

Clean Link New Jersey

General Information

Proposing entity name	COEDTR
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Yes
Company proposal ID	COEDTR-01
PJM Proposal ID	990
Project title	Clean Link New Jersey
Project description	Clean Link New Jersey is proposing a modular HVDC Power Corridor development to support the reliable and cost-effective delivery of the Offshore Wind resources to New Jersey consumers. Clean Link New Jersey's technical solution responds to Option 2 within PJM's proposal window, by providing new offshore transmission facilities to default Points of Interconnection ("POI") on the PJM operated grid within New Jersey. The project incorporates 8 transmission components as described in the components tab.
Email	Company policy. Please redact email address from public view.
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

The power corridor solution accommodates a coordinated approach to transmission from multiple projects, and the optionality of an offshore grid. This provides the opportunity to better manage costs and improve grid stability, while significantly reducing permitting and environmental impacts. Offshore, the CLNJ solution and the proposed offshore platform design allow the integration of our HVDC platforms at the AC side to create an offshore grid. Our HVDC platforms may also integrate with other offshore wind AC or HVDC platforms through close coordination. This approach of creating a meshed grid is expected to enhance reliability and reduce the overall cost of adding more OSW power production. Reliability and resiliency of the offshore grid should be considered to improve over radial transmission to shore. However, many have approached this with ideas that are both technically impractical and potentially exceptionally expensive. The CLNJ solution achieves reliability and resiliency at a reasonable cost. Both of the offshore platforms can be linked to each other or to nearby platforms for other leaseholds.

Project Components

1. Component 1. New Offshore Converter Station
2. Component 2. New Offshore Line to Landfall
3. Component 3. New Underground Transmission Line
4. Component 4. New Onshore Converter Station
5. Component 5. New Offshore Converter Station
6. Component 6. New Offshore Line to Landfall
7. Component 7. New Underground Line
8. Component 8. Onshore Converter Station

Greenfield Substation Component

Component title	Component 1. New Offshore Converter Station
Project description	Contains proprietary information; commercially sensitive regarding project location.
Substation name	New Offshore Converter Station
Substation description	New offshore platform including a 66 kV HVAC to +/- 320 kV HVDC symmetrical monopole converter station rated for 1,200 MW, and located approximately 27.5 miles off the New Jersey coastline.
Nominal voltage	DC

Nominal voltage

66kV HVAC to +/- 320 HVDC

Transformer Information

None

Major equipment description

The converter station will include: AC switchgear, DC switchgear, surge arrestors, converter transformers, capacitor coupled voltage transformers, auxiliary power transformer, diesel generator, diesel fuel tank, converter valves.

Normal ratings

Emergency ratings

Summer (MVA)

1350.000000

1350.000000

Winter (MVA)

1350.000000

1350.000000

Environmental assessment

Due to the diversity of landforms and areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.

Outreach plan

Clean Link New Jersey's goal is to be open and transparent, respond to questions or concerns, provide opportunities to engage community members, and build relationships of trust. We have prepared an overarching engagement strategy to achieve these objectives (see BPU Supplemental Data, Section 6). While this overarching strategy will be broadly applicable, we recognize the need for a tailored outreach strategy for key stakeholder groups, such as the fishing industry or nongovernmental environmental groups. A specific section has been included to address key stakeholders and is focused on the fishing industry. However, the approach outlined in the strategy can be applied to other stakeholders on an as-needed basis.

Land acquisition plan

The offshore converter station platform area extends into the Outer Continental Shelf (OCS). The Clean Link New Jersey team is familiar with BOEM's jurisdiction and understands that BOEM has authority over leases within the OCS. We anticipate that a lease will be required for the proposed converter station area. During the lease application review, it is understood that BOEM will be the lead agency. Clean Link New Jersey will consult with other federal and New Jersey state agencies as necessary. We will initiate early coordination with BOEM to review the proposed lease areas. Our plan to obtain the necessary authorizations will follow the standard BOEM procedure outlined in the attached Offshore Lease and ROW Authorization Plan.

Construction responsibility

Proposer

Benefits/Comments

Clean Link New Jersey's Power Corridor accommodates a coordinated approach to transmission from multiple projects, providing the opportunity to optimize the delivery of offshore wind generation into New Jersey. Clean Link New Jersey consists of 8 new transmission components, including this component, which could be individually combined, added, integrated, and sequenced to optimize delivery and cost in accordance with offshore wind solicitations' generation capacity and in-service dates. Each component of the project is flexible in design and construction. For example, the offshore converter stations can be sited closer to the offshore wind generation locations. Clean Link New Jersey looks forward to working with PJM and BPU to site the offshore substations in the most optimal spot for overall program success.

Component Cost Details - In Current Year \$

Engineering & design

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Permitting / routing / siting

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

ROW / land acquisition

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Materials & equipment

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Construction & commissioning

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Construction management

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Overheads & miscellaneous costs

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Contingency

Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Total component cost

\$754,132,339.00

Component cost (in-service year)

\$828,635,154.00

Greenfield Transmission Line Component

Component title	Component 2. New Offshore Line to Landfall	
Project description	Contains proprietary information; commercially sensitive regarding project location.	
Point A	New Offshore Converter Station	
Point B	Landfall	
Point C		
	Normal ratings	Emergency ratings
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000
Conductor size and type	Bundled +/- 320 kV HVDC, 2500 mm ² copper XLPE Single Core Conductor	
Nominal voltage	DC	
Nominal voltage	+/- 320 kV HVDC	
Line construction type	Submarine	
General route description	<p>This component consists of two XLPE insulated 2,500 mm² Cu cables, at +320 kV HVDC and –320 kV HVDC, bundled with a fiber optic cable, and installed within a dedicated subsea trench, for approximately 27.5 miles, from the new offshore converter station to the landfall site. This component includes an HDD landfall, after which the submarine cables will be spliced at underground transition junction boxes (TJBs) and transitioned to underground circuit. The proposed subsea cable corridor has been developed to avoid charted obstructions, shipwrecks, and active dump sites. There are five known existing cables that will need to be crossed along the proposed route. It is anticipated that two of the five cables are no longer in service, and the remaining three cables are active. Site surveys and data collection will be conducted to verify cable locations and crossing agreements will be arranged with the cable owners. Please refer to the attached Proposed Route .KMZ file and Lease Block drawing for further details.</p>	

Terrain description	The proposed offshore submarine cable extends across the Atlantic Ocean seafloor from the proposed offshore converter station platform area to the proposed HDD landfall exit pit at landfall site. The submarine cable corridor will pass through water depths ranging from approximately 30 to 115 feet. The seafloor conditions along the proposed cable corridor are likely predominantly sandy with mild slopes. The proposed cable corridor avoids known areas of physical wrecks and obstructions. Please refer to the Sea Bed and Sediment Type drawings provided with the supporting documents.
Right-of-way width by segment	The anticipated ROW width is 500 feet along the proposed submarine cable and landfall corridors. The location, spacing, alignment, and orientation of the HDD has been selected to circumvent obstructions within the landfall area and to avoid conflict with adjacent submarine cables. Increased spacing at the HDD exit location is required to provide sufficient separation to allow for future repairs to the offshore trenched submarine cables. The separation distance of adjacent submarine cables will need to be confirmed as the cable design is finalized. Please refer to the attached Proposed Route .KMZ file and Offshore Lease and ROW Authorization Plan for further details.
Electrical transmission infrastructure crossings	The proposed offshore submarine cable corridor has been developed to avoid areas of known crossings of existing cables. As final routing is refined, offshore cable installation will identify any potential infrastructure crossings. Please refer to the Offshore Crossing Plan for additional information.
Civil infrastructure/major waterway facility crossing plan	The proposed offshore submarine cable corridor has been developed to avoid areas of known physical obstructions where possible. The alignment will be further refined during the design phase in order to reduce risk and construction complexities where feasible. Please refer to the attached Offshore Crossing Plan for more information.
Environmental impacts	Due to the diversity of landforms and marine areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.
Tower characteristics	Not applicable.
Construction responsibility	Proposer
Benefits/Comments	Contains proprietary information; commercially sensitive regarding project location.
Component Cost Details - In Current Year \$	

Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction & commissioning	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction management	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Overheads & miscellaneous costs	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Contingency	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Total component cost	\$171,241,865.00
Component cost (in-service year)	\$188,159,324.00

Greenfield Transmission Line Component

Component title	Component 3. New Underground Transmission Line
Project description	Contains proprietary information; commercially sensitive regarding project location.
Point A	Landfall
Point B	New Converter Station
Point C	

Normal ratings

Emergency ratings

Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000
Conductor size and type	+/- 320 kV HVDC, 2500 mm2 copper XLPE Single Core Conductor	
Nominal voltage	DC	
Nominal voltage	+/- 320 kV HVDC	
Line construction type	Underground	
General route description	<p>The New Underground transmission route consists of approximately 23 miles of an underground circuit from the landfall site to a new onshore converter station near the existing POI. This underground circuit will primarily be installed within new underground duct bank along the existing roads and utility ROW and consist of three conduits including two XLPE 2,500 mm2 Cu cables and one fiber optic cable. Please refer to the attached Proposed Route .KMZ file and mapbook for further details.</p>	
Terrain description	<p>The New Underground transmission line makes landfall in a CAFRA regulated area and traverses through landscapes before reaching the new converter station (see natural Heritage Priority Sites attachment in BPU submittal). The route traverses wetlands, riparian zones, forests, and residential areas. Most upland impacts have been minimized by burying the proposed cable within existing utility corridors and roadways. Please refer to the attached KMZ file and mapbook for further details.</p>	
Right-of-way width by segment	<p>The Project makes landfall (mile post 27.5), from here, the Project continues within the public road right-of-way (ROW) for approximately 8 miles where it will then turn onto an existing overhead transmission ROW. The Project then continues within the existing ROW for approximately 15 miles before reaching the proposed point of interconnection (POI) at the new converter station. The temporary construction workspace is currently estimated to be approximately 15 feet wide along the power corridor, which will include a 5 feet wide trench and a working lane next to the trench. Approximately every 2,000 feet a vault will be installed that will be used to house cable splicing. Please refer to the attached Land Acquisition Plan, Proposed Route KMZ file and mapbook for further details.</p>	
Electrical transmission infrastructure crossings	<p>The proposed power corridor is an underground construction; there are no overhead electrical transmission infrastructure crossings anticipated. As final routing is refined, any potential infrastructure crossings will be identified. Please refer to the Civil Infrastructure/Major Waterway Facility Crossing Plan for additional information.</p>	

Civil infrastructure/major waterway facility crossing plan	The proposed onshore underground cable corridor has been developed to avoid areas of known physical obstructions and limit crossings of existing cables where possible. The Project crosses road, railroad, foreign pipeline, stream, waterbody and wetland crossings. These crossings will involve HDD, bore and open cut construction methods. Alignment of the onshore cable corridor will be further refined during the design phase in order to reduce risk and construction complexities where feasible. Please refer to the attached Civil Infrastructure/Major Waterway Facility Crossing Plan for more information.
Environmental impacts	Due to the diversity of landforms and areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.
Tower characteristics	Not applicable.
Construction responsibility	Proposer
Benefits/Comments	Contains proprietary information; commercially sensitive regarding project location.
Component Cost Details - In Current Year \$	
Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction & commissioning	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction management	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Overheads & miscellaneous costs	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Contingency	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Total component cost	\$235,113,593.00
Component cost (in-service year)	\$258,341,116.00

Greenfield Substation Component

Component title	Component 4. New Onshore Converter Station
Project description	Contains proprietary information; commercially sensitive regarding project location.
Substation name	New Onshore Converter Station
Substation description	A new onshore converter station component, +/- 320 HVDC to 500 kV HVAC symmetrical monopole converter station rated at 1,200 MW. An underground 500 kV HVAC circuit, will connect with the existing substation POI. This component includes the expansion of the existing substation, including the addition of a new three-breaker ring bus GIS station to interconnect the 500 kV HVAC circuit.
Nominal voltage	DC
Nominal voltage	+/- 320kV HVDC to 500kV HVAC

Transformer Information

None	
Major equipment description	This converter station will include: AC switchgear, DC switchgear, surge arrestors, converter transformers, capacitor coupled voltage transformers, auxiliary power transformer, diesel generator, diesel fuel tank, converter valves.

	Normal ratings	Emergency ratings
Summer (MVA)	1350.000000	1350.000000
Winter (MVA)	1350.000000	1350.000000

Environmental assessment	Due to the diversity of landforms and areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.
Outreach plan	Clean Link New Jersey's goal is to be open and transparent, respond to questions or concerns, provide opportunities to engage community members, and build relationships of trust. We have prepared an overarching engagement strategy to achieve these objectives (see BPU Supplemental Data, Section 6). While this overarching strategy will be broadly applicable, we recognize the need for a tailored outreach strategy for key stakeholder groups, such as the fishing industry or nongovernmental environmental groups. The approach outlined in the strategy can be applied to other stakeholders on an as-needed basis.
Land acquisition plan	Clean Link New Jersey will be applying its well-established processes and direct and industry expertise to effectively plan and achieve site control. The Clean Link New Jersey project team has been carefully evaluating site control since the early stages of the siting process. Our approach focuses on avoiding wetlands and minimizing overlap with known congested, sensitive, or designated special-use areas (e.g., agricultural districts, parks, natural or protected areas, trail systems or other intensive recreational areas, residential areas). This effort will be ongoing throughout further project definition, and siting will need to be adjusted accordingly. Please refer to the attached Land Acquisition Plan provided with the supporting documents.
Construction responsibility	Proposer
Benefits/Comments	Contains proprietary information; commercially sensitive regarding project location.
Component Cost Details - In Current Year \$	
Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Summer (MVA)	1350.000000	1350.000000
Winter (MVA)	1350.000000	1350.000000

Environmental assessment	<p>Due to the diversity of landforms and areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6 and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.</p>
Outreach plan	<p>Clean Link New Jersey's goal is to be open and transparent, respond to questions or concerns, provide opportunities to engage community members, and build relationships of trust. We have prepared an overarching engagement strategy to achieve these objectives (see BPU Supplemental Data, Section 6). While this overarching strategy will be broadly applicable, we recognize the need for a tailored outreach strategy for key stakeholder groups, such as the fishing industry or nongovernmental environmental groups. A specific section has been included to address key stakeholders and is focused on the fishing industry. However, the approach outlined in the strategy can be applied to other stakeholders on an as-needed basis.</p>
Land acquisition plan	<p>The offshore converter station platform area extends into the Outer Continental Shelf (OCS). The Clean Link New Jersey team is familiar with BOEM's jurisdiction and understands that BOEM has authority over leases within the OCS. We anticipate that a lease will be required for the proposed converter station area. During the lease application review, it is understood that BOEM will be the lead agency. Clean Link New Jersey will consult with other federal and New Jersey state agencies as necessary. We will initiate early coordination with BOEM to review the proposed lease areas. Our plan to obtain the necessary authorizations will follow the standard BOEM procedure outlined in the attached Offshore Lease and ROW Authorization Plan.</p>
Construction responsibility	<p>Proposer</p>
Benefits/Comments	<p>Clean Link New Jersey's Power Corridor accommodates a coordinated approach to transmission from multiple projects, providing the opportunity to optimize the delivery of offshore wind generation into New Jersey. Clean Link New Jersey consists of 8 new transmission components, including this component, which could be individually combined, added, integrated, and sequenced to optimize delivery and cost in accordance with offshore wind solicitations' generation capacity and in-service dates. Each component of the project is flexible in design and construction. For example, the offshore converter stations can be sited closer to the offshore wind generation locations. Clean Link New Jersey looks forward to working with PJM and BPU to site the offshore substations in the most optimal spot for overall program success.</p>

Component Cost Details - In Current Year \$

Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction & commissioning	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction management	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Overheads & miscellaneous costs	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Contingency	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Total component cost	\$717,489,541.00
Component cost (in-service year)	\$788,372,314.00

Greenfield Transmission Line Component

Component title	Component 6. New Offshore Line to Landfall
Project description	Contains proprietary information; commercially sensitive regarding project location.
Point A	New Offshore Converter Station
Point B	Landfall Site
Point C	

Normal ratings

Emergency ratings

Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000
Conductor size and type	Bundled +/- 320 kV 2500 mm2 copper XLPE Single Core Conductor	
Nominal voltage	DC	
Nominal voltage	+/- 320 kV HVDC	
Line construction type	Submarine	
General route description	<p>This component consists of two XLPE insulated 2,500 mm2 Cu cables, at +320 kV HVDC and –320 kV HVDC, bundled with a fiber optic cable, and installed within a dedicated subsea trench, for approximately 27.5 miles, from the new offshore converter station to the landfall site. This component includes an HDD landfall, after which the submarine cables will be spliced at underground transition junction boxes (TJBs) and transitioned to underground circuit. The proposed subsea cable corridor has been developed to avoid charted obstructions, shipwrecks, and active dump sites. There are there are five known existing cables that will need to be crossed along the proposed route. It is anticipated that two of the five cables are no longer in service, and the remaining three cables are active. Site surveys and data collection will be conducted to verify cable locations and crossing agreements will be arranged with the cable owners. Please refer to the attached Proposed Route .KMZ file, Lease Block drawing, as well as the Offshore Lease and ROW Authorization Plan for further details.</p>	
Terrain description	<p>The proposed offshore submarine cable extends across the Atlantic Ocean seafloor between the HDD landfall exit pit and the proposed new offshore converter station. The submarine cable corridor will pass through water depths ranging from approximately 30 to 115 feet. The seafloor conditions along the proposed cable corridor are likely predominantly sandy with mild slopes. The proposed cable corridor avoids known areas of physical wrecks and obstructions. Please refer to the Sea Bed and Sediment Type drawings provided with the supporting documents.</p>	
Right-of-way width by segment	<p>The anticipated ROW width is 500 feet along the proposed submarine cable and landfall corridors. The two HDD landfalls will be separated by approximately 50 feet at the HDD entry location onshore and approximately 80 feet at the HDD exit location. The separation distance is required to separate the HDDs, avoid conflict associated with steering requirements, and minimize any potential thermal impacts on each submarine cable from the presence of the adjacent submarine cable. The increased spacing at the HDD exit location is required to provide sufficient separation to allow for future repairs to the offshore trenched submarine cables. The location, alignment and orientation of the two HDDs has been selected to avoid known cable crossings within the landfall area. The separation distance for the two submarine cables will need to be confirmed as the cable design is finalized. Please refer to the attached .KMZ file for the proposed submarine cable corridor concept.</p>	

Electrical transmission infrastructure crossings	The proposed offshore submarine cable corridor has been developed to avoid areas of known crossings of existing cables. As final routing is refined, offshore cable installation will identify any potential infrastructure crossings. Please refer to the Civil Infrastructure/Major Waterway Facility Crossing Plan for additional information.
Civil infrastructure/major waterway facility crossing plan	The proposed offshore submarine cable corridor has been developed to avoid areas of known physical obstructions and limit crossings of existing cables where possible. The alignment will be further refined during the design phase in order to reduce risk and construction complexities where feasible. Please refer to the attached Civil Infrastructure/Major Waterway Facility Crossing Plan for more information.
Environmental impacts	Due to the diversity of landforms and marine areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.
Tower characteristics	Not applicable.
Construction responsibility	Proposer
Benefits/Comments	Contains proprietary information; commercially sensitive regarding project location.
Component Cost Details - In Current Year \$	
Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction & commissioning	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Construction management	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Overheads & miscellaneous costs	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Contingency	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Total component cost	\$162,921,336.00
Component cost (in-service year)	\$179,016,785.00

Greenfield Transmission Line Component

Component title	Component 7. New Underground Line
Project description	Contains proprietary information; commercially sensitive regarding project location.
Point A	Landfall Site
Point B	New Converter Station
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000
Conductor size and type	+/- 320 kV HVDC, 2500 mm2 copper XLPE Single Core Conductor	
Nominal voltage	DC	
Nominal voltage	+/- 320 kV HVDC	
Line construction type	Underground	

General route description	The new underground transmission route consists of approximately 11 miles of an underground circuit from landfall site to a new onshore converter station near the existing POI. This underground circuit will primarily be installed within new underground duct bank along the existing streets and consist of three conduits including two XLPE 2500 mm ² Cu cables and one fiber optic cable. Please refer to the attached "Proposed Route" KMZ file and mapbook for further details.
Terrain description	The new underground transmission line makes landfall in a CAFRA regulated area and traverses through landscapes before reaching the substation (see natural Heritage Priority Sites attachment in BPU Supplemental Data). The route traverses wetlands, riparian zones, forests, and residential areas. Most upland impacts have been minimized by burying the proposed cable within existing utility corridors and roadways. Please refer to the attached KMZ file and mapbook for further details.
Right-of-way width by segment	The Project makes landfall (mile post 27.5), from here, the Project continues within the public road right-of-way (ROW) for approximately 8 miles where it will then turn onto an existing overhead transmission ROW. The Project then continues within the existing ROW for approximately 3 miles before reaching the proposed point of interconnection (POI). The temporary construction workspace is currently estimated to be approximately 15 feet wide along the power corridor, which will include a 5 feet wide trench and a working lane next to the trench. Approximately every 2,000 feet a vault will be installed that will be used to house cable splicing. Please refer to the attached Land Acquisition Plan, Proposed Route KMZ file and mapbook for further details.
Electrical transmission infrastructure crossings	The proposed power corridor is an underground construction; there are no overhead electrical transmission infrastructure crossings anticipated. As final routing is refined, any potential infrastructure crossings will be identified. Please refer to the Civil Infrastructure/Major Waterway Facility Crossing Plan for additional information.
Civil infrastructure/major waterway facility crossing plan	The proposed onshore underground cable corridor has been developed to avoid areas of known physical obstructions and limit crossings of existing cables where possible. The Project crosses road, railroad, foreign pipeline, stream, waterbody and wetland crossings. These crossings will involve HDD, bore and open cut construction methods. Alignment of the onshore cable corridor will be further refined during the design phase in order to reduce risk and construction complexities where feasible. Please refer to the attached Civil Infrastructure/Major Waterway Facility Crossing Plan for more information.
Environmental impacts	Due to the diversity of landforms and areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate for impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.

Tower characteristics	Not applicable.
Construction responsibility	Proposer
Benefits/Comments	Contains proprietary information; commercially sensitive regarding project location.
Component Cost Details - In Current Year \$	
Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction & commissioning	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction management	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Overheads & miscellaneous costs	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Contingency	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Total component cost	\$108,395,291.00
Component cost (in-service year)	\$119,103,961.00
Greenfield Substation Component	
Component title	Component 8. Onshore Converter Station
Project description	Contains proprietary information; commercially sensitive regarding project location.
Substation name	Onshore Converter Station

Substation description New onshore converter stations component consisting of a +/- 320 kV HVDC to 230 kV HVAC symmetrical monopole converter station rated at 1,200 MW. Two underground 230 kV HVAC circuits, approximately 0.3 miles long, will connect with the existing substation POI. This component includes the expansion of the existing substation POI including separating the existing south-west breaker-and-a-half rung into two rungs, the addition of three AIS 230 kV breakers, and the addition of underground structures to interconnect the two underground 230 kV HVAC circuits.

Nominal voltage DC

Nominal voltage +/- 320kV HVDC to 230kV HVAC

Transformer Information

None

Major equipment description This converter station includes: AC switchgear, DC switchgear, surge arrestors, converter transformers, capacitor coupled voltage transformers, auxiliary power transformer, diesel generator, diesel fuel tank, converter valves

	Normal ratings	Emergency ratings
Summer (MVA)	1350.000000	1350.000000
Winter (MVA)	1350.000000	1350.000000

Environmental assessment Due to the diversity of landforms and areas the project would traverse, there is potential for rich species diversity and abundance. The Clean Link New Jersey environmental team is prepared to limit impacts as practicable for the Project. The environmental impact and permitting plans are described in detail in the BPU Supplemental Data, Section 6, including a list of biological resources of interest to both state and federal agencies and a plan for developing permit applications that avoid, minimize and mitigate project impacts. Please refer to our BPU Supplemental Data, Section 6, and the attached environmental maps for additional information on Clean Link New Jersey's Environmental Protection Plan.

Outreach plan Clean Link New Jersey's goal is to be open and transparent, respond to questions or concerns, provide opportunities to engage community members, and build relationships of trust. We have prepared an overarching engagement strategy to achieve these objectives (see BPU Submittal, Section 6). While this overarching strategy will be broadly applicable, we recognize the need for a tailored outreach strategy for key stakeholder groups, such as the fishing industry or nongovernmental environmental groups. The approach outlined in the strategy can be applied to other stakeholders on an as-needed basis.

Land acquisition plan	Clean Link New Jersey will be applying its well-established processes and direct and industry expertise to effectively plan and achieve site control. The Clean Link New Jersey project team has been carefully evaluating site control since the early stages of the siting process. Our approach focuses on avoiding wetlands and minimizing overlap with known congested, sensitive, or designated special-use areas (e.g., agricultural districts, parks, natural or protected areas, trail systems or other intensive recreational areas, residential areas). This effort will be ongoing throughout further project definition, and siting will need to be adjusted accordingly. Please refer to the attached Land Acquisition Plan provided with the supporting documents.
Construction responsibility	Proposer
Benefits/Comments	Contains proprietary information; commercially sensitive regarding project location.
Component Cost Details - In Current Year \$	
Engineering & design	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Permitting / routing / siting	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
ROW / land acquisition	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Materials & equipment	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction & commissioning	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Construction management	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Overheads & miscellaneous costs	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Contingency	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Total component cost	\$291,500,772.00
Component cost (in-service year)	\$320,298,938.00

Congestion Drivers

None

Existing Flowgates

None

New Flowgates

None

Financial Information

Capital spend start date 02/2022

Construction start date 06/2025

Project Duration (In Months) 76

Cost Containment Commitment

Cost cap (in current year) Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Cost cap (in-service year) Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.

Components covered by cost containment

1. Component 1. New Offshore Converter Station - Proposer
2. Component 2. New Offshore Line to Landfall - Proposer
3. Component 3. New Underground Transmission Line - Proposer
4. Component 4. New Onshore Converter Station - Proposer
5. Component 5. New Offshore Converter Station - Proposer

- 6. Component 6. New Offshore Line to Landfall - Proposer
- 7. Component 7. New Underground Line - Proposer
- 8. Component 8. Onshore 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	No
Escalation	Yes
Additional Information	Contains proprietary information; commercially sensitive regarding detailed cost estimates and agreements with vendors/suppliers.
Is the proposer offering a binding cap on ROE?	No
Is the proposer offering a Debt to Equity Ratio cap?	No

Additional Comments

Clean Link New Jersey encourages proposal reviewers to contact our team with any questions. We thank you for this opportunity.