Line #2054 Rebuild - Charlottesville to Hollymeade Tap

General Information

Proposing entity name	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	196
Project title	Line #2054 Rebuild - Charlottesville to Hollymeade Tap
Project description	Rebuild 8.72-mile line #2054 section from Charlottesville to Hollymeade Tap structure 2054/340A, from 2-477 ACSR 90°C to 2-768.2 ACSS/TW 20/7 with MOT of 250°C (rating 1574 MVA).
Project in-service date	11/2024
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. Line # 2054, Charlottesville Substation to Hollymeade Tap structure # 34...
2. Charlottesville Substation Terminal Equipment
3. Hollymeade Substation Relay Resets

Transmission Line Upgrade Component

Component title	Line # 2054, Charlottesville Substation to Hollymeade Tap structure # 340A Rebuild
Impacted transmission line	2054
Point A	Charlottesville Substation

Point B	Hollymeade Tap, Line # 2054 structure # 340A
Point C	
Terrain description	Starting at Charlottesville Substation located on the eastern edge of the City of Charlottesville, the terrain of this existing right-of-way slopes down to the Rivanna River and rises back up as it crosses thru Darden-Towe Memorial Park. The terrain of the right-of-way then has some moderate slopes as it passes by a few established neighborhoods with trees buffering many of the homes. After leaving the suburban areas just outside of Charlottesville, the terrain starts out as predominately forested/vegetated areas outside of the existing right-of-way consisting of moderate to steep slopes. As the right-of-way extends further east to more rural areas, the terrain faces a mix of some steep hills along with some flatter lands traversing through many acres of open space (residential and agricultural) and a few wooded areas approaching the Hollymead Tap.

Existing Line Physical Characteristics

Operating voltage	230kV
Conductor size and type	2-477 ACSR, MOT - 90°C
Hardware plan description	Existing line hardware will not be reused.
Tower line characteristics	The existing line contains seventy-seven (77) direct embed wood and weathering steel poles. These structures will not be reused as they cannot provide the necessary ground clearance due to the conductor’s higher ampacity.

Proposed Line Characteristics

	Designed	**Operating**
Voltage (kV)	230.000000	230.000000
	Normal ratings	**Emergency ratings**
Summer (MVA)	1574.000000	1574.000000
Winter (MVA)	1650.000000	1650.000000
Conductor size and type	2-768 ACSS/TW/HS MOT – 250°C	
Shield wire size and type	DNO-11410 Optical Ground Wire (OPGW)	

Rebuild line length	8.72 miles
Rebuild portion description	Proposal 1B rebuilds the first half of Line # 2054 that goes from Charlottesville substation to Hollymeade Tap structure # 340A. By installing 8.72 miles of 2-768 ACSS/TW/HS with the maximum operating temperature of 250° C that portion of the line up to the tap to Hollymeade will have a rating of 1574 MVA. This project will rebuild utilizing Dominion 2017, 230kV standards. The conceptual estimate includes cost for the following: REMOVALS: 1. Remove seventy-seven (77) direct embed wood and weathering steel poles. 2. Remove 8.72 Miles of 2-477 ACSR from Charlottesville Sub Str. # 2054/418 to Str. # 2054/340A at the Hollymeade Tap. This will include spacers and dampers. 3. Remove 8.72 Miles of one 3#6 Alumoweld and one 49x49 mm2 fiber from Charlottesville Sub Str. # 2054/418 to Str. # 2054/340A at the Hollymeade Tap. STRUCTURE INSTALLATIONS: 1. Install sixty-five (65) Suspension Direct Embed H-frames with X-braces. 2. Install two (2) Double Deadend Anchor Direct Embed H-frame structures. 3. Install ten (10) Designed 3-Pole Engineered Structures. 4. Install new Deadend Hardware for the conductor and fiber on Existing Backbone Str. #2054/418 in Charlottesville Sub. 5. Install new Deadend Hardware for the conductor and fiber on Existing Double Deadend H-frame Str. #2054/340A near the tap to Hollymeade. 6. Install 8.72 Miles of 2-768 ACSS/TW/HS MOT – 250°C (new conductor rating of 1574 MVA) from Charlottesville Sub Str. # 2054/418 to Str.# 2054/340A at the Hollymeade Tap. This will include dampers and spacers. 7. Install 8.72 Miles of two (2) DNO-11410 fiber from Charlottesville Sub Str. # 2054/418 to Str. # 2054/340A at the Hollymeade Tap.
Right of way	No new or additional right of way is required to complete this project.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional 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	$16,159,573.00
Component cost (in-service year)	$17,306,903.00

Substation Upgrade Component

Component title	Charlottesville Substation Terminal Equipment
Substation name	Charlottesville
Substation zone	193
Substation upgrade scope	This project replaces switches, circuit breakers and wave traps to a 4000 A rating and installs riser conductors to match the new line rating.

Transformer Information

None

New equipment description	Purchase and install: 1. One (1) 230kV, 4000 A wave trap. 2. Two (2) 230kV, 4000A, SF6 Circuit Breakers. 3. Two (2) 230 kV, 4000A Center Break Switches. 4. Tubular bus as required (5” Al). 5. Install riser conductors. 6. Connectors on both ends of the risers along with spacers. 7. Miscellaneous conductors, connectors, insulators, and grounding materials as per engineering standards. Purchase and install relay material: 1. Two (2), 1510 – 24” Dual SEL-351 Transmission Breaker w/ Reclosing Panel 2. Two (2), 4510 - SEL-2411 Breaker Annunciator 3. Two (2), 4526_A – Circuit Breaker Fiber Optic M.U. Box 4. Retire Panel no. 41 & Panel no. 42
Substation assumptions	N/A
Real-estate description	The substation will not be expanded for this project.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional 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	$2,029,173.00
Component cost (in-service year)	$2,173,244.00

Substation Upgrade Component

Component title	Hollymeade Substation Relay Resets
Substation name	Hollymeade
Substation zone	193
Substation upgrade scope	System Protection Engineering Coordination Study and System Protection Technician relay resets.

Transformer Information

None

New equipment description	No new equipment required for this proposal.
Substation assumptions	No additional relay equipment required for this proposal.
Real-estate description	The substation will not be expanded for this project.
Construction responsibility	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
Additional 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	$11,417.00
Component cost (in-service year)	$12,228.00

Congestion Drivers

CD #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type
ME-5	314749	6CHARLVL	314772	6PROFFIT	1	230	345	Market Efficiency

Existing Flowgates

None

New Flowgates

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

Financial Information

Capital spend start date	01/2022
Construction start date	04/2024
Project Duration (In Months)	34

Additional comments

None