with final impacts to be confirmed through field studies, agency coordination, and permit review. The Project will implement appropriate avoidance, minimization, mitigation, restoration, and best management practices in accordance with applicable federal, state, and local regulatory requirements. Additional details on the environmental impacts of this project can be found in the Routing and Environmental Analysis Attachment.
Tower characteristics	Terrestrial Cable - The underground duct bank will accommodate six 230kV XLPE insulated cables. Dimensions are estimated to be 5' x 3.33' with a depth of 3.5' to the top of the duct bank. 2" conduits will also be included to accommodate any required earth continuity conductors (ECCs) or fiber cables. Concrete specifications will provide proper strength for the installation corridor with input from geotechnical investigations. Submarine Cable - The submarine cable will be installed via HDD bore to transition from land to the riverbed. The preliminary HDD design assumption includes the tri-core cable being pulled in a HDPE conduit. After the HDD, the cable transitions to direct burial in the riverbed via jet plow.

Construction responsibility	PROPOSER
Benefits/Comments	Confidential/proprietary information
Component Cost Details - In Current Year \$	
Engineering & design	Confidential/proprietary information
Permitting / routing / siting	Confidential/proprietary information
ROW / land acquisition	Confidential/proprietary information
Materials & equipment	Confidential/proprietary information
Construction & commissioning	Confidential/proprietary information
Construction management	Confidential/proprietary information
Overheads & miscellaneous costs	Confidential/proprietary information
Contingency	Confidential/proprietary information
Total component cost	\$292,391,841.60
Component cost (in-service year)	\$314,035,601.00
Substation Upgrade Component	
Component title	Edge Moor Substation Expansion
Project description	Construct a new underground and submarine 230 kV transmission line between the Edge Moor substation and the Pedricktown Substation, and upgrade/expand connecting substations.
Substation name	Edge Moor
Substation zone	289

Substation upgrade scope

Construction at Edge Moor Substation will establish a new 230kV breaker bay to receive the underground transmission connection. The work includes new circuit breakers and disconnect switch equipment, underground duct bank and transition facilities, bus work, galvanized steel supports, and concrete foundations. The existing 230kV bus will be modified to incorporate the new connection. A full breaker-and-a-half arrangement remains conditional on relocation of the spare main power transformer and confirmation of the final equipment layout. New primary and backup line protection panels will be installed within the existing control enclosure, with the required control, communications, and station power interfaces incorporated into the detailed design. Additional information can be found in the Edge Moor Civil Waterway Crossing and Construction Plan Attachment.

Transformer Information

None

New equipment description

New equipment for the additional EHV circuit includes: - One (1) new 230kV, 40 kAIC, 1200A continuous current, SF6 Gas circuit breakers. - Two (2) new 230kV, 1200A continuous current, 38kA Short Time & 99kA Peak withstand currents with motor operator - Three (3) new 140kV MCOV station class arresters - One (1) line relaying panel with dual 411L relays at each substation (if they want dual primary and backup line relaying it would likely be two (2) line relaying panels at each end with dual 411L and 311L), two (2) 230kV breaker panels at each substation, and modifications to the existing communication scheme to incorporate the new devices and alarms from the new breakers.

Substation assumptions

EPRL assumes the following scope items for the yard. These may be adjusted as more specific yard information is made available: 1. EHV breaker switches are assumed to have motor operators. 2. Only bus and equipment necessary to tie the below grade circuit to the existing yard will be added rather than maintaining the breaker-and-a-half scheme. 3. Completion of an additional bay may require relocation of an existing spare transformer in the yard's southwest corner. 4. No additional arresters to those on the riser structure at the circuit termination are needed. Other protection equipment will be determined during detailed design. 5. Location proposed for upgrade appears available 6. Some specific information, like new equipment ratings, may change during procurement process

Real-estate description	The Edge Moor Substation is located within an approximately 105.88-acre property at 200 Hay Road in Wilmington, Delaware. Public records show Calpine Mid Atlantic Generation LLC as owner of the generation facility, with the Edge Moor Substation owned by Delmarva Power and Light (DPL). Due to recent ownership activity involving the Edge Moor generation assets, current fee ownership and the appropriate property-rights counterparty will be confirmed through deed, parcel, and ownership research after award. Based on the current Project design, the proposed substation expansion can be accommodated within the existing property and acquisition of adjacent property is not anticipated. Once the expansion and construction footprint is sufficiently defined, coordination with the property owner will be initiated to identify, negotiate, and secure any new or amended property rights necessary for the proposed substation expansion, transmission facilities, construction access, and temporary workspace. Additional details can be found in the Edge Moor Real Estate Plan Attachment.
Construction responsibility	PROPOSER
Benefits/Comments	Confidential/proprietary information
Component Cost Details - In Current Year \$	
Engineering & design	Confidential/proprietary information
Permitting / routing / siting	Confidential/proprietary information
ROW / land acquisition	Confidential/proprietary information
Materials & equipment	Confidential/proprietary information
Construction & commissioning	Confidential/proprietary information
Construction management	Confidential/proprietary information
Overheads & miscellaneous costs	Confidential/proprietary information
Contingency	Confidential/proprietary information
Total component cost	\$9,189,883.25
Component cost (in-service year)	\$9,949,413.04
Substation Upgrade Component	
Component title	Pedricktown Substation Expansion

Project description	Construct a new underground and submarine 230 kV transmission line between the Edge Moor substation and the Pedricktown Substation, and upgrade/expand connecting substations.
Substation name	Pedricktown
Substation zone	277
Substation upgrade scope	Construction at Pedricktown Substation will integrate the new 230kV underground transmission connection into the existing energized facility through coordinated civil, structural, and electrical work. The work includes circuit breaker and disconnect switch equipment, underground cable transition structures, tubular and cable bus, galvanized steel supports, and deep foundations. The existing equipment arrangement will require evaluation of the H-frame/A-frame riser configuration and the structural capacity of existing framing proposed for reuse. Bus modifications and any temporary reconfiguration will be developed around approved outage windows. New line protection relays, communication processors, and testing panels will be installed in the existing control enclosure, subject to confirmation of available floor space, battery capacity, and HVAC capacity. Additional information is provided in the Pedricktown Civil Infrastructure and Major Waterway Crossing and Construction Plan Attachment.
Transformer Information	
None	
New equipment description	- Two (2) 230kV, 40 kAIC, 1200A continuous current, SF6 Gas circuit breakers.(One (1) new breaker, and one (1) relocated breaker) - Four (4) 230kV, 1200A continuous current, 38kA Short Time & 99kA Peak withstand currents with motor operator (Two (2) new switches, and two (2) relocated switches) - Three (3) new 140kV MCOV station class arresters - One (1) line relaying panel with dual 411L relays at each substation (if they want dual primary and backup line relaying it would likely be two (2) line relaying panels at each end with dual 411L and 311L), two (2) 230kV breaker panels at each substation, and modifications to the existing communication scheme to incorporate the new devices and alarms from the new breakers. Modifications to the existing EHV yard include: . Relocation of one (1) 230 kV EHV Breaker. . Relocation of two (2) 230 kV EHV Disconnect Switches and their steel supports. . Adjustment to rigid bus and bus supports.
Substation assumptions	EPRL assumes the following scope items for the yard based on limited site information. These may be adjusted as more specific yard information is made available. 1. EHV breaker switches are assumed to have motor operators. 2. The existing ring bus will be maintained after circuit addition. 3. No additional arresters to those on the riser structure at the circuit termination are needed. Other protection equipment will be determined during detailed design. 4. The existing control enclosure is sufficiently sized to house new panels without physical modification. 5. High levels of bus modification are required due to an assumption of high bus complexity. 6. Location proposed for upgrade appears available 7. Some specific information, like new equipment ratings, may change during procurement process

Real-estate description	The Pedricktown Substation is located within an approximately 97.11-acre industrial property at 70-76 Porcupine Road in Pedricktown, New Jersey. Available property information identifies Mexichem Specialty Resins, Inc. as the apparent property owner. Current fee ownership and the appropriate property-rights counterparty will be confirmed through deed, parcel, and ownership research. Based on the current Project design, the proposed substation expansion can be accommodated within the existing property and acquisition of adjacent property is not anticipated. Once the expansion and construction footprint is sufficiently defined, coordination with the property owner will be initiated to identify, negotiate, and secure any new or amended property rights necessary for the proposed substation expansion, transmission facilities, construction access, and temporary workspace. Additional details can be found in the Pedricktown Real Estate Attachment.
Construction responsibility	PROPOSER
Benefits/Comments	Confidential/proprietary information
Component Cost Details - In Current Year \$	
Engineering & design	Confidential/proprietary information
Permitting / routing / siting	Confidential/proprietary information
ROW / land acquisition	Confidential/proprietary information
Materials & equipment	Confidential/proprietary information
Construction & commissioning	Confidential/proprietary information
Construction management	Confidential/proprietary information
Overheads & miscellaneous costs	Confidential/proprietary information
Contingency	Confidential/proprietary information
Total component cost	\$10,139,391.78
Component cost (in-service year)	\$13,499,375.60
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
2026W1-GD-S302	213559	DELCOTAP	228401	MCKLTON	1	230	230/234	Summer Gen Deliv	Included
2026W1-GD-S560	213559	DELCOTAP	228401	MCKLTON	1	230	230/234	Summer Gen Deliv	Included
2026W1-GD-S304	213559	DELCOTAP	228401	MCKLTON	1	230	230/234	Summer Gen Deliv	Included
2026W1-GD-S303	213559	DELCOTAP	228401	MCKLTON	1	230	230/234	Summer Gen Deliv	Included
2026W1-GD-S305	213559	DELCOTAP	228401	MCKLTON	1	230	230/234	Summer Gen Deliv	Included

New Flowgates

None

Financial Information

Capital spend start date 04/2027

Construction start date 05/2029

Project Duration (In Months) 50

Cost Containment Commitment

Cost cap (in current year) Confidential/proprietary information

Cost cap (in-service year) Confidential/proprietary information

Components covered by cost containment

1. Edge Moor to Pedricktown Reliability Link: Greenfield Line - PROPOSER
2. Edge Moor Substation Expansion - PROPOSER
3. Pedricktown Substation Expansion - PROPOSER

Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	No
ROW / land acquisition	No
Materials & equipment	Yes
Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	Yes
Taxes	No
AFUDC	No
Escalation	Yes
Additional Information	Please see Cost Containment Legal Language Attachment.
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?	Yes
Additional cost containment measures not covered above	Please see Cost Containment Legal Language Attachment.

Additional Comments

We thank PJM for their consideration of the Edge Moor to Pedricktown Reliability Link Project. Please let us know if there are any questions.