

Install 5MW 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.
Company proposal ID	The redacted information is proprietary to the Company, therefore it is privileged and confidential.
PJM Proposal ID	669
Project title	Install 5MW Battery Energy Storage System (BESS) at Hollymeade substation
Project description	Proposal 14 is to install 5MW battery energy storage system at Hollymeade 230 kV substation.
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 5 MW Battery Energy Storage Systems Installation

Substation Upgrade Component

Component title	Hollymeade Substation 5 MW Battery Energy Storage Systems Installation
Substation name	Hollymeade
Substation zone	193

Substation upgrade scope

Install a 5 MW Battery Bank at Hollymeade Substation. The scope includes one 230-34.5 kV Transformer and two branches of 2 MW BESS and one branch of 1 MW BESS. Each string consists of a 34.5 kV Circuit Breaker, associated switches, underground getway, 34.5 kV-480V Pad mount Transformer, DC-AC converter/inverter, two (2) MW battery trailers, and one (1) MW battery trailer. The substation footprint will be expanded to accommodate the new equipment. Some equipment and driveways will need to be relocated as a part of the project. This project will require a new 230 kV Circuit Switcher and Motor Operated switch on high side of the Transformer. In addition, this project installs one new galvanized steel static pole and foundation at the expanded Hollymeade Substation as well as two spans (approximately 500 feet) of 7#7 Alumoweld shield wire tying in the new static pole to the existing static poles.

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. Three (3), 2.5 MVA, 34.5 kV-480V, Pad mount Transformers 5. Three (3), 34.5 kV, 2000A, 25 kA Circuit Breakers 6. Twenty-four (24), 34.5 kV, 1200A Hook-stick Disconnect Switches 7. Nine (9), 30 kV, 24.4 kV MCOV surge arresters 8. Three (3), 34.5 kV Distribution bays 9. Three (3), 34.5 kV Getaway stand and foundation 10. One (1), 230kV, 1200A, 40 KAIC Circuit Switcher 11. One (1), Motor Operator, 20 IN-LB 12. Three (3), 34.5 kV PT, Relay Accuracy 13. Three (3), 34.5 kV, SMD-20 fuses with appropriate fuse links 14. Three (3), 23 kV, 12A current limiting fuses 15. Oil Containment for the Transformers 16. Two (2), 2 MW Battery Trailers 17. One (1), 1 MW Battery Trailer 18. Three (3), 2 MW Inverter/Rectifier Units 19. Nine (9), Bushing CTs Pad Mount TX Low side 20. Relocation of some distribution circuits, spare transformer, driveway, and miscellaneous equipment 21. Substation Expansion- Site preparation, grounding, fencing 22. Conductors, connectors, foundations, structural steel, grounding, conduits, power cables, control cables, as per Dominion Standards			
Substation assumptions	N/A			
Real-estate description	The substation footprint will be expanded to accommodate the new equipment. Please review section A.1 Right-of-way land acquisition plan and approach in the attached Proposal 14 - Permitting and Real Estate Summary document attached in the supporting documents.			
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

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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

\$15,781,957.00

Component cost (in-service year)

\$16,902,476.00

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	01/2023
Project Duration (In Months)	17

Additional comments

None