Outerbridge Renewable Connector Project - Base Offer 1 - 1200MW Proposal

General Information

Proposing entity name	Commercially Sensitive & Proprietary Outerbridge NJ Information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Commercially Sensitive & Proprietary Outerbridge NJ Information
Joint proposal ID	Commercially Sensitive & Proprietary Outerbridge NJ Information
Company proposal ID	Commercially Sensitive & Proprietary Outerbridge NJ Information
PJM Proposal ID	582
Project title	Outerbridge Renewable Connector Project - Base Offer 1 - 1200MW Proposal
Project description	This proposal facilitates the injection of 1200MW of energy and capacity from one or more Interconnecting Offshore Wind Projects through the construction of onshore facilities to deliver energy to the Deans Switching Station 500kV transmission network. Base Offer 1 also includes the ability to provide power flow from Deans to the Werner Substation 230kV system as an alternative POI.
Email	Commercially Sensitive & Proprietary Outerbridge NJ Information
Project in-service date	01/2028
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Commercially Sensitive & Proprietary Outerbridge NJ Information

Project Components

1. Outerbridge Onshore Collector Station #1
2. Outerbridge HVDC Converter Station #1

3. HVDC Transmission Line #1
4. Inland HVDC Converter Station #1
5. Inland Switching Station
6. East Windsor–Deans Transmission Line
7. Werner Substation

Greenfield Substation Component

Component title	Outerbridge Onshore Collector Station #1
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Substation name	Outerbridge Onshore Collector Station #1
Substation description	Construct a new 275kV GIS switching station designed to connect 275kV lines from offshore wind generators to the new HVDC systems. The circuits will then enter a 275kV GIS hall via a cable vault. The circuits will have dedicated breakers as well as dedicated shunt reactors for reactive support due to the capacitive reactance in the submarine/underground cables. The circuits will be combined in the GIS hall and connected to a harmonic filter. The combined 1200MW bus will connect to three (3) single-phase converter transformers before connecting to the HVDC component.
Nominal voltage	AC
Nominal voltage	275

Transformer Information

None

Major equipment description	The major equipment consists of 275kV shunt reactors, 275kV GIS hall and 275kV harmonic filters to facilitate the 1200MW injection.

	Normal ratings	**Emergency ratings**
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000

Environmental assessment	Outerbridge NJ will implement soil erosion, spill prevention and stormwater management plans to minimize impacts to sensitive resources on any adjacent properties during construction. There will be traffic, air quality and noise impacts during construction, however, Outerbridge NJ will employ best management practices, such as limiting construction activities during quieter periods and minimizing equipment and vehicle idling to mitigate these potential temporary and transient impacts during converter station construction.
Outreach plan	Outerbridge NJ recognizes that developing large energy infrastructure projects in the public trust requires a thoughtful and engaged community and stakeholder outreach process that is informed by experience and anchored in empathy and engagement. Outerbridge NJ also recognizes the need to be aware of, and understand, community concerns, which requires being present and listening. Outerbridge NJ understands the importance of transparency and keeping the public informed of the Project plans and benefits as early as possible in the Project development phase. By engaging community stakeholder groups and implementing an educational and marketing strategy, the Project will build its credibility and support in the community, be positioned for long-term success, and help avoid misinformation that could lead to delays or opposition. Outerbridge NJ is committed in all phases of the Project to use the best available science, listen to all stakeholder perspectives to arrive at appropriate decisions and be transparent and open with the public at all times. Outerbridge NJ has been working for several months to engage critical stakeholders in New Jersey and local communities, including leading NGOs; state, county, and municipal officials; state agencies; and others as detailed below.
Land acquisition plan	An affiliate of Outerbridge NJ has acquired the 26-acre land parcel located in South Amboy, New Jersey, which is the site of the retired Werner Generating Station and the 230kV and 138kV JCP&L Werner Substation. The site's industrial waterfront location along the Raritan Bay (which also includes approximately 26 acres of Riparian rights), with access to the Atlantic Ocean and proximity to the New York/New Jersey Bight Wind Energy Areas makes it an ideal interconnection point for offshore wind facilities.
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information
Component Cost Details - In Current Year $	
Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information
Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information
Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information

Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information
Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$53,463,053.00
Component cost (in-service year)	$59,370,897.00

Greenfield Substation Component

Component title	Outerbridge HVDC Converter Station #1
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Substation name	Outerbridge HVDC Converter Station #1
Substation description	Construct a new 1200MW 320kV +/- symmetrical monopole DC system to be located at the existing Werner Site. The converter station will receive the 1200MW, 275kV AC input from the Outerbridge Onshore Collector Station #1 and output to the 320kV HVDC transmission line #1 connecting to the Inland HVDC Converter Station #1.
Nominal voltage	DC
Nominal voltage	320

Transformer Information

None

Major equipment description: The major equipment consists of one (1) independent 1200MW, 320kV +/- Symmetrical Monopole DC converter station. The converter station consists of the converter hall, DC Chopper, control room, (3) single phase power transformer, AC precharge, high side breaker, PTs and disconnect.

	Normal ratings	**Emergency ratings**
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000

Environmental assessment	Outerbridge NJ will implement soil erosion, spill prevention and stormwater management plans to minimize impacts to sensitive resources on any adjacent properties during construction. There will be traffic, air quality and noise impacts during construction, however, Outerbridge NJ will employ best management practices, such as limiting construction activities during quieter periods and minimizing equipment and vehicle idling to mitigate these potential temporary and transient impacts during converter station construction. Once constructed, there will be noise impacts resulting from the operation of the converter stations. A noise assessment will be conducted to determine the potential noise impacts from the converter stations on nearby sensitive receptors, the level of noise mitigation needed to minimize noise impacts, and to fully comply with the NJDEP and South Amboy noise mitigation requirements.
Outreach plan	Outerbridge NJ recognizes that developing large energy infrastructure projects in the public trust requires a thoughtful and engaged community and stakeholder outreach process that is informed by experience and anchored in empathy and engagement. Outerbridge NJ also recognizes the need to be aware of, and understand, community concerns, which requires being present and listening. Outerbridge NJ understands the importance of transparency and keeping the public informed of the Project plans and benefits as early as possible in the Project development phase. By engaging community stakeholder groups and implementing an educational and marketing strategy, the Project will build its credibility and support in the community, be positioned for long-term success, and help avoid misinformation that could lead to delays or opposition. Outerbridge NJ is committed in all phases of the Project to use the best available science, listen to all stakeholder perspectives to arrive at appropriate decisions and be transparent and open with the public at all times. Outerbridge NJ has been working for several months to engage critical stakeholders in New Jersey and local communities, including leading NGOs; state, county, and municipal officials; state agencies; and others as detailed below.
Land acquisition plan	An affiliate of Outerbridge NJ has acquired the 26-acre land parcel located in South Amboy, New Jersey, which is the site of the retired Werner Generating Station and the 230kV and 138kV JCP&L Werner Substation. The site’s industrial waterfront location along the Raritan Bay (which also includes approximately 26 acres of Riparian rights), with access to the Atlantic Ocean and proximity to the New York/New Jersey Bight Wind Energy Areas makes it an ideal interconnection point for offshore wind facilities.
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information
Component Cost Details - In Current Year $	
Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information
Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information

Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information
Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$284,739,556.00
Component cost (in-service year)	$312,523,318.00

Greenfield Transmission Line Component

Component title	HVDC Transmission Line #1
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Point A	Outerbridge HVDC Converter Station #1
Point B	Inland HVDC Converter Station #1
Point C	

	Normal ratings	**Emergency ratings**
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000

Conductor size and type	5000kCMIL (2500mm2) copper conductor, XLPE cable, two (2) cables per pole
Nominal voltage	DC
Nominal voltage	320kV Symmetrical Monopole DC System
Line construction type	Underground

General route description	The underground route utilizes portions an existing Conrail railway corridor. The railroad right of way is approximately 100 feet wide. Many sections have missing and/or fallen conductor/wires along the path from an out of service catenary system. The existing steel structures from the rail centerline vary in distance from 10 feet to 25 feet. These structures may create right of way squeeze points in some areas. Removal of the catenary system could potentially require less right of way clearing.
Terrain description	The route the underground transmission line traverses is flat, utilizing an existing Conrail railway corridor. The railroad right of way has overgrown vegetation and mature growth trees.
Right-of-way width by segment	The proposed Underground route will be mainly located on an existing Conrail ROW. The ROW is generally 100 feet wide, and the duct bank will be primarily installed along side of the railroad ROW and extend from the Outerbridge substation to the Inland location.
Electrical transmission infrastructure crossings	East Windsor-Deans 500kV, depending on final route, Smithburg-Deans 500kV, depending on final route
Civil infrastructure/major waterway facility crossing plan	The HVDC transmission line will be installed via a new underground duct bank system. There will be some unavoidable wetland and stream crossings along the transmission line route, however, Outerbridge NJ will employ low impact installation techniques such as jack and bore and HDD and implement soil erosion, spill prevention and stormwater management plans to minimize impacts to wetlands, streams, including any habitat areas.
Environmental impacts	There will be traffic, air quality, and noise impacts during construction, however, Outerbridge NJ will employ best management practices, such as limiting construction activities during quieter periods and minimizing equipment and vehicle idling to mitigate these potential temporary and transient impacts during transmission line construction. The transmission cables will generate electric and magnetic fields (EMF) once installed. EMF effects from the transmission cables will be minimized by using conductive sheathing and by their burial depth. An assessment will be conducted to demonstrate that the EMF impacts from the transmission line will be at levels which have been determined to be protective of public health.
Tower characteristics	No new towers are planned to be installed with this component. All HVDC Transmission will be underground.
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information
Component Cost Details - In Current Year $	
Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information

Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information
Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information
Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$334,463,825.00
Component cost (in-service year)	$383,686,904.00

Greenfield Substation Component

Component title	Inland HVDC Converter Station #1
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Substation name	Inland HVDC Converter Station #1
Substation description	Construct a 1200MW 320kV +/- symmetrical monopole DC system. The converter station will receive 1200MW, 320kV DC via the HVDC transmission line #1 connecting to the Outerbridge Converter Station #1. The Inland Converter Station will output 1200MW, 500kV AC and connect to the 500kV Inland Switching Station.
Nominal voltage	DC
Nominal voltage	320

Transformer Information

None

Major equipment description	The major equipment consists of one (1) independent 1200MW, 320kV +/- Symmetrical Monopole DC converter station. The converter station consists of the converter hall, DC Chopper, control room, (3) single phase power transformer, AC precharge, high side breaker, PTs and disconnect.

	Normal ratings	Emergency ratings
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000

Environmental assessment	Outerbridge NJ will implement soil erosion, spill prevention and stormwater management plans to minimize impacts to sensitive resources on any adjacent properties during construction. There will be traffic, air quality and noise impacts during construction, however, Outerbridge NJ will employ best management practices, such as limiting construction activities during quieter periods and minimizing equipment and vehicle idling to mitigate these potential temporary and transient impacts during converter station construction. Once constructed, there will be noise impacts resulting from the operation of the converter stations. A noise assessment will be conducted to determine the potential noise impacts from the converter stations on nearby sensitive receptors, the level of noise mitigation needed to minimize noise impacts, and to fully comply with the NJDEP and local noise mitigation requirements.
Outreach plan	Outerbridge NJ recognizes that developing large energy infrastructure projects in the public trust requires a thoughtful and engaged community and stakeholder outreach process that is informed by experience and anchored in empathy and engagement. Outerbridge NJ also recognizes the need to be aware of, and understand, community concerns, which requires being present and listening. Outerbridge NJ understands the importance of transparency and keeping the public informed of the Project plans and benefits as early as possible in the Project development phase. By engaging community stakeholder groups and implementing an educational and marketing strategy, the Project will build its credibility and support in the community, be positioned for long-term success, and help avoid misinformation that could lead to delays or opposition. Outerbridge NJ is committed in all phases of the Project to use the best available science, listen to all stakeholder perspectives to arrive at appropriate decisions and be transparent and open with the public at all times. Outerbridge NJ has been working for several months to engage critical stakeholders in New Jersey and local communities, including leading NGOs; state, county, and municipal officials; state agencies; and others as detailed below.
Land acquisition plan	A sufficiently sized parcel of land will be the site of the Inland Switching Station and Inland HVDC Converter Station(s).
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information

Component Cost Details - In Current Year $

Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information

Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information
Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information
Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$285,086,396.00
Component cost (in-service year)	$312,410,997.00

Greenfield Substation Component

Component title	Inland Switching Station
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Substation name	Inland Switching Station
Substation description	The new Inland Switching Station will consist of a 500kV GIS three (3) breaker ring-bus (ultimately to be a 4 breaker ring-bus to accommodate POI of an additional 1200MW circuit) that deliver energy to the existing East Windsor-Deans Transmission Line and connect to the new HVDC system.
Nominal voltage	AC
Nominal voltage	500

Transformer Information

None

Major equipment description	The major equipment consists of a GIS hall that will house: (3) 500kV GIS breakers with BCTs, (6) 500kV GIS breaker disconnects, (3) sets of GIS PTs for each bus section, and (3) 500kV GIS ground switches.

	Normal ratings	Emergency ratings
Summer (MVA)	1200.000000	1200.000000
Winter (MVA)	1200.000000	1200.000000

Environmental assessment	Outerbridge NJ will implement soil erosion, spill prevention and stormwater management plans to minimize impacts to sensitive resources on any adjacent properties during construction. There will be traffic, air quality and noise impacts during construction, however, Outerbridge NJ will employ best management practices, such as limiting construction activities during quieter periods and minimizing equipment and vehicle idling to mitigate these potential temporary and transient impacts during converter station construction. Once constructed, there will be noise impacts resulting from the operation of the converter stations. A noise assessment will be conducted to determine the potential noise impacts from the converter stations on nearby sensitive receptors, the level of noise mitigation needed to minimize noise impacts, and to fully comply with the NJDEP and South Amboy noise mitigation requirements.
Outreach plan	Outerbridge NJ recognizes that developing large energy infrastructure projects in the public trust requires a thoughtful and engaged community and stakeholder outreach process that is informed by experience and anchored in empathy and engagement. Outerbridge NJ also recognizes the need to be aware of, and understand, community concerns, which requires being present and listening. Outerbridge NJ understands the importance of transparency and keeping the public informed of the Project plans and benefits as early as possible in the Project development phase. By engaging community stakeholder groups and implementing an educational and marketing strategy, the Project will build its credibility and support in the community, be positioned for long-term success, and help avoid misinformation that could lead to delays or opposition. Outerbridge NJ is committed in all phases of the Project to use the best available science, listen to all stakeholder perspectives to arrive at appropriate decisions and be transparent and open with the public at all times. Outerbridge NJ has been working for several months to engage critical stakeholders in New Jersey and local communities, including leading NGOs; state, county, and municipal officials; state agencies; and others as detailed below.
Land acquisition plan	A sufficiently sized parcel of land will be the site of the Inland Switching Station and Inland HVDC Converter Station(s).
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information

Component Cost Details - In Current Year $

Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information

Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information
Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information
Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$26,405,447.00
Component cost (in-service year)	$28,663,394.00

Transmission Line Upgrade Component

Component title	East Windsor–Deans Transmission Line
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Impacted transmission line	Circuit 5022 - East Windsor-Deans 500kV
Point A	Deans Switching Station
Point B	East Windsor Switching Station
Point C	Inland Switching Station
Terrain description	The proposed point of interconnection of the route will terminate at the new proposed Inland Switching Station. The location is wooded and will require tree clearing and grubbing. The topography is flat, in an upland area, and will require minimal grading.

Existing Line Physical Characteristics

Operating voltage	500
Conductor size and type	(2) 2493KCMIL 54/37 ACAR
Hardware plan description	Existing line hardware will not be reused to cut in the lines to the new Inland Switching Station.

Tower line characteristics	Existing structures for the 5022 line will not be impacted by this project.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	550.000000	500.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	2656.000000	2983.000000
Winter (MVA)	2931.000000	3229.000000

Conductor size and type	(2) 2493KCMIL 54/37 ACAR
Shield wire size and type	19#9 Alumoweld
Rebuild line length	390 feet
Rebuild portion description	There will need to be new monopole dead end structures installed in the 500kV ROW to facilitate the two new line sections entering the greenfield 500kV Inland Switching Station.
Right of way	ROW expansion is not anticipated.
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information

Component Cost Details - In Current Year $

Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information
Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information
Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information

Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$10,629,715.00
Component cost (in-service year)	$12,438,471.00

Substation Upgrade Component

Component title	Werner Substation
Project description	Commercially Sensitive & Proprietary Outerbridge NJ Information
Substation name	Werner Substation
Substation zone	JCPL
Substation upgrade scope	The existing Werner Substation will be demolished and rebuilt to include a 230kV GIS five (5) breaker ring-bus. Transmission outages will be required to cutover existing Werner circuits to the rebuilt substation. The ring-bus will have a dedicated offshore wind generation connection to the Outerbridge Onshore Collector Station, dedicated BESS (Battery Energy Storage System) connection, 230kV Raritan River line, 230/115kV transformer and 230/34.5kV transformer. The 230/115kV transformer will feed the 115kV Raritan River line. The 230/34.5kV transformer will feed a new 34.5kV switchgear building. All the existing 34.5kV circuits will be transferred to underground circuits and re-terminated into the switchgear building. Install two (2) double circuit monopoles for the 115kV and the 230kV Raritan River lines to connect to the dead-end A-frames inside the new Werner Switching Station.

Transformer Information

None

New equipment description	Civil & Structural: The existing Werner Substation steel, foundations and equipment will be demolished. The property, utilizing cut and fill, will be prepared for the new station equipment. This will include the installation of new driveways and yard stone; foundations for all substation equipment and structures; new steel support structures; underground stormwater detention basin and drainage system; new perimeter fence and gates; and, GIS hall with second floor control enclosure. Electrical Layout: The layout will include installation of five (5) 230kV, 3000A, GIS breakers configured in a ring bus; one (1) 230/115kV transformer; one (1) 230/34.5kV transformer; 34.5kV switchgear; 230kV take-off structure for Raritan line; 115kV take-off structure for Raritan line; and, AC station service. Protection / Controls / Communications: All protective relaying zones will have primary and backup microprocessor relaying; redundant communications systems; and, redundant AC and DC station service systems.
Substation assumptions	The existing Werner Substation will be demolished and rebuilt to include a 230kV GIS five (5) breaker ring-bus. Transmission outages will be required to cutover existing Werner circuits to the rebuilt substation. The ring-bus will have a dedicated offshore wind generation connection to the Outerbridge Onshore Collector Station, dedicated BESS (Battery Energy Storage System) connection, 230kV Raritan River line, 230/115kV transformer and 230/34.5kV transformer. The 230/115kV transformer will feed the 115kV Raritan River line. The 230/34.5kV transformer will feed a new 34.5kV switchgear building. All the existing 34.5kV circuits will be transferred to underground circuits and re-terminated into the switchgear building. Install two (2) double circuit monopoles for the 115kV and the 230kV Raritan River lines to connect to the dead-end A-frames inside the new Werner Switching Station.
Real-estate description	An affiliate of Outerbridge NJ has acquired the 26-acre land parcel located in South Amboy, New Jersey, which is the site of the retired Werner Generating Station and the 230kV and 138kV JCP&L Werner Substation. The site’s industrial waterfront location along the Raritan Bay (which also includes approximately 26 acres of Riparian rights), with access to the Atlantic Ocean and proximity to the New York/New Jersey Bight Wind Energy Areas makes it an ideal interconnection point for offshore wind facilities.
Construction responsibility	Commercially Sensitive & Proprietary Outerbridge NJ Information
Benefits/Comments	Commercially Sensitive & Proprietary Outerbridge NJ Information
Component Cost Details - In Current Year $	
Engineering & design	Commercially Sensitive & Proprietary Outerbridge NJ Information
Permitting / routing / siting	Commercially Sensitive & Proprietary Outerbridge NJ Information
ROW / land acquisition	Commercially Sensitive & Proprietary Outerbridge NJ Information
Materials & equipment	Commercially Sensitive & Proprietary Outerbridge NJ Information

Construction & commissioning	Commercially Sensitive & Proprietary Outerbridge NJ Information
Construction management	Commercially Sensitive & Proprietary Outerbridge NJ Information
Overheads & miscellaneous costs	Commercially Sensitive & Proprietary Outerbridge NJ Information
Contingency	Commercially Sensitive & Proprietary Outerbridge NJ Information
Total component cost	$39,727,703.00
Component cost (in-service year)	$44,762,007.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
28-GD-L14	218306	DEANS	218304	BRUNSWCK	1	230	231	Light Load - Gen Deliv	Included
35-GD-L14	218306	DEANS	218304	BRUNSWCK	1	230	231	Light Load - Gen Deliv	Included

New Flowgates

Commercially Sensitive & Proprietary Outerbridge NJ Information

Financial Information

Capital spend start date	01/2023
Construction start date	01/2025
Project Duration (In Months)	60

Cost Containment Commitment

Cost cap (in current year)	Commercially Sensitive & Proprietary Outerbridge NJ Information

Cost cap (in-service year)	Commercially Sensitive & Proprietary Outerbridge NJ Information

Components covered by cost containment

1. Outerbridge Onshore Collector Station #1 - Proposer
2. Outerbridge HVDC Converter Station #1 - Proposer
3. HVDC Transmission Line #1 - Proposer
4. Inland HVDC Converter Station #1 - Proposer

Cost elements covered by cost containment

Engineering & design	No
Permitting / routing / siting	No
ROW / land acquisition	No
Materials & equipment	Yes
Construction & commissioning	No
Construction management	No
Overheads & miscellaneous costs	No
Taxes	No
AFUDC	No
Escalation	No
Additional Information	Commercially Sensitive & Proprietary Outerbridge NJ Information
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?	Commercially Sensitive & Proprietary Outerbridge NJ Information

Additional Comments

All attachments contain commercially sensitive, proprietary and confidential Outerbridge NJ market information and should not be publicly disclosed.