Interregional solution- Aspen-Doubs Second 500 kV Line

General Information

Proposing entity name	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Company proposal ID	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
PJM Proposal ID	516
Project title	Interregional solution- Aspen-Doubs Second 500 kV Line
Project description	Build a new 500 kV circuit between Aspen and Doubs - this project scope only accounts for construction up to the Doubs Interconnection Point, FirstEnergy/PEPCO will be responsible for building the remaining portion of the line to the Doubs substation. The Exelon proposals will be 2022-W3-660 and 2022-W3-344. The First Energy proposal (Potomac Edison Company) ID will be 2022-W3-837. 230kV Line #203 will be wrecked and rebuilt as a double circuit in the existing ROW to accommodate the new 500 kV line. Additionally, existing 500kV Line #514 will also be wrecked and rebuilt as a double circuit 500kV/230KV lines between Goose Creek/Pleasant View and the Doubs Interconnection Point. 230kV Line #2098 will share the double circuit between Pleasant View and Hamilton Substations, and the remaining portion will be built to accommodate a future 230 kV circuit. Substation equipment will be upgraded to accommodate impact of new lines and line modifications. Substation scope also includes overdutied breaker replacements at Pleasant View, Loudoun and Ox substations.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	12/2027
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	No
Additional benefits	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Project Components

1. Aspen Substation Terminal Equipment Installation for 5000A Line to Doubs
2. Breezy Knoll Relay Reset
3. Dry Mill South Relay Reset
4. Goose Creek Substation Equipment Upgrade
5. Hamilton Relay Reset
6. Pleasant View Substation Equipment Upgrade
7. Line #203 (Pleasant View - Dickerson) Rebuild
8. New 500 kV Line (Aspen to Doubs)
9. Line #514 (Goose Creek - Doubs) Rebuild
10. Line #2098 (Pleasant View - Hamilton) Partial Rebuild
11. Loudoun Substation Overdutied Breaker Replacement
12. Ox Substation Overdutied Breaker Replacement
13. Pleasant View Substation Overdutied Breaker Replacement
14. Edwards Ferry Substation Equipment Upgrade

Substation Upgrade Component

Component title	Aspen Substation Terminal Equipment Installation for 5000A Line to Doubs
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Aspen
Substation zone	366, 352

Substation upgrade scope	Purchase and install substation material: 1. Two (2), GIS 500 kV, 63kAIC, 5000A, SF6 Circuit Breakers 2. Five (5), GIS 500 kV, 5000A, Group Operated Disconnect Switches w/grounding switches as required 3. Three (3), GIS 500 kV, Metering Accuracy CT's 4. Three (3), GIS 500 kV, Relay Accuracy CT's 5. Three (3), 396 kV, 318 kV MCOV Station Class Surge Arresters 6. Three (3), 500kV, Metering Accuracy CCVT's 7. One (1), 500 kV Backbone structure (by Transmission) 8. Gas Insulated Bus, connectors, gas to air bushings as required 9. Conductor, connectors, insulators, conduit, control cable, foundations, steel structures and grounding connections as per engineering standards Purchase and install relay material: 1. Two (2), 1510 – 28" Dual SEL-351 Transmission Breaker w/ Reclosing Panel 2. Two (2), 1515 – SEL 351 500 kV Breaker Reclosing Panel (Use with 1510) 3. One (1), 1324 – 28" SEL-421-5/311L POTT & Diff. via Fiber Line Panel 4. One (1), 1425 – 28" Dual SEL-735 Transmission & Gen. Interconnect Metering Panel 5. One (1), 4200 – Transmission Line C.T. Makeup Box 6. One (1), 4524 – Metering C.T. Makeup Box 7. One (1), 4506 – 3Ø CCVT Potential Makeup Box w/ Metering (P4)

Transformer Information

None

New equipment description	1. Two (2), GIS 500 kV, 63kAIC, 5000A, SF6 Circuit Breakers 2. Five (5), GIS 500 kV, 5000A, Group Operated Disconnect Switches w/grounding switches as required 3. Three (3), GIS 500 kV, Metering Accuracy CT's 4. Three (3), GIS 500 kV, Relay Accuracy CT's 5. Three (3), 396 kV, 318 kV MCOV Station Class Surge Arresters 6. Three (3), 500kV, Metering Accuracy CCVT's 7. One (1), 500 kV Backbone structure (by Transmission) 8. Gas Insulated Bus, connectors, gas to air bushings as required 9. Two (2), 1510 – 28" Dual SEL-351 Transmission Breaker w/ Reclosing Panel 10. Two (2), 1515 – SEL 351 500 kV Breaker Reclosing Panel (Use with 1510) 11. One (1), 1324 – 28" SEL-421-5/311L POTT & Diff. via Fiber Line Panel 12. One (1), 1425 – 28" Dual SEL-735 Transmission & Gen. Interconnect Metering Panel 13. One (1), 4200 – Transmission Line C.T. Makeup Box 14. One (1), 4524 – Metering C.T. Makeup Box 15. One (1), 4506 – 3Ø CCVT Potential Makeup Box w/ Metering (P4)
Substation assumptions	The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$12,985,822.00
Component cost (in-service year)	$13,907,815.36

Substation Upgrade Component

Component title	Breezy Knoll Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Breezy Knoll
Substation zone	352
Substation upgrade scope	Relay settings reset.

Transformer Information

None

New equipment description	No new equipment
Substation assumptions	1. Relay Settings and protection & control design will be revised as part of the SPE scope of work. 2. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$19,774.00
Component cost (in-service year)	$21,177.95

Substation Upgrade Component

Component title	Dry Mill South Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Dry Mill South
Substation zone	352
Substation upgrade scope	Relay settings reset.

Transformer Information

None

New equipment description	No new equipment
Substation assumptions	1. Relay Settings and protection & control design will be revised as part of the SPE scope of work. 2. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary.

Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$19,774.00
Component cost (in-service year)	$21,178.00

Substation Upgrade Component

Component title	Goose Creek Substation Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Goose Creek
Substation zone	366, 352

Substation upgrade scope	Purchase and install substation material: 1. Four (4), 500kV, 5000A Double End Break Switches. 2. Two (2), 500kV, 63kAIC, 5000A, SF6 Circuit Breakers. 3. Approximately 1300’ of 6” Sch 80 Al Tube Bus. 4. Foundations and steel structures as required. 5. Conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. Two (2), 4510 – SEL-2411 Breaker Annunciator. 2. Two (2), 4535 – 500kV GE Circuit Breaker Condition Monitor or 4536 – 500kV Axion Circuit Breaker Condition Monitor. 3. Two (2), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box. 4. One (1), 1340 – 28” Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 5. One (1), Panel Retirement (Panel 3) Retire substation material: 1. Four (4), 500kV, 4000A Double End Break Switches. 2. Two (2), 500kV, 63kAIC, 4000A, SF6 Circuit Breakers. 3. Two (2), 500kV, 4000A Wave Trap. 4. Approximately 1300’ of 6” Sch 40 Al Tube Bus.

Transformer Information

None

New equipment description	1. Four (4), 500kV, 5000A Double End Break Switches. 2. Two (2), 500kV, 63kAIC, 5000A, SF6 Circuit Breakers. 3. Approximately 1300’ of 6” Sch 80 Al Tube Bus. 4. Two (2), 4510 – SEL-2411 Breaker Annunciator. 5. Two (2), 4535 – 500kV GE Circuit Breaker Condition Monitor or 4536 – 500kV Axion Circuit Breaker Condition Monitor. 6. Two (2), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box. 7. One (1), 1340 – 28” Dual SEL-411L DCB/Fiber, CD/Fiber Line Panel (500kV w/ 2 Fiber Cables) 8. One (1), Panel Retirement (Panel 3)
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole connections to maintain 5000A ratings. 3. Relay Settings and protection & control design will be revised as part of the SPE scope of work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$4,085,571.00
Component cost (in-service year)	$4,375,646.54

Substation Upgrade Component

Component title	Hamilton Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Hamilton
Substation zone	352
Substation upgrade scope	Relay settings reset.

Transformer Information

None

New equipment description	No new equipment
Substation assumptions	1. Relay Settings and protection & control design will be revised as part of the SPE scope of work. 2. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$11,781.00
Component cost (in-service year)	$12,617.45

Substation Upgrade Component

Component title	Pleasant View Substation Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Pleasant View
Substation zone	366, 352
Substation upgrade scope	Purchase and install substation material: 1. One (1), 230kV, 4000A Vertical Break Switches with vacuum interrupter attachment. 2. One (1), Motor Operator, 10-20K IN-LB. 3. 180 kV, 144 kV MCOV Surge Arresters 4. Four (4), 230kV, 80kAIC, 4000A, SF6 Circuit Breakers. 5. Nine (9), 230kV, 4000A Center Break Switches. 6. Approximately 200 FT of 5 in Sch 40 Tubular Bus and Connectors. 7. Foundations and steel structures as required. 8. Conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. One (1), 4103 – Non-Earthing Switch MOAB AC/DC Distribution Box 2. One (1), 4548 – Non-Earthing Switch MOAB Control Box 3. Four (4), 4510 – SEL-2411 Breaker Annunciator. 4. Four (4), 4526_A – Circuit Breaker Fiber Optic Makeup Box. Retire substation material: 1. One (1), 230kV, 3000A Vertical Break Switches with vacuum interrupter attachment. 2. One (1), 230kV, 50kAIC, 3000A, SF6 Circuit Breakers. 3. Three (3), 230kV, 63kAIC, 3000A, SF6 Circuit Breakers. 4. Nine (9), 230kV, 3000A Center Break Switches.

Transformer Information

None

New equipment description	1. One (1), 230kV, 4000A Vertical Break Switches with vacuum interrupter attachment. 2. One (1), Motor Operator, 10-20K IN-LB. 3. 180 kV, 144 kV MCOV Surge Arresters 4. Four (4), 230kV, 80kAIC, 4000A, SF6 Circuit Breakers. 5. Nine (9), 230kV, 4000A Center Break Switches. 6. Approximately 200 FT of 5 in Sch 40 Tubular Bus and Connectors. 7. One (1), 4103 – Non-Earthing Switch MOAB AC/DC Distribution Box 8. One (1), 4548 – Non-Earthing Switch MOAB Control Box 9. Four (4), 4510 – SEL-2411 Breaker Annunciator. 10. Four (4), 4526_A – Circuit Breaker Fiber Optic Makeup Box.
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and protection & control design will be revised as part of the SPE scope of work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$3,615,530.00
Component cost (in-service year)	$3,872,232.63

Transmission Line Upgrade Component

Component title	Line #203 (Pleasant View - Dickerson) Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line #203
Point A	Pleasant View
Point B	Edward Ferry
Point C	Dickerson
Terrain description	The project area is in the northern Virginia Piedmont region with elevations ranging from approximately 280 to 310 feet. The terrain is predominately vegetated existing right-of-way and urban development consisting of moderate slopes. The line will cross one primary road, several small streams, and Goose Creek.

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	2-768.2 ACSS/TW/HS (20/7) 208°C MOT
Hardware plan description	New hardware will be used for line rebuild.
Tower line characteristics	Existing Structures will be removed and new structures will be used for this rebuild.

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1573.000000	1573.000000
Winter (MVA)	1648.000000	1648.000000
Conductor size and type	2-768.2 ACSS/TW/HS (20/7) 250°C MOT	
Shield wire size and type	DNO-10100 OPGW	

Rebuild line length	3.03 Miles
Rebuild portion description	EXISTING FACILITIES TO BE REMOVED: 1. Remove one (1) existing 230kV single circuit concrete 3-pole deadend structure as follows: a. Structure 203/1B. 2. Remove four (4) existing 230kV double circuit steel monopole deadend structures as follows: a. Structures 203/1A,1, 3-4. 3. Remove three (3) existing 230kV double circuit steel monopole suspension structures as follows: a. Structures 203/2, 5, 6. 4. Remove four (4) existing 230kV single circuit (6-wired) steel monopole deadend structures as follows: a. Structures 203/7-8, 13-14. 5. Remove four (4) existing 230kV single circuit (6-wired) steel monopole suspension structures as follows: a. Structures 203/9-12. 6. Remove one (1) existing 230kV double circuit steel deadend tower as follows: a. Structure 203/15. 7. Remove approximately 3.0 miles of Line 203 3-phase 2-768.2 ACSS/TW/HS285 (20/7) conductor between structures 203/1A and 203/15. 8. Remove approximately 0.1 miles of Line 203 3-phase 2-1033.5 ACSR (45/7) conductor from structure 203/1C and 203/1A. PERMANENT FACILITIES TO BE INSTALLED: 1. Install twenty two (22) 500/230 kV double circuit steel suspension 5-2kt towers (15.300) on foundations. a. Estimate based on 20’ Body Extension and 5’ Leg Extension for all 5-2kt towers. 2. Install four (4) 500/230 kV double circuit steel deadend 5-2kl towers (15.305) on foundations. a. Estimate based on 20’ Leg Extension for all 5-2kl towers. 3. Install six (6) 500/230 kV double circuit steel deadend 5-2km towers (15.306) on foundations. a. Estimate based on 40’ Leg Extension for all 5-2km towers. 4. Install approximately 3.0 miles of Line 203 3-phase 2-768.2 ACSS/TW/HS “Maumee” conductor between the existing backbone structure inside of Pleasant View Substation and proposed structure 5XX/15 (203/15). 5. Install approximately 3.1 miles of two (2) DNO-10100 OPGW shield wire between Aspen Substation and proposed structure 5XX/15 (203/15). a. Assumes 3 OPGW splices throughout the line per OPGW. 6. Install approximately 0.1 miles of single (1) 7#7 Alumoweld shield wire from the existing Line 203 backbone structure inside of Pleasant View Substation to the first 500/230kV double circuit lattice tower outside of Pleasant View Substation. [Description may include scope of work that overlaps with other components – refer to 993178_ T-Line Scope document for complete scope description]
Right of way	Existing Right-of-Way shall be used.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$6,870,477.20
Component cost (in-service year)	$7,358,281.08

Greenfield Transmission Line Component

Component title	New 500 kV Line (Aspen to Doubs)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Point A	Aspen
Point B	Doubs
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	4357.000000	4357.000000
Winter (MVA)	5155.000000	5155.000000

Conductor size and type	3-1351.5 ACSR (45/7) 110°C MOT
Nominal voltage	AC
Nominal voltage	500
Line construction type	Overhead
General route description	The new 500 kV line shall follow the same route as the existing Line #203.

Terrain description	The project area is in the northern Virginia Piedmont region with elevations ranging from approximately 280 to 310 feet. The terrain is predominately vegetated existing right-of-way and urban development consisting of moderate slopes. The line will cross one primary road, several small streams, and Goose Creek.
Right-of-way width by segment	Additional ROW will be required as part of this project. For approximately 3.1 miles between Aspen Substation and proposed structure 5XX/15 (203/15), an additional ROW width of twenty-five (25) feet is required. See cross section drawing (in the 993178_T-Line Scope document) for additional ROW information.
Electrical transmission infrastructure crossings	To be determined in detailed design.
Civil infrastructure/major waterway facility crossing plan	Refer to section A.5 of 993178 Real Estate and Permitting Summary.
Environmental impacts	Refer to section A.4 of 993178 Real Estate and Permitting Summary.
Tower characteristics	PERMANENT FACILITIES TO BE INSTALLED: 1. Install one (1) 500kV single circuit steel deadend 93HA-DE tower (15.056) on a foundation. a. Estimate based on 30’ Leg Extension for all 93HA-DE towers. 2. Install twenty two (22) 500/230 kV double circuit steel suspension 5-2kt towers (15.300) on foundations. a. Estimate based on 20’ Body Extension and 5’ Leg Extension for all 5-2kt towers. 3. Install four (4) 500/230 kV double circuit steel deadend 5-2kl towers (15.305) on foundations. a. Estimate based on 20’ Leg Extension for all 5-2kl towers. 4. Install six (6) 500/230 kV double circuit steel deadend 5-2km towers (15.306) on foundations. a. Estimate based on 40’ Leg Extension for all 5-2km towers. 5. Install approximately 3.1 miles of Line 5XX 3-phase 3-1351.5 ACSR (45/7) “Dipper” conductor between Aspen Substation and proposed structure 5XX/15 (203/15). 6. Install approximately 3.1 miles of two (2) DNO-10100 OPGW shield wire between Aspen Substation and proposed structure 5XX/15 (203/15). a. Assumes 3 OPGW splices throughout the line per OPGW. [Description may include scope of work that overlaps with other components – refer to 993178_ T-Line Scope document for complete scope description]
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$12,023,335.10
Component cost (in-service year)	$12,876,991.89

Transmission Line Upgrade Component

Component title	Line #514 (Goose Creek - Doubs) Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line #514
Point A	Goose Creek
Point B	Doubs Interconnection Point
Point C	Doubs
Terrain description	The project area is in the northern Virginia Piedmont region with elevations ranging from approximately 280 to 310 feet. The terrain is predominately vegetated existing right-of-way and urban development consisting of moderate slopes. The line will cross one primary road, several small streams, and Goose Creek.

Existing Line Physical Characteristics

Operating voltage	500
Conductor size and type	3-1351.5 ACSR (45/7) 90°C MOT [.33 miles]; 2-2049.5 AAAC (61 5005/0) 75°C MOT [7.77 miles]
Hardware plan description	New hardware will be used for line rebuild.
Tower line characteristics	Existing Structures will be removed and new structures will be used for this rebuild.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	4357.000000	4357.000000
Winter (MVA)	5155.000000	5155.000000
Conductor size and type	3-1351 ACSR (45/7) 110°C MOT	
Shield wire size and type	DNO-10100 OPGW	
Rebuild line length	3.10 Miles	
Rebuild portion description	EXISTING FACILITIES TO BE REMOVED: 1. Remove one (1) existing 500kV single circuit weathering steel H-Frame suspension structure as follows: a. Structure 514/1850. 2. Remove two (2) existing 500kV single circuit galvanized steel 3-pole deadend structures as follows: a. Structures 514/1854-1855. 3. Remove four (4) existing 500kV single circuit weathering steel running angle tower structures as follows: a. Structures 514/1841, 1848, 1852-1853. 4. Remove eight (8) existing 500kV single circuit weathering steel suspension tower structures as follows: a. Structures 514/1842-1847, 1849, 1851. 5. Remove approximately 0.3 miles of Line 514 3-phase 3-1351.5 ACSR (45/7) conductor from Goose Creek Substation to structure 514/1854. 6. Remove approximately 2.8 miles of Line 514 3-phase 2-2049.5 AAAC (61 5005/0) conductor from structure 514/1841 to structure 514/1854. 7. Remove approximately 2.6 miles of (2) 7#7 Alumoweld shield wire from structure 514/1841 to 514/1853. 8. Remove approximately 0.5 miles of (2) DNO-8482 OPGW from structure 514/1853 to 514/1856 in Goose Creek Substation. PERMANENT FACILITIES TO BE INSTALLED: 1. Install one (1) 500kV single circuit steel deadend 93HA-DE tower (15.056) on a foundation. a. Estimate based on 30’ Leg Extension for all 93HA-DE towers. 2. Install twenty two (22) 500/230 kV double circuit steel suspension 5-2kt towers (15.300) on foundations. a. Estimate based on 20’ Body Extension and 5’ Leg Extension for all 5-2kt towers. 3. Install four (4) 500/230 kV double circuit steel deadend 5-2kl towers (15.305) on foundations. a. Estimate based on 20’ Leg Extension for all 5-2kl towers. 4. Install six (6) 500/230 kV double circuit steel deadend 5-2km towers (15.306) on foundations. a. Estimate based on 40’ Leg Extension for all 5-2km towers. 5. Install approximately 3.1 miles of Line 514 3-phase 3-1351.5 ACSR (45/7) “Dipper” conductor between Goose Creek Substation and proposed structure 514/1841 at the Doubs Interconnection point. 6. Install approximately 3.1 miles of two (2) DNO-10100 OPGW shield wire between Goose Creek Substation and proposed structure 514/1841 at the Doubs Interconnection point. a. Assumes 3 OPGW splices throughout the line per OPGW. [Description may include scope of work that overlaps with other components – refer to 993178_ T-Line Scope document for complete scope description]	

Right of way	Existing Right-of-Way will be used. No additional Right-of-Way required for this rebuild.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$12,023,335.10
Component cost (in-service year)	$12,876,991.89

Transmission Line Upgrade Component

Component title	Line #2098 (Pleasant View - Hamilton) Partial Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line #2098
Point A	Pleasant View
Point B	Dry Mill South
Point C	Hamilton

Terrain description	The project area is in the northern Virginia Piedmont region with elevations ranging from approximately 280 to 310 feet. The terrain is predominately vegetated existing right-of-way and urban development consisting of moderate slopes. The line will cross one primary road, several small streams, and Goose Creek.

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	2-636 ACSR (24/7) 150°C MOT
Hardware plan description	New hardware will be used for the segment being rebuilt.
Tower line characteristics	Existing structures will be removed and new structures will be used for this rebuild.

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1047.000000	1047.000000
Winter (MVA)	1160.000000	1160.000000
Conductor size and type	2-768.2 ACSS/TW/HS (20/7) 250°C MOT	
Shield wire size and type	DNO-10100 OPGW	
Rebuild line length	1 Mile	

Rebuild portion description	EXISTING FACILITIES TO BE REMOVED: 1. Remove one (1) existing 230kV single circuit steel 3-pole deadend structure as follows: a. Structure 2098/9. 2. Remove the following spans of 3-phase 2-636 ACSR (24/7) conductor as follows: a. Approximately 1.0 miles of Line 2098 conductor between structures 2098/1 and 2098/10. b. Approximately 2.0 miles of idle Line 2098 conductor between structures 2098/8 (203/6) and Edwards Ferry Substation. 3. Remove the following spans of (2) 614-45/45MM2 OPGW shield wires as follows: a. Approximately 3.0 miles between structures 2098/1 to 203/15. b. Approximately 0.1 miles between structures 2098/8 (203/6) and 2098/10. PERMANENT FACILITIES TO BE INSTALLED: 1. Install twenty two (22) 500/230 kV double circuit steel suspension 5-2kt towers (15.300) on foundations. a. Estimate based on 20’ Body Extension and 5’ Leg Extension for all 5-2kt towers. 2. Install four (4) 500/230 kV double circuit steel deadend 5-2kl towers (15.305) on foundations. a. Estimate based on 20’ Leg Extension for all 5-2kl towers. 3. Install six (6) 500/230 kV double circuit steel deadend 5-2km towers (15.306) on foundations. a. Estimate based on 40’ Leg Extension for all 5-2km towers. 4. Install approximately 1.0 miles of Line 2098 3-phase 2-768.2 ACSS/TW/HS “Maumee” conductor between the existing backbone structure inside of Pleasant View Substation and existing structure 2098/10 at the Hamilton junction. 5. Install approximately 3.1 miles of two (2) DNO-10100 OPGW shield wire between Goose Creek Substation and proposed structure 514/1841 at the Doubs Interconnection point. a. Assumes 3 OPGW splices throughout the line per OPGW. [Description may include scope of work that overlaps with other components – refer to 993178_ T-Line Scope document for complete scope description]
Right of way	Existing Right-of-Way will be used. No new Right-of-Way required for this proposal.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Total component cost	$3,435,238.60
Component cost (in-service year)	$3,679,140.54

Substation Upgrade Component

Component title	Loudoun Substation Overdutied Breaker Replacement
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Loudoun
Substation zone	352
Substation upgrade scope	Purchase and install substation material: 1. Five (5), 230kV, 80kAIC, 4000A, SF6 Circuit Breakers. 2. Foundations and steel structures as required. 3. Al bus, conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. Five (5), 4510 – SEL-2411 Breaker Annunciator. 2. Five (5), 4526_A – Circuit Breaker Fiber Optic Makeup Box Retire substation material: 1. Five (5), 230kV, 63kAIC, 3000A, SF6 Circuit Breakers.

Transformer Information

None

New equipment description	1. Five (5), 230kV, 80kAIC, 4000A, SF6 Circuit Breakers. 2. Foundations and steel structures as required. 3. Five (5), 4510 – SEL-2411 Breaker Annunciator. 4. Five (5), 4526_A – Circuit Breaker Fiber Optic Makeup Box.
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and protection & control design will be revised as part of the SPE scope of work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,322,751.00
Component cost (in-service year)	$2,487,666.32

Substation Upgrade Component

Component title	Ox Substation Overdutied Breaker Replacement
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Ox
Substation zone	366
Substation upgrade scope	Purchase and install substation material: 1. Two (2), 500kV, 63kAIC, 5000A, SF6 Circuit Breakers. 2. Foundations and steel structures as required. 3. Al bus, conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. Two (2), 4510 – SEL-2411 Breaker Annunciator. 2. Two (2), 4535 – 500kV GE Circuit Breaker Condition Monitor OR One (1), 4536 – 500kV Axion Circuit Breaker Condition Monitor. 3. Two (2), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box. Retire substation material: 1. Two (2), 500kV, 40kAIC, 4000A, SF6 Circuit Breakers. 2. Six (6), 500kV, 3000/5, CTs.

Transformer Information

None

New equipment description	1. Two (2), 500kV, 63kAIC, 5000A, SF6 Circuit Breakers. 2. Foundations and steel structures as required. 3. Two (2), 4510 – SEL-2411 Breaker Annunciator. 4. Two (2), 4535 – 500kV GE Circuit Breaker Condition Monitor OR One (1), 4536 – 500kV Axion Circuit Breaker Condition Monitor. 5. Two (2), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box.
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and protection & control design will be revised as part of the SPE scope of work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$2,511,949.00
Component cost (in-service year)	$2,690,297.38

Substation Upgrade Component

Component title	Pleasant View Substation Overdutied Breaker Replacement
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Substation name	Pleasant View
Substation zone	366
Substation upgrade scope	Purchase and install substation material: 1. One (1), 500kV, 63kAIC, 5000A, SF6 Circuit Breakers. 2. Foundations and steel structures as required. 3. Al bus, conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. One (1), 4510 – SEL-2411 Breaker Annunciator. 2. One (1), 4535 – 500kV GE Circuit Breaker Condition Monitor OR One (1), 4536 – 500kV Axion Circuit Breaker Condition Monitor. 3. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box. Retire substation material: 1. Two (2), 500kV, 40kAIC, 4000A, SF6 Circuit Breakers. 2. Six (6), 500kV, 3000/5, CTs.

Transformer Information

None

New equipment description	1. One (1), 500kV, 63kAIC, 5000A, SF6 Circuit Breakers. 2. Foundations and steel structures as required. 3. One (1), 4510 – SEL-2411 Breaker Annunciator. 4. One (1), 4535 – 500kV GE Circuit Breaker Condition Monitor OR One (1), 4536 – 500kV Axion Circuit Breaker Condition Monitor. 5. One (1), 4526_D – C.B. w/ BCM Fiber Optic Makeup Box.
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. Relay Settings and protection & control design will be revised as part of the SPE scope of work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Component Cost Details - In Current Year $

Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$1,290,631.00
Component cost (in-service year)	$1,382,265.80

Substation Upgrade Component

Component title	Edwards Ferry Substation Equipment Upgrade
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Edwards Ferry
Substation zone	352
Substation upgrade scope	Purchase and install substation material: 1. Two (2) 230 kV, 4000A, 3-Phase Vertical Break Switches with vacuum interrupter attachment. 2. Two (2), Motor Operators, 10-20K IN-LB 3. Conductors, connectors, conduit, control cable, and grounding materials as per engineering standards. Purchase and install relay material: 1. Two (2) 4103 - Non-Earthing Switch MOAB AC/DC Distribution Box 2. Two (2) 4548 – Non-Earthing Switch MOAB Control Box Remove substation material: 1. Two (2), 230kV, 3000A, 3-Phase Vertical Break Switch with vacuum interrupter attachment.

Transformer Information

None

New equipment description	1. Two (2) 230 kV, 4000A, 3-Phase Vertical Break Switches with vacuum interrupter attachment. 2. Two (2), Motor Operators, 10-20K IN-LB 3. Two (2) 4103 - Non-Earthing Switch MOAB AC/DC Distribution Box 4. Two (2) 4548 – Non-Earthing Switch MOAB Control Box
Substation assumptions	1. The scope of work depicted on the drawings assumes no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 6-hole connections to maintain 5000A ratings. 3. Relay Settings and protection & control design will be revised as part of the SPE scope of work.
Real-estate description	Substation is not being expanded.
Construction responsibility	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Benefits/Comments	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Component Cost Details - In Current Year $	
Engineering & design	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Permitting / routing / siting	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
ROW / land acquisition	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Materials & equipment	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction & commissioning	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Construction management	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Overheads & miscellaneous costs	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Contingency	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Total component cost	$506,801.00
Component cost (in-service year)	$542,783.87

Congestion Drivers

None

Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-GD-W7992	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Winter Gen Deliv	Included
2022W3-LD-ST10	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Load Deliverability	Included
2022W3-GD-W1602	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Winter Gen Deliv	Included
2022W3-GD-W7992	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Winter Gen Deliv	Included
2022W3-N1-ST2538	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1	Included
2022W3-N1-ST2528	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1	Included
2022W3-N1-ST239	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1 Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-GD-W1022	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Winter Gen Deliv	Included
2022W3-LD-ST7	223937	DICK 230	314290	6EDFERRY	1	230/230	233/345	Load Deliverability	Included
2022W3-GD-S171	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Summer Gen Deliv	Included
2022W3-LD-ST9	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Load Deliverability	Included
2022W3-LD-ST8	223937	DICK 230	314290	6EDFERRY	1	230/230	233/345	Load Deliverability	Included
2022W3-N1-ST238	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1697	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Summer Gen Deliv	Included
2022W3-GD_118	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Light Load Gen Deliv	Included
2022W3-GD-S1213	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Summer Gen Deliv	Included
2022W3-GD_117	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Light Load Gen Deliv	Included
2022W3-GD-W7982	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Winter Gen Deliv	Included
2022W3-GD-W7981	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Winter Gen Deliv	Included
2022W3-GD-S1735	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Summer Gen Deliv	Included
2022W3-GD-S1736	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Summer Gen Deliv	Included
2022W3-LD-ST30	313911	6TWINCREEKS	314072	6PL VIEW	1	230/230	345/345	Load Deliverability	Included
2022W3-GD-S1698	314290	6EDFERRY	313911	6TWINCREEKS	1	230	345	Summer Gen Deliv	Included
2022W3-LD-ST31	313911	6TWINCREEKS	314072	6PL VIEW	1	230/230	345/345	Load Deliverability	Included
2022W3-N1-ST201	223937	DICK 230	314290	6EDFERRY	1	230/230	233/345	Summer N-1 Thermal	Included
2022W3-GD-S232	223937	DICK 230	314290	6EDFERRY	1	230	233/345	Summer Gen Deliv	Included

New Flowgates

The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Financial Information

Capital spend start date	06/2025
Construction start date	06/2026
Project Duration (In Months)	30

Additional Comments

None