

North Delta Option A

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	63
Project title	North Delta Option A
Project description	Build a new station called "North Delta" with two 500/230 kV 1500 MVA transformers and 9 breakers (4 high side and 5 low side breakers in ring bus configuration). Bring two existing lines, Peach Bottom – Delta Power Plant 500 kV and Cooper - Graceton 230 kV, "in and out" of North Delta. Build a new North Delta – Graceton 230 kV line by rebuilding 6.07 miles of the existing Cooper - Graceton 230 kV line to double circuit. Install 1 breaker at Graceton 230 kV to terminate the new line from North Delta.
Email	Redacted to protect business sensitive information.
Project in-service date	05/2025
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. Graceton Station Upgrade
2. North Delta Station
3. Tline Upgrade – Graceton – Cooper - Peach Bottom

4. Tline Upgrade – North Delta – Cooper Cut-in Lines
5. Tline Upgrade – Peach Bottom - Delta Cut-in Lines

Substation Upgrade Component

Component title	Graceton Station Upgrade
Project description	Redacted to protect business sensitive information.
Substation name	Graceton 230 kV Station
Substation zone	BGE (Area 232)
Substation upgrade scope	Install a new breaker to terminate a new 230KV line from the new greenfield North Delta Station.

Transformer Information

None	
New equipment description	Terminate a new 230KV line from the new greenfield North Delta Station with the installation of 1-230KV, 5000A, 63KA circuit breaker; 1-set of 3-230KV line CCVT's & steel str.; 1-set of 3-230KV line CT/PT combo units & steel str.; 1-230KV, 5000A group-operated line disc. sw.; 1-set of 3-230KV line arresters; 1-230KV H-frame style "adder" take-off tower with switch beam; and associated bus jumpers, foundations, yard lighting, control cables, conduits, and equipment grounding. Install associated relay equipment in the existing control house. Replace the line relaying on the existing 230KV line that will be interconnected with the new greenfield North Delta Station. Remove 2-230KV, 3-phase bus support str. and foundations; 90ft of aluminum tubing; 90ft of bus dampening cable; 6-230KV bus jumpers; and 6-230KV insulators.
Substation assumptions	This proposal assumes that all necessary outages will be available; existing AC, DC, and telecom. systems will accommodate the new equipment; the existing control house has space for the new relay panels; ground resistivity test data are available; ground grid upgrades will not be needed; the existing cable trench has space for the new control cables; soil boring logs and geotechnical report are available; existing yard station equipment does not need to be replaced; except for the associated line relays, all other existing relay systems do not need to be replaced; and existing line interchange metering exists and does not need to be replaced.
Real-estate description	The incumbent's existing Graceton Station (Harford County, MD) fence will not require 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	\$1,551,158.00
Component cost (in-service year)	\$1,628,047.00

Greenfield Substation Component

Component title	North Delta Station
Project description	
Substation name	North Delta
Substation description	The Proposing Entity assessed suitable substation sites by first assembling a multi-disciplinary team with a wide range of experience. Next, constraints and opportunity features are mapped within the study area. Once the study area and constraints and opportunity features were identified, the Proposing Entity selected substation sites adhering to a series of general siting and technical guidelines. Four potential substation sites were identified for this project. Focusing on environmental constraints and engineering/operation requirements and through a quantitative and qualitative analysis and comparison, the Proposing Entity eliminated three substation sites and identified a proposed substation site. The proposed substation site is approximately 30.8 acres and located at 39 44' 52.66" N, 76 18' 17.29"W between Lay Road and Wiley Road in York County, PA. The proposed substation site is currently undeveloped and agricultural.
Nominal voltage	AC

Nominal voltage 500 kV

Transformer Information

	Name	Capacity (MVA)	
Transformer	XRF # 1	500	
	High Side	Low Side	Tertiary
Voltage (kV)	500	230	13.8
	Name	Capacity (MVA)	
Transformer	XRF #2	500	
	High Side	Low Side	Tertiary
Voltage (kV)	500	230	13.8
Major equipment description	4 – 4000A 500kV 63kA Breakers with associated switched 6 – 500kV CCVT's 6 – 500kv CCVT's on the Incoming Peach Bottom and Delta Power Plant Lines 6 – 230kV CCVT's 9 – 9 CCVT's on the Tie-Lines – (Cooper, Graceton # 1, Graceton # 2) 5 – 5000A 230kV 63KA Breakers with associated switches 1 – New DICM		
	Normal ratings	Emergency ratings	
Summer (MVA)	1500.000000	1875.000000	
Winter (MVA)	1875.000000	2025.000000	

Environmental assessment

Land use at the proposed parcel for North Delta Station is currently undeveloped and predominantly agricultural. No National Wetlands Inventory (NWI) mapped wetlands or National Hydrography Dataset (NHD) mapped streams are located on the parcel. York County has listed threatened and endangered species and based on existing aerial photography, the parcel may contain unmapped wetland or drainage features. Studies will be completed for the development parcel including an environmental site assessment(s), wetland and stream delineation, threatened and endangered species review, and cultural resource study. Following these studies, the station will be sited on the property and designed to avoid impacts to sensitive features. It is not anticipated that regulated wetlands or streams will be affected as part of this solution. Major regulatory approvals for the proposed solution would not be anticipated to exceed any general performance standard or require any variance to be readily permitted. Construction will be covered under a general construction storm water permit from the Pennsylvania Department of Environmental Protection and appropriate best management practices will be installed prior to construction to manage storm water runoff. Additionally, appropriate post-construction storm water controls will be implemented as necessitated by the design. The components of the proposed solution and all associated impacts are typical of energy infrastructure projects and would not represent a risk to the overall project schedule, cost, or ability to meet the identified requirements of the RFP.

Outreach plan

Public outreach is a critical component to the Proposing Entity's siting process, so efforts include properly informing the public; federal, state & local agencies; local governments & other key stakeholders on the need for, & benefits of, this project. The Proposing Entity's approach to public outreach is to always be candid and transparent & to offer a variety of tools & means for impacted parties to engage with our staff. Public outreach also involves collecting information about landowner properties, which we consider during the final siting process. Proactive & interactive communication strategies & tools are used to assist siting efforts by soliciting comments & concerns from persons and entities affected by the project. These strategies & tools also assist in garnering support for the line siting process, as well as promote clear communication to landowners during land/ROW acquisition. The Proposing Entity plans to host public open house meetings in Norrisville, Maryland & one (1) in Delta, Pennsylvania to engage with the community & collect feedback on the project. We plan to invite landowners within 500 feet of the proposed substation and transmission rebuild line to attend the open houses & provide them the opportunity to review detailed maps & provide comments as it relates to the project & their property. These comments are a key component on refining the power line route. The Proposing Entity also plans to inform the public via new releases & notices in the local newspapers so community members can participate. Also, the Proposing Entity plans to have an interactive website so the public can obtain the same information that's provided at the open houses, submit their comments & receive regular & timely project updates. Open houses consist of multiple informational stations set as a workshop-style event, designed to educate the public on different aspects of the project, including: purpose, need, engineering, structure type & the Land/ROW acquisitions process. While the Proposing Entity is confident in the route selected, it's important to engage the public before initiating land/ROW acquisition. This process can identify unique items such as wells, geological formations & other features which must be considered in selecting the route to acquire land/ROW.

Land acquisition plan

The proposed North Delta Station will be sited off Wiley Road, just southeast of Flintville Road in York County, Pennsylvania on agricultural lands. The tabletop analysis found there were no public lands required for this Project. The private land use is agricultural as tabletop analysis found and was verified through the York County Clerk's Office that classified/assessed the land use as agricultural. The private land requirements includes the new station site/detention pond/grading, transmission line exits (located on the proposed station property) to incumbent's facilities located just north of the proposed site and an access road. The total Project acreage is 30.7 acres to be purchased in fee. Station site, transmission line exits (located on the proposed station property) and access road placement were chosen to minimize impacting farming operations. The Proposing Entity will use proven land acquisition process and 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, as well as document any liens, and 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 property owners based on the fair market value of the property needed for the station site and access road (both fee purchases). Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational and non-threatening manner with the landowners. The long-term relationship with the landowners is paramount and will be kept in mind in all negotiations, and honesty, integrity and 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 in PA to exercise the right of eminent domain to secure required property through condemnation proceedings.

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	\$76,266,059.00
Component cost (in-service year)	\$81,577,634.00

Transmission Line Upgrade Component

Component title Tline Upgrade – Graceton – Cooper - Peach Bottom

Project description

Impacted transmission line Graceton - Peach Bottom 230kV LIne

Point A North Delta 230 kV

Point B Graceton 230 kV

Point C

Terrain description The Project terrain is predominately rolling agricultural lands with scattered residential in Harford County, Maryland and York County, Pennsylvania. The proposed upgrade will rebuild the existing transmission line utilizing BOLD double circuit construction within existing fee owned right-of-way and supplement existing rights. Elevation within the Study Area ranges from approximately 369 to 547 feet above sea level, with an average elevation of 444 feet. No additional routes were evaluated as the rebuild is contained to the existing centerline.

Existing Line Physical Characteristics

Operating voltage	230 kV
Conductor size and type	Unknown
Hardware plan description	Retire existing single circuit line, install new for the line route from North Delta to Graceton.
Tower line characteristics	Lattice tower – single circuit

Proposed Line Characteristics

Designed **Operating**

Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2503.000000	2503.000000
Winter (MVA)	2634.000000	2634.000000
Conductor size and type	This project requires construction of a 6.2 mile 230kV AC transmission line between the existing Graceton Station and the proposed North Delta Station. The double circuit line will be constructed using 2 - 1590 kcmil (54/19 Strand) ACSS "Falcon" conductor	
Shield wire size and type	2 - 0.646" OPGW 96 ct Fiber	
Rebuild line length	The existing portion of line from the tower location near (39°44'56.20"N, 76°18'40.56"W) to Graceton Station (5.2 miles) with cut in portions at each station totaling 0.4 miles at North Delta and 0.3 miles at Graceton.	
Rebuild portion description	The incumbent will rebuild approximately 0.4-miles of their existing Graceton – Cooper – Peach Bottom 230 kV Transmission Line as a single-circuit 230 kV line from Graceton Substation located in Harford County, MD to a new monopole structure located adjacent to Wheeler School Road in Harford County, MD. The incumbent will rebuild the single-circuit 230 kV transmission line within their own existing fee owned right-of-way. A 0.3-mile section of single-circuit 230 kV Transmission Line will be built east of the Graceton Substation for single-circuit operation within existing rights to the new monopole structure located adjacent to Wheeler School Road. The incumbent will rebuild approximately 5.2-miles of their existing Graceton – Cooper – Peach Bottom 230 kV Transmission Line as a double-circuit 230 kV line from the new monopole structure located adjacent to Wheeler School Road to a new monopole structure located adjacent to Lay Road in York County, PA. The incumbent will rebuild the double-circuit 230 kV transmission line within their own existing fee owned right-of-way.	
Right of way	The incumbent will utilize the existing fee owned right-of-way and supplement existing rights as needed in Harford County, Maryland and York County, Pennsylvania. No major constraints should pose significant project obstacles if the incumbent can rebuild within the current fee owned right-of-way. If the right-of-way needs to be expanded to account for another circuit, in the area east of Pikes Peak Road five residences and an existing 34.5 kV line could make expanding the right-of-way more challenging than for the rest of the route.	
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	\$28,741,310.66
Component cost (in-service year)	\$30,165,982.00

Transmission Line Upgrade Component

Component title	Tline Upgrade – North Delta – Cooper Cut-in Lines
Project description	
Impacted transmission line	Peach Bottom - Graceton
Point A	Cooper 230 kV
Point B	North Delta 230 kV
Point C	
Terrain description	Due to the proposed length of the cut-in lines and the shape and location of the proposed North Delta Substation, no additional routes were evaluated.

Existing Line Physical Characteristics

Operating voltage	230 kV
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Conductor size and type	Unknown
Hardware plan description	Retire existing hardware at cut-in, install new for the re-route into North Delta.
Tower line characteristics	Single circuit lattice

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	230.000000	230.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2503.000000	2503.000000
Winter (MVA)	2634.000000	2634.000000
Conductor size and type	The single circuit cut-in line will be constructed using 2 - 1590 kcmil (54/19 Strand) ACSS "Falcon" conductor.	
Shield wire size and type	1 - 0.646" OPGW 96 ct Fiber	
Rebuild line length	This project requires construction of a 0.3 mile long 230kV AC overhead transmission line between the existing centerline location near (39°44' 56.77"N, 76°18' 38.66"W) and the proposed North Delta Station.	
Rebuild portion description	The incumbent will construct a new double-circuit North Delta – Graceton 230 kV and a new North Delta – Cooper 230 kV cut-in lines from a new monopole structure located adjacent to Lay Road into the proposed North Delta Substation, located in York County, PA. The double-circuit greenfield 230 kV portions are approximately 0.3 miles in length and the single-circuit 230 kV portions total approximately 0.4 miles in length. The 230 kV cut-in lines cross predominately agricultural fields within the substation property.	
Right of way	The incumbent will construct the greenfield 230 kV cut-in lines within new fee owned right-of-way in York County, PA. No major constraints should pose significant project obstacles if the incumbent can rebuild within the fee owned right-of-way.	
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	\$1,558,903.00
Component cost (in-service year)	\$1,636,176.00

Transmission Line Upgrade Component

Component title	Tline Upgrade – Peach Bottom - Delta Cut-in Lines
Project description	
Impacted transmission line	Peach Bottom - Graceton
Point A	Peach Bottom 500 kV
Point B	North Delta 500 kV
Point C	Delta Power Plant 500 kV
Terrain description	Due to the proposed length of the cut-in lines and the shape and location of the proposed North Delta Substation, no additional routes were evaluated.

Existing Line Physical Characteristics

Operating voltage	500kV
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Conductor size and type	Unknown
Hardware plan description	Retire existing hardware at cut-in, install new for the re-route into North Delta
Tower line characteristics	Single circuit – monopole construction

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	Emergency ratings
Summer (MVA)	2338.000000	2931.000000
Winter (MVA)	3062.000000	3480.000000
Conductor size and type	The single circuit cut-in line will be constructed using 2 Bundled – 1,272 kcmil (54/19 Strand) ACSR “Pheasant” conductor.	
Shield wire size and type	1 – 0.646” 96 ct OPGW for cut-in spans and 2 – 159 kcmil 12/7 Strand “Guinea” ACSR for station entrance spans.	
Rebuild line length	Total length of lines added to cut-in to the proposed North Delta Station is 0.34 miles.	
Rebuild portion description	The incumbent will construct a new Peach Bottom – North Delta 500 kV cut-in line from a new monopole structure located approximately 500 feet east of Lay Road into the proposed North Delta Substation, located in York County, PA. An additional Peach Bottom – North Delta 500 kV cut-out line will exit the proposed North Delta Substation and end at a new monopole structure located approximately 75 feet west of Wiley Road. The greenfield 500 kV cut-in lines are approximately 0.3 miles in length. The 500 kV cut-in lines cross predominately agricultural fields within the substation property.	
Right of way	The incumbent will construct the greenfield 500 kV cut-in lines within new fee owned right-of-way in York County, PA. No major constraints should pose significant project obstacles if the incumbent can rebuild within the fee owned right-of-way.	
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	\$1,558,903.00
Component cost (in-service year)	\$1,558,903.00

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-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W1200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W2200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
28-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500	232/230	Gen Deliv (winter)	Included
28-GD-S2-W3200066	200066	PCHBTM1N	270072	FUR RUN_500	1	500	230/225	Gen Deliv (winter)	Included
28-GD-S2-W3270072	270072	FUR RUN_500	270073	FUR RUN_230	1	500/230	225	Gen Deliv (winter)	Included
28-GD-S2-W3270072	270072	FUR RUN_500	270073	FUR RUN_230	2	500/230	225	Gen Deliv (winter)	Included
28-GD-S2-W12070073	2070073	FUR RUN_230	220963	CONASTON	2	230	232/225	Gen Deliv (winter)	Included
28-GD-S2-W12070073	2070073	FUR RUN_230	220963	CONASTON	1	230	232/225	Gen Deliv (winter)	Included
35-GD-W5 200064	200064	PCHBTM1S	200004	CNASTONE	1	500/500	230/232	Gen Deliv (winter)	Included
35-GD-S2-W3200064	200064	PCHBTM1S	200004	CNASTONE	1	500/500	230/232	Gen Deliv (winter)	Included
35-GD-S2-W1200064	200064	PCHBTM1S	200004	CNASTONE	1	500/500	230/232	Gen Deliv (winter)	Included
35-GD-S2-W1200066	200066	PCHBTM1N	270072	FUR RUN_500	1	500/500	230/225	Gen Deliv (winter)	Included

New Flowgates

Redacted to protect business sensitive information.

Financial Information

Capital spend start date 11/2022

Construction start date 05/2025

Project Duration (In Months) 30

Additional Comments

None