Charlottesville - Hollymead Line # 2054 Rebuild

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	30
Project title	Charlottesville - Hollymead Line # 2054 Rebuild
Project description	This project serves to wreck/rebuild segment one of 230kV line 2054, demarcation point between Charlottesville Substation to Profitt D.P. using double-circuit capable 230 kV poles. The line will be rebuilt with 3-phase 2-768 ACSS Maumee Type 13 bundled conductor and two (2) DNO-11410 shield wire. Switches and line lead at Charlottesville substation will be upgraded to 4000A. Upgrading line #2054, causes an overload on lines #233 and #291 under Summer Generator Deliverability study for the loss of line #553. This overload can happen by adding some new loads in Louisa area as well. By wrecking and rebuilding lines #233 and #291 using (2) 768.2 ACSS/TW (20/7) “MAUMEE” conductor with 3948A ampacity, 1573MVA, and upgrading the ratings of substation equipment at Charlottesville, Crozet, Barracks Rd, Hydraulic Rd and Dooms, the overload is mitigated.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	12/2027
Tie-line impact	No
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. Hollymeade Substation Relay Revision
2. Charlottesville Substation Terminal Equipment Upgrade for Line #2054 Rebuild
3. Line # 2054 (Charlottesville to Hollymead)
4. Profit DP Substation Relay Revision
5. Barracks Rd Substation Relay Reset
6. Crozet Substation Relay Reset
7. Charlottesville Substation Terminal Equipment Upgrade for Line #233 & #291 Rebuild
8. Hydraulic Rd Substation Equipment Upgrade for Line #233 & #291 Rebuild
9. Dooms Substation Terminal Equipment Upgrade for Line #233 & #291 Rebuild
10. Line #233 (Charlottesville to Dooms) Rebuild
11. Line #291 (Charlottesville to Dooms) Rebuild

Substation Upgrade Component

Component title	Hollymeade Substation Relay Revision
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Hollymeade
Substation zone	363
Substation upgrade scope	Project 99-3132 at Hollymeade substation provides for relay resets for the revised current rating of 230 kV Line 2054 (Charlottsville – Hollymeade).

Transformer Information

None

New equipment description	No new equipment being installed.
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 that there is 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	$13,599.00
Component cost (in-service year)	$14,564.53

Substation Upgrade Component

Component title	Charlottesville Substation Terminal Equipment Upgrade for Line #2054 Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Charlottesville
Substation zone	363
Substation upgrade scope	Removed substation material: 1. One (1), 230kV, 2000A Center Break Switches. 2. Foundation & Steel as required. New Substation Materials: 1. One (1), 230kV, 4000A Double-End Break Switches. 2. Approximately 100 FT of 5 IN AL Tubular Bus. 3. Foundations and steel structures as required. 4. Conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Relay Materials: 1. No relay material (Relay Resets Only).

Transformer Information

None

New equipment description	New Substation Materials: 1. One (1), 230kV, 4000A Double-End Break Switches. 2. Approximately 100 FT of 5 IN AL Tubular Bus. 3. Foundations and steel structures as required. 4. Conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards.
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary. 2. 4-hole pad connections must be replaced with 4-hole connections to maintain 4000A 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	$967,577.00
Component cost (in-service year)	$1,036,274.97

Transmission Line Upgrade Component

Component title	Line # 2054 (Charlottesville to Hollymead)
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.

Impacted transmission line	Line #2054
Point A	Charlottesville
Point B	Hollymead
Point C	
Terrain description	The project area is in the central Virginia Piedmont region with elevations ranging from approximately 400 to 1000 feet. The terrain is predominately vegetated existing right-of-way consisting of moderate slopes. The line will cross Route 20 twice and some smaller roads, a railroad track, several small streams, and the Rivanna River.

Existing Line Physical Characteristics

Operating voltage	230 kV
Conductor size and type	2-477 ACSR (24/7) 90°C MOT [8.72 miles]
Hardware plan description	Existing segment of the line will remain as is. For the extension segment, new hardware will be used. The existing hardware were installed in 1985.
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 [8.72 miles]	
Shield wire size and type	DNO-11410	
Rebuild line length	8.72 Miles	

Rebuild portion description	EXISTING FACILITIES TO BE REMOVED: 1. Remove fifty-two (52) existing single circuit wood 2-pole H-Frame Suspension structures as follows: a. Structures 2054/ 341-345,347-354,356-357,359-364,368-376,378-379,381-387,390391,395,398,403-404,406 408,412-414,416 2. Remove thirteen (13) existing single circuit steel 2-pole H-Frame Suspension structures as follows: a. Structures 2054/365-367,388-389,393-394,399-402,405,409 3. Remove six (6) existing single circuit wood 3-pole Running Angle structures as follows: a. Structures 2054/ 346,355,358,380,392,415 4. Remove two (2) existing single circuit wood 3-pole Double Deadend structures as follows: a. Structures 2054/377,410 5. Remove two (2) existing single circuit wood 2-pole H-frame Double Deadend structure as follows: a. Structure 2054/396, 2054/411 6. Remove two (2) existing single circuit steel 3-pole Double Deadend structures as follows: a. Structures 2054/397,417 7. Remove one (1) existing single circuit concrete 2-pole H-Frame deadend backbone structure as follows: a. Structure 2054/418 8. Remove one (1) existing single circuit steel 2-pole H-frame double deadend structure as follows: a. Structure 2054/340A 9. Remove approximately 8.72 miles of 3-phase 2-477 ACSR (24/7) conductor from structures 2054/340A to 2054/418. 10. Remove approximately 8.72 miles of one (1) 49MM/49MM2 48 Fiber OPGW. 11. Remove approximately 8.72 miles of one (1) 3#6 Alumoweld shield wire. EXISTING FACILITIES TO BE MODIFIED: 1. Transfer existing 3-phase 2-636 conductor from existing structure 2054/340A to proposed structure 2054/340A. 2. Transfer existing 2 OPGW from existing structure 2054/340A to proposed structure 2054/340A. PERMANENT FACILITIES TO BE INSTALLED: 1. Install seventy (70) 230kV steel monopole double circuit tangents (12.612) on foundations. 2. Install five (5) 230kV self-supporting steel monopole double deadend structures (12.614) on foundations. 3. Install seven (7) 230kV self-supporting steel 2-pole double deadend heavy angle structures (12.235) on foundations. 4. Install one (1) 230kV substation backbone structure (12.905). 5. Install approximately 8.72 miles of 3-phase 2-768.2 ACSS Maumee Type 13 conductor. 6. Install approximately 8.72 miles of two (2) DNO-11410 OPGW. a. Assumes 5 splices per OPGW throughout the line.
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	$46,529,149.00
Component cost (in-service year)	$49,832,718.58

Substation Upgrade Component

Component title	Profit DP Substation Relay Revision
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Hollymeade
Substation zone	363
Substation upgrade scope	Project 99-3132 at Profit DP substation provides for relay resets for the revised current rating of 230 kV Line 2054 (Charlottsville – Hollymeade).

Transformer Information

None

New equipment description	No new equipment being installed.
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 that there is 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	Barracks Rd Substation Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Barracks Rd
Substation zone	363
Substation upgrade scope	Substation relay reset.

Transformer Information

None

New equipment description	None.
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 that there is 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	$25,904.00
Component cost (in-service year)	$27,743.18

Substation Upgrade Component

Component title	Crozet Substation Relay Reset
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Crozet
Substation zone	363
Substation upgrade scope	Substation relay reset.

Transformer Information

None

New equipment description	None.

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 that there is 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	$25,904.00
Component cost (in-service year)	$27,743.18

Substation Upgrade Component

Component title	Charlottesville Substation Terminal Equipment Upgrade for Line #233 & #291 Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Charlottesville
Substation zone	363

Substation upgrade scope	Purchase and install substation material: 1. Three (3), 230kV, 4000A Double End Break Switches. 2. One (1), 230kV, 63kAIC, 4000A, SF6 Circuit Breakers. 3. Two (2), 230KV, 4000A Line Traps. 4. Approximately 1000 FT of 5 IN AL Tubular Bus and Connectors. 5. Foundations and steel structures as required. 6. Conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. One (1), 4510 SEL-2411 Equipment Annunciator 2. One (1), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 3. One (1), 4526_A – Circuit Breaker Fiber Optic Makeup Box 4. Retire One (1) Breaker Panel Remove Substation Material: 1. Three (3), 230KV 3000A Center Break Switches 2. One (1), 230KV 50kAIC, 2000A, SF6 Circuit Breaker 3. Two (2), 230KV 3000A Line Trap

Transformer Information

None

New equipment description	1. Three (3), 230kV, 4000A Double End Break Switches. 2. One (1), 230kV, 63kAIC, 4000A, SF6 Circuit Breakers. 3. Two (2), 230KV, 4000A Line Traps. 4. Approximately 1000 FT of 5 IN AL Tubular Bus and Connectors. 5. Foundations and steel structures as required. 6. One (1), 4510 - SEL-2411 Equipment Annunciator 7. One (1), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 8. One (1), 4526_A – Circuit Breaker Fiber Optic Makeup Box
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is 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 4000A 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	$1,500,299.00
Component cost (in-service year)	$1,606,820.23

Substation Upgrade Component

Component title	Hydraulic Rd Substation Equipment Upgrade for Line #233 & #291 Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Hydraulic Rd
Substation zone	363
Substation upgrade scope	Purchase and install substation material: 1. Two (2), 230kV, 4000A 3-Phase Vertical Break Switch with vacuum interrupter attachment. 2. Two (2), Motor Operator, 10-20K IN-LB 3. 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 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), 230kV, 4000A 3-Phase Vertical Break Switch with vacuum interrupter attachment. 2. Two (2), Motor Operator, 10-20K IN-LB 3. One (1), 4103 – Non-Earthing Switch MOAB AC/DC Distribution Box 4. One (1), 4548 – Non-Earthing Switch MOAB Control Box
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is 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 4000A 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	$652,322.00
Component cost (in-service year)	$698,636.86

Substation Upgrade Component

Component title	Dooms Substation Terminal Equipment Upgrade for Line #233 & #291 Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Substation name	Dooms
Substation zone	364
Substation upgrade scope	Purchase and install substation material: 1. One (1), 230 kV, 4000A, 63kA SF6 Circuit Breaker. 2. Two (2), 230kV, 4000A Double End Break Switch. 3. Two (2), 230KV, 4000A Line Traps. 4. Approximately 100FT of 5 IN AL Tubular Bus and Connectors. 5. Foundations and steel structures as required. 6. Conductor, connectors, conduit, control cable, and grounding material as necessary per engineering standards. Purchase and install relay material: 1. One (1), 4510 - SEL-2411 Equipment Annunciator 2. One (1), 4526_A – Circuit Breaker Fiber Optic Makeup Box Remove Substation Material: 1. One (1), 230 kV, 2000A, 40kA SF6 Circuit Breaker. 2. One (1), 230KV 3000A Center Break Switch. 3. One (1), 230KV 2000A Center Break Switch. 4. Two (2), 230KV 3000A Line Traps.

Transformer Information

None

New equipment description	1. One (1), 230 kV, 4000A, 63kA SF6 Circuit Breaker. 2. Two (2), 230kV, 4000A Double End Break Switch. 3. Two (2), 230KV, 4000A Line Traps. 4. Approximately 100FT of 5 IN AL Tubular Bus and Connectors. 5. One (1), 4510 - SEL-2411 Equipment Annunciator. 6. One (1), 4526_A – Circuit Breaker Fiber Optic Makeup Box.
Substation assumptions	1. The scope of work depicted on the drawings assumes that there is 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 4000A 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	$1,057,365.00
Component cost (in-service year)	$1,132,437.92

Transmission Line Upgrade Component

Component title	Line #233 (Charlottesville to Dooms) Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line #233
Point A	Charlottesville
Point B	Dooms
Point C	
Terrain description	The project area is in the central Virginia Piedmont region with elevations ranging from approximately 400 to 2500 feet. The terrain is predominately vegetated existing right-of-way consisting of moderate slopes. The line will cross Route 29, Route 250, a railroad track, Mechums River, and both the Shenandoah National Park and the Appalachian Trail.

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	2-636 ACSR (24/7) 125°C MOT [8.55 Mi]; 1233.6 ACSS/TW/HS285 (38/19) 250°C MOT [0.17 Mi]; 2-545.6 ACAR (15/7) 90°C MOT [13.91 Mi]
Hardware plan description	New Hardware will be used for this rebuild
Tower line characteristics	Existing structures shall be removed, and new structures will be used for the 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-11410 48-fiber OPGW
Rebuild line length	22.64 Miles
Rebuild portion description	Approximately 170 existing double circuit structures, within 22.64 miles, will be removed as part of the rebuild. The existing structures are primarily Lattice tower structures as well as monopoles, and about 6% of them were installed within the last 15 years and could potentially be reused. The new structure configuration will consist primarily of double circuit monopole structures. Along with the line rebuild, transmission line switches will be upgraded to 4000A at all applicable connecting substations.
Right of way	Existing Right-of-Way will be Reused for the rebuild. No new Right-of-Way is 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	$54,538,135.00
Component cost (in-service year)	$58,410,342.59

Transmission Line Upgrade Component

Component title	Line #291 (Charlottesville to Dooms) Rebuild
Project description	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Impacted transmission line	Line #291
Point A	Charlottesville
Point B	Dooms
Point C	
Terrain description	The project area is in the central Virginia Piedmont region with elevations ranging from approximately 400 to 2500 feet. The terrain is predominately vegetated existing right-of-way consisting of moderate slopes. The line will cross Route 29, Route 250, a railroad track, Mechums River, and both the Shenandoah National Park and the Appalachian Trail.

Existing Line Physical Characteristics

Operating voltage	230
Conductor size and type	2-636 ACSR (24/7) 125°C MOT [8.55 Mi]; 1233.6 ACSS/TW/HS285 (38/19) 250°C MOT [0.17 Mi]; 2-545.6 ACAR (15/7) 90°C MOT [13.91 Mi]
Hardware plan description	New Hardware will be used for this rebuild
Tower line characteristics	Existing structures shall be removed, and new structures will be used for the 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-11410 48-fiber OPGW
Rebuild line length	22.64 Miles
Rebuild portion description	Approximately 170 existing double circuit structures, within 22.64 miles, will be removed as part of the rebuild. The existing structures are primarily Lattice tower structures as well as monopoles, and about 6% of them were installed within the last 15 years and could potentially be reused. The new structure configuration will consist primarily of double circuit monopole structures. Along with the line rebuild, transmission line switches will be upgraded to 4000A at all applicable connecting substations.
Right of way	Existing Right-of-Way will be Reused for the rebuild. No new Right-of-Way is 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	$54,538,135.00
Component cost (in-service year)	$58,410,342.59

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-W139	314749	6CHARLVL	314772	6PROFFIT	1	230	345	Winter Gen Deliv	Included
2022W3-GD-S167	314749	6CHARLVL	314772	6PROFFIT	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S179	314749	6CHARLVL	314772	6PROFFIT	1	230	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

Please contact Chibuzor Ofoegbu @ 267-221-1207 or chibuzor.i.ofoegbu@dominion.com for any questions.