Claymont - Bridgeport

General Information

Proposing entity name	Redacted to protect business sensitive information.
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Redacted to protect business sensitive information.
Company proposal ID	Redacted to protect business sensitive information.
PJM Proposal ID	419
Project title	Claymont - Bridgeport
Project description	Build a 2.3 mile 230 kV line from Claymont Station (DPL&E) to Bridgeport Station (ACE) using three 3-core submarine cables. Install a breaker at Claymont and Bridgeport 230 kV stations to accommodate the new line.
Email	Redacted to protect business sensitive information.
Project in-service date	07/2027
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	Redacted to protect business sensitive information.

Project Components

1. Bridgeport - NJ Riverbank
2. NJ Riverbank - River (HDD)
3. Bridgeport-Claymont
4. River - DE Riverbank (HDD)
5. DE Riverbank - Claymont

6. Bridgeport Station upgrade

7. Claymont Station Upgrade

Greenfield Transmission Line Component

Component title	Bridgeport - NJ Riverbank
Project description	
Point A	Bridgeport
Point B	NJ Riverbank
Point C	

	Normal ratings	**Emergency ratings**
Summer (MVA)	925.000000	1494.000000
Winter (MVA)	1034.000000	1575.000000

Conductor size and type	3000kcmil aluminum conductor, Milliken construction
Nominal voltage	AC
Nominal voltage	230 kV
Line construction type	Underground

General route description	The Proposing Entity assessed environmental & land use constraints & opportunities within a study area that included the Claymont & Bridgeport substations as the two endpoints. This results in an 0.5 m2, 1,000-foot-wide study area comprising portions of New Castle Co., DE & Gloucester Co., NJ. The study area is defined as a 500-foot buffer surrounding the Bid Route and bounded by the tri-state border (PA, NJ, DE) and Delaware River downstream to the north; Bridgeport Substation to the east; Delaware River upstream from the south; and Claymont Substation to the west. The underground component in NJ begins at the expanded Bridgeport Substation and continues generally south/southwest for 0.5 mile to transition vault structures associated with the horizontal directional drilling line components in NJ. Multiple transmission lines exit Claymont Substation towards the west and Bridgeport Substation towards the southeast. The underground component in NJ crosses under two aboveground 230 kV transmission lines southeast of Bridgeport Substation. Due to their generally southeastern alignments, the aboveground 230 kV transmission lines were not considered as suitable routing opportunities. Access roads to Bridgeport Substation and Logan Generation Plant were identified as potential parallel opportunities. Overall, the underground component in NJ is the most direct route between the transition vaults in NJ and the expanded Bridgeport Substation & has the least overall impact to land use & environmental resources.
Terrain description	Terrain crossed by the underground component in NJ is flat in a mostly industrial landscape with adjacent forested tracts and NJDEP wetlands. Elevation along the route varies from 9 to 14 feet above sea level. The underground component does not cross any major rivers. No major or local roads are crossed. The new line will cross underneath two aboveground 230 kV transmission lines. Although existing topography and the relative location of a transmission line can affect the scenic integrity of the Study Area, due to the relatively flat topography, steep slopes and terrain were not considered to be significant siting factors. Scenic integrity refers to the degree of intactness and wholeness of the landscape character. Because the underground component only affects aesthetics during pre-construction and construction, it results in fewer permanent land use or aesthetic impacts compared with a greenfield aboveground 230 kV transmission line.

Right-of-way width by segment	The new Claymont-Bridgeport 230kV Line will require the acquisition of 0.5 mile of underground transmission line ROW in NJ. The project begins at the existing Claymont Station near Claymont, New Castle County, DE running in a northeasterly direction to incumbent's expanded Bridgeport Station in Bridgeport, Gloucester County, NJ. The project will require obtaining a 120-foot-wide (60 feet on each side of the centerline) ROW to construct the line. A tabletop analysis found there were no public lands required for this Project. The private land use is predominantly industrial & utility & was verified through the Gloucester County Clerk's Offices classification/assessment. The Proposing Entity will use a proven land acquisition process & approach that has been successfully employed on projects over the years. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title, current property tax status & any liens & or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with landowners based on the fair market value of the property needed for the ROW easements. Market data studies & appraisals, both general & for specific tracts, will be conducted to establish values & as a basis for acquisition negotiations. The Proposing Entity will also pay for any physical damage to property resulting from the construction and/or maintenance of the transmission line. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational & non-threatening manner with the landowners. The long-term relationship with the landowners is paramount & will be kept in mind in all negotiations & honesty, integrity & professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the Proposing Entity and the property owner cannot be reached, and other viable alternatives do not exist, the Proposing Entity would seek the necessary approvals to exercise the right of eminent domain to secure required property through condemnation proceedings.
Electrical transmission infrastructure crossings	The Project from the existing Claymont Station in New Castle County, Delaware under the Delaware River to the Bridgeport Station in Gloucester, New Jersey will involve two (2) electrical transmission infrastructure crossings in New Jersey. The location of the 1st crossing is approximately: 39 47' 32.73" N, 75 24' 17.16"W. The location of the 2nd crossing is approximately: 39 47' 33.59" N, 75 24' 15.98"W. The Proposed Underground Route crosses the existing transmission lines in locations to minimize impacts to the existing transmission lines.
Civil infrastructure/major waterway facility crossing plan	The Project in Gloucester County, New Jersey will not involve any infrastructure/major waterway facility crossings.

Environmental impacts	Land use along the underground component in NJ consists of mixed NJDEP agricultural wetlands and industrial development. The proposed component crosses less than 0.1 mile of FEMA-mapped floodplain, NJDEP agricultural, scrub/shrub, and forested wetlands. No streams are crossed by the underground component. Based on existing aerial photography, the proposed component likely has unmapped wetland or drainage features. Desktop studies and record reviews will be conducted for wetlands and streams, hazardous materials, threatened & endangered species, and cultural resources. A field level stream/wetland delineation, environmental site assessment (stations), habitat survey for species identified by the records review, and cultural resource study will be completed for the underground component. Following field studies, data will be digitized and provided to engineering so that the underground conductors are sited to maximize avoidance of sensitive resources. For example, underground conductors may be placed within the access road to Bridgeport Substation to minimize tree clearing and land disturbance to the greatest extent possible. Existing access and roads will be utilized and if necessary, temporary access roads will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts. For ground disturbance, a Soil Erosion and Sediment Control (SESC) Certificate will be required from the Gloucester Soil Conservation District. A NJDEP 5G3 permit will be required for point source discharges from construction activities that disturb one acre or more of land. Post-construction stormwater controls will be implemented for the station as needed. Physical impacts to streams are not anticipated. It is anticipated that NJDEP Freshwater Wetland General Permits will be required for any permanent and/or temporary impacts to wetlands from access roads, groundwork, and laying conduit and conductor wire. A NJDEP Waterfront Development Permit will be required for all activities within 500 feet of the Delaware River. Timing of construction will be executed in accordance with U.S. Fish and Wildlife Service and NJDEP, criteria as needed.
Tower characteristics	Cable termination will be installed on the riser structure with adjustable brackets. The adjustable bracket provides flexibility to the termination structure and to ensure the structure aligns with cable center line.
Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.

Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.
Contingency	Redacted to protect business sensitive information.
Total component cost	$8,091,559.00
Component cost (in-service year)	$8,920,648.00

Greenfield Transmission Line Component

Component title	NJ Riverbank - River (HDD)
Project description	
Point A	NJ Riverbank
Point B	River
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	680.000000	1460.000000
Winter (MVA)	680.000000	1460.000000

Conductor size and type	3000kcmil copper conductor, Keystone shaped
Nominal voltage	AC
Nominal voltage	230 kV
Line construction type	Underground, Submarine

General route description	The Proposing Entity assessed environmental & land use constraints & opportunities within a study area that included the Claymont & Bridgeport substations as the two endpoints. This results in an 0.5 m2, 1,000-foot-wide study area comprising portions of New Castle Co., DE & Gloucester Co., NJ. The study area is defined as a 500-foot buffer surrounding the Bid Route and bounded by the tri-state border (PA, NJ, DE) and Delaware River downstream to the north; Bridgeport Substation to the east; Delaware River upstream from the south; and Claymont Substation to the west. The HDD component in NJ extends from transition vault structures to a point adjacent to the east Delaware riverbank. Multiple transmission lines exit Claymont Substation towards the west and Bridgeport Substation towards the southeast. The HDD component in NJ does not cross any transmission lines. No major constraints or opportunities were identified by the Proposing Entity. Although forested wetlands adjacent to the west bank of the Delaware River were identified, no impacts to these features are anticipated because the transmission line would be buried approximately 60 feet beneath the ground, reducing any impacts to the natural and built environments.
Terrain description	Terrain crossed by the HDD component in NJ is flat. Elevation along the route varies from 4 feet to 11 feet above sea level. The HDD component in NJ crosses underneath NJDEP deciduous wooded wetlands, the Delaware River and riverbank. No roads or transmission lines are crossed by the proposed component. Although existing topography and the relative location of a transmission line can affect the scenic integrity of the Study Area, due to the relatively flat topography, steep slopes and terrain were not considered to be significant siting factors throughout the construction phase. Scenic integrity refers to the degree of intactness and wholeness of the landscape character. Because the proposed HDD component only affects aesthetics during pre-construction and construction, no land use or aesthetic impacts are anticipated compared with a greenfield aboveground 230 kV transmission line.

Right-of-way width by segment	The new Claymont-Bridgeport 230kV Line will require the acquisition of 0.2 mile of HDD transmission line. The project begins at the existing Claymont Station near Claymont, New Castle County, DE running in a northeasterly direction to incumbent's existing Bridgeport Station in Bridgeport, Gloucester County, NJ. A tabletop analysis found there were no public lands required for this Project. The private land use is predominantly industrial & utility & was verified through the Gloucester County Clerk's Offices classification/assessment. The Proposing Entity will use a proven land acquisition process & approach that are successfully employed on projects over the years. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title, current property tax status & any liens, & or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with landowners based on the fair market value of the property needed for the ROW easements. Market data studies & appraisals, both general & for specific tracts, will be conducted to establish values & a basis for acquisition negotiations. The Proposing Entity will also pay for any physical damage to property resulting from the construction and/or maintenance of the transmission line. Good faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational & non-threatening manner with the landowners. The long-term relationship with the landowners is paramount & will be kept in mind in all negotiations & honesty, integrity & professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the Proposing Entity and the property owner cannot be reached, and other viable alternatives do not exist, the Proposing Entity would seek the necessary approvals to exercise the right of eminent domain to secure required property through condemnation proceedings.
Electrical transmission infrastructure crossings	The Proposed Underground Route crosses the existing transmission lines in locations to minimize impacts to the existing transmission lines. The HDD portion of the Project in Gloucester County, New Jersey will not involve any electrical transmission infrastructure facility crossings.
Civil infrastructure/major waterway facility crossing plan	The HDD portion of the Project in Gloucester County, New Jersey will not involve any civil infrastructure/major waterway facility crossings.
Environmental impacts	The Project along the HDD transmission line will not require any impacts to the natural environment as tree clearing, wetland, and floodplain impacts are not anticipated. As part of the larger Project in NJ, a Soil Erosion and Sediment Control (SESC) Certificate will be required from the Gloucester Soil Conservation District for ground disturbance. A NJDEP 5G3 permit will be required for point source discharges from construction activities that disturb one acre or more of land. Post-construction stormwater controls will be implemented for the station as needed. It is anticipated that a NJDEP Freshwater Wetland General Permit will be required for any permanent and/or temporary impacts to wetlands from access roads, groundwork, and laying conduit and conductor wire. A NJDEP Waterfront Development Permit will be required for all activities within 500 feet of the Delaware River. Timing of construction will be executed in accordance with U.S. Fish and Wildlife Service and NJDEP, criteria as needed.
Tower characteristics	See uploaded Claymont drawings.zip file for details on HDD cables.

Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.
Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.
Contingency	Redacted to protect business sensitive information.
Total component cost	$29,097,357.00
Component cost (in-service year)	$31,745,950.00

Greenfield Transmission Line Component

Component title	Bridgeport-Claymont
Project description	
Point A	Claymont (River)
Point B	Bridgeport (River)
Point C	

	Normal ratings	**Emergency ratings**
Summer (MVA)	882.000000	882.000000

Winter (MVA)	1418.000000	1418.000000
Conductor size and type	3000kcmil copper conductor, Keystone shaped	
Nominal voltage	AC	
Nominal voltage	230 kV	
Line construction type	Submarine	
General route description	The Proposing Entity assessed environmental & land use constraints & opportunities within a study area that included the Claymont & Bridgeport substations as the two endpoints. This results in an 0.5 m2, 1,000-foot-wide study area comprising portions of New Castle Co., DE & Gloucester Co., NJ. The study area is defined as a 500-foot buffer surrounding the Bid Route and bounded by the tri-state border (PA, NJ, DE) and Delaware River downstream to the north; Bridgeport Substation to the east; Delaware River upstream from the south; and Claymont Substation to the west. Multiple transmission lines exit Claymont Substation towards the west and Bridgeport Substation towards the southeast. Due to their alignment, no existing lines were identified as routing opportunities. Due to the nature of the project and the submarine component via the Delaware River, no roadways or land use features were identified as potential opportunities. Five gas and hazardous liquid pipelines traverse the Study Area from northwest to southeast. The two gas pipelines and three hazardous liquid pipelines were considered risks when identifying a submarine alignment for the Bid Route. The Proposing Entity did not identify any additional routes for the submarine component of the Bid Route. The submarine component of the Bid Route extends 1.7 miles along the Delaware River bottom, avoiding/minimizing many of the identified constraints within the central portion of the Study Area. Overall, the submarine component is the most direct route between the western and eastern banks of the Delaware River & has the least overall impact to land use & environmental resources.	
Terrain description	The Delaware riverbed crossed by the submarine component consists of the Marcus Hook Range and Marcus Hook Bar. The submarine component will carry electric power beneath the water to connect with the HDD transmission line on either side of the Delaware River.	

Right-of-way width by segment	The new Claymont-Bridgeport 230kV Line will require constructing 1.7 miles of submarine transmission line. The project begins at the existing Claymont Station near Claymont, New Castle County, DE and runs in a northeasterly direction to incumbent's existing Bridgeport Station in Bridgeport, Gloucester County, NJ. The submarine component begins at transition vaults associated with the HDD line component in New Castle County, Delaware along the west riverbank and continues generally southeast to transition vaults associated with the HDD line component in Gloucester County, New Jersey along the east riverbank. A desktop analysis found there are no public lands crossed by the submarine component of the Project. The land use is classified as river and was verified through the New Castle (DE) & Gloucester (NJ) Counties Clerk's Offices classifications/assessments. Private land requirements for in New Castle (DE) & Gloucester (NJ) Counties are predominantly industrial & utility. The Proposing Entity will use a proven land acquisition process & approach that have been successfully employed on projects over the years. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title, current property tax status & any liens, & or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with landowners based on the fair market value of the property needed for the ROW easements. Market data studies & appraisals, both general & for specific tracts, will be conducted to establish values & a basis for acquisition negotiations. The Proposing Entity will also pay for any physical damage to property resulting from the construction and/or maintenance of the transmission line. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational & non-threatening manner with the landowners. The long-term relationship with the landowners is paramount & will be kept in mind in all negotiations & honesty, integrity & professionalism will be displayed at all times.
Electrical transmission infrastructure crossings	The submarine portion of the Project in New Castle County, Delaware and Gloucester County, New Jersey will not involve any electrical transmission infrastructure crossings.
Civil infrastructure/major waterway facility crossing plan	The Project from the existing Claymont Station in New Castle County, Delaware under the Delaware River to the Bridgeport Station in Gloucester, New Jersey will involve constructing a submarine transmission line under the Delaware River. On the Delaware side, entry is approximately 39 47' 57.38" N, 75 26' 47.85"W, with mid river being located at approximately 39 47' 43.55" N, 75 25' 47.90"W and exiting the river in New Jersey at approximately 39 47' 32.26" N, 75 24' 45.93"W. The Proposing Entity will follow standard operating procedures and guidelines set forth by the U.S. Army Corps of Engineers and other state/federal entities for routing of submarine transmission line crossing of the Delaware River. Required permitting will be obtained in a timely manner in order to avoid schedule delays. The project will involve two (2) gas pipelines and two (3) hazardous liquid pipelines infrastructure crossings. The location of the 1st crossing is approximately (Gas): 39 47' 44.58" N, 75 25' 53.84"W. The location of the 2nd crossing is approximately (Hazardous Liquid): 39 47' 41.33" N, 75 25' 33.05"W. The location of the 3rd crossing is approximately (Hazardous Liquid): 39 47' 41.16" N, 75 25' 30.89"W. The location of the 4th crossing is approximately (Gas): 39 47' 37.43" N, 75 25' 05.58"W. The location of the 5th crossing is approximately (Gas): 39 47' 37.38" N, 75 25' 05.18"W. The Proposed Route crosses existing gas & hazardous liquid pipelines in locations to minimize potential impacts to the existing pipelines.

Environmental impacts	Installation of the submarine component of The Project Route will result in minimal environmental impacts. As part of the USACE permitting process, an essential fish habitat (EFH) assessment will need to be completed. The cable will not create a physical barrier to fish movement and will not adversely affect aquatic life indigenous to the Delaware River. No adverse effects to water quality to the extent that it would interfere with aquatic life are anticipated. The project will be constructed in accordance with an approved soil erosion and sediment control plan. A frac-out/inadvertent return contingency plan will be prepared and included in the federal and state permit applications for review and approval. Crossing of the Delaware River, a navigable waters of the US, will require USACE Section 10/Section 404 Nationwide Permit 57 approval from the USACE Philadelphia District. In addition, USACE Section 408 approval will be required due to the USACE Civil Work Delaware River Main Channel Deepening Project. A Subaqueous Lands Permit and Federal Consistency Certification will be required from the Delaware Department of Natural Resources and Environmental Control for installation of the submarine cable under the Delaware.
Tower characteristics	See uploaded Claymont drawings.zip file for details on submarine cables.
Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.
Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.
Contingency	Redacted to protect business sensitive information.
Total component cost	$75,812,681.00
Component cost (in-service year)	$82,709,423.00

Greenfield Transmission Line Component

Component title	River - DE Riverbank (HDD)	
Project description		
Point A	River	
Point B	Delaware Riverbank	
Point C		
	Normal ratings	**Emergency ratings**
Summer (MVA)	680.000000	680.000000
Winter (MVA)	1460.000000	1460.000000
Conductor size and type	3000kcmil copper conductor, Keystone shaped	
Nominal voltage	AC	
Nominal voltage	230 kV	
Line construction type	Underground, Submarine	
General route description	The Proposing Entity assessed environmental & land use constraints & opportunities within a study area that included the Claymont & Bridgeport substations as the two endpoints. This results in an 0.5 m2, 1,000-foot-wide study area comprising portions of New Castle Co., DE & Gloucester Co., NJ. The study area is defined as a 500-foot buffer surrounding the Bid Route and bounded by the tri-state border (PA, NJ, DE) and Delaware River downstream to the north; Bridgeport Substation to the east; Delaware River upstream from the south; and Claymont Substation to the west. The HDD component in DE extends 0.2 mile between transition vault structures associated with the horizontal directional drilling line components along the west Delaware riverbank to a point within the Delaware River. Multiple transmission lines exit Claymont Substation towards the west and Bridgeport Substation towards the southeast. The HDD component in DE does not cross any existing transmission lines. Although forested wetlands adjacent to the west bank of the Delaware River were identified, no impacts to these features are anticipated because the transmission line would be buried approximately 60 feet beneath the ground, reducing any impacts to the natural and built environments. Overall, the HDD component in DE is the most direct route between the transition vaults west of the Delaware River and the submarine component in DE.	

Terrain description	Terrain crossed by the HDD component in DE is flat in a mostly wooded landscape. Elevation along the route varies from 4 feet to 28 feet above sea level. The HDD component in DE crosses underneath a wooded area, the Delaware River and riverbank. No roads or transmission lines are crossed by the proposed component. Although existing topography and the relative location of a transmission line can affect the scenic integrity of the Study Area, due to the relatively flat topography, steep slopes and terrain were not considered to be significant siting factors throughout the construction phase. Scenic integrity refers to the degree of intactness and wholeness of the landscape character. Because the HDD component in DE only affects aesthetics during pre-construction and construction, it results in no land use or aesthetic impacts compared with a greenfield aboveground 230 kV transmission line.
Right-of-way width by segment	The new Claymont-Bridgeport 230kV Line will require the acquisition of 0.2 mile of HDD transmission line. The project begins at the existing Claymont Station near Claymont, New Castle County, DE running in a northeasterly direction to incumbent's existing Bridgeport Station in Bridgeport, Gloucester County, NJ. The project will require obtaining a 120-foot-wide (60 feet on each side of the centerline) ROW to construct the line. A tabletop analysis found there were no public lands required for this Project. The private land use is predominantly industrial & utility & was verified through the New Castle County Clerk's Offices classification/assessment. Proposing Entity will use a proven land acquisition process & approach that have successfully employed on projects over the years. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title, current property tax status & any liens, & or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with landowners based on the fair market value of the property needed for the ROW easements. Market data studies & appraisals, both general & for specific tracts, will be conducted to establish values & a basis for acquisition negotiations. The Proposing Entity will also pay for any physical damage to property resulting from the construction and/or maintenance of the transmission line. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational & non-threatening manner with the landowners. The long-term relationship with the landowners is paramount & will be kept in mind in all negotiations & honesty, integrity & professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the Proposing Entity and the property owner cannot be reached, and other viable alternatives do not exist, the Proposing Entity would seek the necessary approvals to exercise the right of eminent domain to secure required property through condemnation proceedings.
Electrical transmission infrastructure crossings	The HDD portion of the Project in New Castle County, Delaware will not involve any electrical transmission infrastructure facility crossings.
Civil infrastructure/major waterway facility crossing plan	The HDD portion of the Project in New Castle County, Delaware will not involve any civil infrastructure/major waterway facility crossings.

Environmental impacts	The Project along the HDD transmission line will not require any impacts to the natural environment as tree clearing, wetland, and floodplain impacts are not anticipated. State regulated tidal wetlands are not mapped within the vicinity of the HDD transmission line. Freshwater and tidal wetlands adjacent to the Delaware River would be regulated by the USACE. The project will be constructed in accordance with an approved soil erosion and sediment control plan. A frac-out/inadvertent return contingency plan will be prepared and included in the federal and state permit applications for review and approval. Crossing of the Delaware River, a navigable waters of the US, will require USACE Section 10/Section 404 Nationwide Permit 57 approval from the USACE Philadelphia District. In addition, USACE Section 408 approval will be required due to the USACE Civil Work Delaware River Main Channel Deepening Project. A Subaqueous Lands Permit and Federal Consistency Certification will be required from the Delaware Department of Natural Resources and Environmental Control for installation of the HDD transmission line under the Delaware.
Tower characteristics	See uploaded Claymont drawings.zip file for details on HDD cables.
Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.
Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.
Contingency	Redacted to protect business sensitive information.
Total component cost	$52,436,848.00
Component cost (in-service year)	$57,209,726.00

Greenfield Transmission Line Component

Component title	DE Riverbank - Claymont
Project description	
Point A	Delaware Riverbank
Point B	Claymont Station
Point C	

	Normal ratings	**Emergency ratings**
Summer (MVA)	925.000000	1034.000000
Winter (MVA)	1494.000000	1575.000000

Conductor size and type	3000kcmil aluminum conductor, Milliken construction
Nominal voltage	AC
Nominal voltage	230 kV
Line construction type	Underground
General route description	The Proposing Entity assessed environmental & land use constraints & opportunities within a study area that included the Claymont & Bridgeport substations as the two endpoints. This results in n 0.5 m2, 1,000-foot-wide study area comprising portions of New Castle Co., DE & Gloucester Co., NJ. The study area is defined as a 500 foot buffer surrounding the Bid Route and bounded by the tri-state border (PA, NJ, DE) and Delaware River downstream to the north; Bridgeport Substation to the east; Delaware River upstream from the south; and Claymont Substation to the west. The underground component in DE begins at the existing Claymont Substation and continues generally south/southeast for 0.1 mile to transition vault structures associated with the horizontal directional drilling line components along the west Delaware riverbank. Multiple transmission lines exit Claymont Substation towards the west and Bridgeport Substation towards the southeast. The underground component in DE crosses under an aboveground 69 kV transmission line south of Claymont Substation. Due to its generally north to south alignment, the aboveground 69 kV transmission line was not considered as suitable routing opportunity. Forested wetlands adjacent to the west bank of the Delaware River were identified as environmental risks, as clearing within a 100-foot-wide corridor is required. Overall, the underground component in DE is the most direct route between the transition vaults west of the Delaware River and the existing Claymont Substation.

Terrain description	Terrain crossed by the underground component in DE is flat in a mostly forested landscape adjacent to the Claymont Substation and associated transmission lines. Elevation along the route varies from 14 to 29 feet above sea level. The underground component in DE does not cross any major rivers. No major or local roadways are crossed. The new line will cross underneath an aboveground 69 kV transmission line. Although existing topography and the relative location of a transmission line can affect the scenic integrity of the Study Area, due to the relatively flat topography, steep slopes and terrain were not considered to be significant siting factors. Scenic integrity refers to the degree of intactness and wholeness of the landscape character. Because 1.6-acres of tree clearing is anticipated to construct this proposed component, aesthetic impacts to the existing landscape are anticipated south of the substation.
Right-of-way width by segment	The new Claymont-Bridgeport 230kV Line will require the acquisition of 0.1 mile of underground transmission line in DE. The project begins at the existing Claymont Station near Claymont, New Castle County, DE running in a northeasterly direction to incumbent's existing Bridgeport Station in Bridgeport, Gloucester County, NJ. A tabletop analysis found there were no public lands required for this Project. The private land use is predominantly industrial & utility that the tabletop analysis found & was verified through the Gloucester County Clerk's Offices classification/assessment. Private land requirements for burial on land includes acquiring 120' (60'/60') wide ROW in New Castle is predominantly industrial & utility. The Proposing Entity will use a proven land acquisition process & approach that have been successfully employed on projects over the years. The Proposing Entity's initial land acquisition step is to verify current ownership by an examination of title, current property tax status & any liens, & or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with landowners based on the fair market value of the property needed for the ROW easements. Market data studies & appraisals, both general & for specific tracts, will be conducted to establish values & a basis for acquisition negotiations. The Proposing Entity will also pay for any physical damage to property resulting from the construction and/or maintenance of the transmission line. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational & non-threatening manner with the landowners. The long-term relationship with the landowners is paramount & will be kept in mind in all negotiations & honesty, integrity & professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the Proposing Entity and the property owner cannot be reached, and other viable alternatives do not exist, the Proposing Entity would seek the necessary approvals to exercise the right of eminent domain to secure required property through condemnation proceedings.
Electrical transmission infrastructure crossings	The Project from the existing Claymont Station in New Castle County, Delaware under the Delaware River to the Bridgeport Station in Gloucester, New Jersey will involve one (1) electrical transmission infrastructure crossing in Delaware. The location of the crossing is approximately: 39 44' 02.03" N, 75 26' 50.86"W The Proposed Underground Route crosses the existing transmission lines in locations to minimize impacts to the existing transmission lines.

Civil infrastructure/major waterway facility crossing plan	The Project in New Castle County, Delaware will not involve any infrastructure/major waterway facility crossings.
Environmental impacts	Land use along the proposed underground component is predominantly forested. The proposed component intersects no FEMA-mapped floodplains and/or floodways and one National Wetlands Inventory-mapped wetland located south of Claymont Substation. No streams are crossed by the proposed component. Based on existing aerial photography, the proposed component likely has unmapped wetland or drainage features. Desktop studies and record reviews will be conducted for wetlands and streams, hazardous materials, threatened & endangered species, and cultural resources. A field level stream/wetland delineation, environmental site assessment (stations), habitat survey for species identified by the records review, and cultural resource study will be completed for the proposed component. Following field studies, data will be digitized and provided to engineering so that the underground conductors is sited to maximize avoidance of sensitive resources. For example, underground conductors may be placed in a location south/southwest of the Claymont Substation to minimize tree clearing to the greatest extent possible. Existing access and roads will be utilized and if necessary, temporary access roads will be identified and field surveyed for environmental and cultural resources and will be adjusted to avoid or minimize impacts. State regulated tidal wetlands are not mapped within the vicinity of the underground transmission line. Freshwater and tidal wetlands adjacent to the Delaware River would be regulated by the USACE. Impacts to federally regulated wetlands will require USACE Section 404 Nationwide Permit 57 approval from the USACE Philadelphia District. Project construction will require Sediment and Stormwater Management Plan approval from New Castle County, as a DNREC Division of Soil and Water Conservation’s delegated authority, prepared in accordance with Delaware’s Sediment and Stormwater Regulations. This approval and its associated requirements are regulated to control soil erosion and other materials from leaving the construction site.
Tower characteristics	Cable termination will be installed on the riser structure having adjustable brackets. The adjustable bracket provides flexibility of cable installation for alignment of cable center line.
Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.

Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.
Contingency	Redacted to protect business sensitive information.
Total component cost	$18,286,979.00
Component cost (in-service year)	$19,951,648.00

Substation Upgrade Component

Component title	Bridgeport Station upgrade
Project description	
Substation name	Bridgeport 230 kV Station
Substation zone	ACE
Substation upgrade scope	The incumbent will need to install a new breaker at the 230 kV Bridgeport Station to accommodate the new 230 kV line. Install appropriate line and circuit breaker protection that coordinates with Claymont remote end. Incumbent will require remote protection settings adjustments due to improvements.

Transformer Information

None

New equipment description	The station will need new a new breaker as well as appropriate line and circuit breaker protection.
Substation assumptions	This proposal assumes that all necessary outages will be available; existing AC, DC, and telecom. systems will accommodate the new equipment; ground resistivity test data are available; ground grid upgrades will not be needed; soil boring logs and geotechnical report are available.

Real-estate description	The incumbent's existing Bridgeport Station located in Gloucester County, New Jersey will require a 110-foot-by-330-foot fence expansion. The land for the expansion to the northeast of the existing substation will need to be purchased for the project. NJDEP wetlands are mapped within the vicinity of the substation expansion area. Temporary and permanent impacts will require authorization under the NJDEP Freshwater Wetland Act via a General Permit (impacts less than ½ acre) or Individual Permit (impacts greater than ½ acre). A review of NJDEP's GeoWeb indicates the Delaware River is considered tidal (head of tide located north of the Route 1 bridge in Trenton). The proposed expansion of the Bridgeport Station is approximately 400 feet from the mean high water line. Depending on the location of the proposed substation upgrades and associated limit of disturbance, compliance with the Coastal Zone Management Rules via a NJDEP Waterfront Development Permit may be required. Soil Erosion and Sediment Control Certificate from the Gloucester Soil Conservation District and NJDEP 5G3 Permit (Stormwater Construction Permit) will be required for earth disturbance.
Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.
Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.
Contingency	Redacted to protect business sensitive information.
Total component cost	$5,403,801.00
Component cost (in-service year)	$5,880,181.00

Substation Upgrade Component

Component title	Claymont Station Upgrade

Project description	
Substation name	Claymont Station
Substation zone	DPL&E
Substation upgrade scope	The incumbent will need to install a new breaker at the 230 kV Claymont Station to accommodate the new 230 kV line. Install appropriate line and circuit breaker protection that coordinates with Bridgeport remote end. Incumbent will require remote protection settings adjustments due to improvements.

Transformer Information

None

New equipment description	The station will need new a new breaker as well as appropriate line and circuit breaker protection.
Substation assumptions	This proposal assumes that all necessary outages will be available; existing AC, DC, and telecom. systems will accommodate the new equipment; ground resistivity test data are available; ground grid upgrades will not be needed; soil boring logs and geotechnical report are available.
Real-estate description	The incumbent's existing Claymont Station located in New Castle County, Delaware will not require fence expansion or any additional real estate to be purchased for the project.
Construction responsibility	Redacted to protect business sensitive information.
Benefits/Comments	Redacted to protect business sensitive information.
Component Cost Details - In Current Year $	
Engineering & design	Redacted to protect business sensitive information.
Permitting / routing / siting	Redacted to protect business sensitive information.
ROW / land acquisition	Redacted to protect business sensitive information.
Materials & equipment	Redacted to protect business sensitive information.
Construction & commissioning	Redacted to protect business sensitive information.
Construction management	Redacted to protect business sensitive information.
Overheads & miscellaneous costs	Redacted to protect business sensitive information.

Contingency	Redacted to protect business sensitive information.
Total component cost	$3,938,288.00
Component cost (in-service year)	$4,277,894.00

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-S2-W12	232014	LSPWR CABLE	232013	SILVER RUN	1	230	225	Gen Deliv (winter)	Included
28-GD-S2-W12	232014	LSPWR CABLE	232013	SILVER RUN	1	230	225	Gen Deliv (winter)	Included
35-GD-S2-W12	232014	LSPWR CABLE	232013	SILVER RUN	1	230/230	225/225	Gen Deliv (winter)	Included
28-GD-S2-W92	232014	LSPWR CABLE	232013	SILVER RUN	1	230	225	Gen Deliv (winter)	Included
28-GD-S2-W92	232012	HOPE CREEK	232014	LSPWR CABLE	1	230	225	Gen Deliv (winter)	Included
28-GD-S2-W92	232012	HOPE CREEK	232014	LSPWR CABLE	2	230	225	Gen Deliv (winter)	Included
35-GD-S2-W12	232012	HOPE CREEK	232014	LSPWR CABLE	1	230/230	225/225	Gen Deliv (winter)	Included
35-GD-S2-W12	232012	HOPE CREEK	232014	LSPWR CABLE	2	230/230	225/225	Gen Deliv (winter)	Included
28-GD-S2-W92	214277	RICHMOND35	214012	WANEETA3	1	230	230	Gen Deliv (winter)	Included
35-GD-S2-W12	214277	RICHMOND35	214012	WANEETA3	1	230/230	230/230	Gen Deliv (winter)	Included

New Flowgates

Redacted to protect business sensitive information.

Financial Information

Capital spend start date	08/2022
Construction start date	02/2025
Project Duration (In Months)	59

Additional Comments

None