Add 16 MW-64 MWh Battery Energy Storage System (BESS) at Hollymeade substation

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	26
Project title	Add 16 MW-64 MWh Battery Energy Storage System (BESS) at Hollymeade substation
Project description	Proposal 99-2947-5 is to add 16 MW-64 MWh battery energy storage device at Hollymeade 230 kV substation. The BESS is added as a generator injecting and absorbing real power to replicate discharging and charging modes. The BESS is sized to mitigate the reliability violation for 4 hours.
Email	The redacted information is proprietary to the Company; therefore, it is privileged and confidential.
Project in-service date	06/2023
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 16 MW Battery Energy Storage Systems Installation

Substation Upgrade Component

Component title	Hollymeade Substation 16 MW Battery Energy Storage Systems Installation
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	Purchase and install substation material: 1. One (1), 230-34.5 kV, 22.4 MVA, Transformer 2. Three (3), 180 kV, 144 kV MCOV surge arresters 3. Three (3), 30 kV, 24.4 kV MCOV surge arresters 4. Eight (8), 2.5 MVA, 34.5 kV-480V Pad mount Transformers 5. Eight (8), 34.5 kV, 2000A, 25 kA Circuit Breakers 6. Fifty-four (54), 34.5 kV, 1200A Hook-stick Disconnect Switches 7. Twenty-four (24), 30 kV, 24.4 kV MCOV surge arresters 8. Three (3), 34.5 kV Distribution bays 9. Five (5), 34.5 kV Distribution bays 10. Eight (8), 34.5 kV Getaway stand and foundation 11. Eight (8), 34.5 kV Getaway stand and foundation 12. One (1), 230kV, 1200A, 40 KAIC Circuit Switcher 13. One (1), Motor Operator, 20 IN-LB 14. Three (3), 34.5 kV PT, Relay Accuracy 15. One (1), 19.9-0.12/.24KV, 25KVA 16. Four (4), 34.5 kV, SMD-20 fuses with appropriate fuse links 17. Four (4), 23 kV, 12A current limiting fuses 18. Oil Containment for the Transformers 19. Eight (8), 2 MW Battery Trailers 20. Eight (8), 2 MW Inverter/Rectifier Units 21. Twenty-four (24), Bushing CTs Pad Mount TX Low side 22. Relocation of some distribution circuits, cap bank, spare transformer, driveway, and miscellaneous equipment 23. Substation Expansion- Site preparation, grounding, fencing 24. Conductors, connectors, foundations, structural steel, grounding, conduits, power cables, control cables, as per Dominion Standards Purchase and install relay material: 1. One (1), 4526_A – Transformer Fiber Optic M.U. Box 2. One (1), 4510 - SEL-2411 Equipment Annunciator 3. One (1), 1220 – 28” SEL-387A/311C/735 <33MVA Distribution Transformer/Bus Panel 4. One (1), SPR Relay Auxiliary Package 5. One (1), 4516 – Three Phase Transmission Bus Potential M.U. Box 6. One (1), 4540 – Indoor Distribution Bus Potential M.U. Box 7. One (1), 1539 – 28” Triple SEL-451 Distribution Circuit Panel 8. One (1), 1607 – 28” Distributed Generation TT 9. One (1), SEL – 3355 Automation PC to Comm Panel. 10. Eight (8), 4526_H – Power Quality Metering Fiber Optic M.U. Box 11. Eight (8), 1408 – SEL-735 Power Quality Meter (Box Version)

Transformer Information

	Name	**Capacity (MVA)**	
Transformer	TBD	22.4	
	High Side	**Low Side**	**Tertiary**
Voltage (kV)	230	34.5	N/A

New equipment description	1. One (1), 230-34.5 kV, 22.4 MVA, Transformer 2. Three (3), 180 kV, 144 kV MCOV surge arresters 3. Three (3), 30 kV, 24.4 kV MCOV surge arresters 4. Eight (8), 2.5 MVA, 34.5 kV-480V Pad mount Transformers 5. Eight (8), 34.5 kV, 2000A, 25 kA Circuit Breakers 6. Fifty-four (54), 34.5 kV, 1200A Hook-stick Disconnect Switches 7. Twenty-four (24), 30 kV, 24.4 kV MCOV surge arresters 8. Three (3), 34.5 kV Distribution bays 9. Five (5), 34.5 kV Distribution bays 10. Eight (8), 34.5 kV Getaway stand and foundation 11. Eight (8), 34.5 kV Getaway stand and foundation 12. One (1), 230kV, 1200A, 40 KAIC Circuit Switcher
Substation assumptions	N/A
Real-estate description	The substation footprint will be expanded to accommodate the new equipment.
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	$35,157,765.00
Component cost (in-service year)	$37,653,965.00

Congestion Drivers

None

Existing Flowgates

FG #	From Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
GD-S30	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	01/2022
Construction start date	01/2023
Project Duration (In Months)	17

Additional Comments

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