

Longbow Solar BESS Integration

Location: Liverpool, TX • Completed: August 2024

PROJECT OVERVIEW

Benchmark Electrical Solutions supported the integration of a 174 MW-AC solar generation field with a 348 MW/h CATL EnerC+ battery energy storage system for the Longbow Solar Battery Energy Storage Project in Brazoria County, Texas. Our scope included the installation of major electrical components, underground conduit, battery enclosures, and interconnection systems — enabling grid-stable power export at 138kV and giving the customer continuous peak-load balancing to support renewable-reliability goals. Crews executed the full electrical scope despite aggressive schedules, trade stacking, dewatering challenges, and repeated lightning delays — sequencing conduit and trenching ahead of mechanical installation and running mixed day/night shifts to hold the schedule. Every system was energized on time, with zero recordable incidents and zero rework on QA/QC turnover packages.

45,000

Linear feet of MV feeder cable installed

25,429

Total labor hours

\$2.8M

Total electrical scope (materials furnished by others)

103

Transformers installed

KEY OUTCOMES

- Integrated 348 MW/h of battery storage for grid-stable power export at 138kV.
- Delivered a modular CATL EnerC+ battery design improving serviceability and footprint efficiency.
- Achieved zero rework on primary MV, LV, and DC conduit systems.
- Maintained schedule adherence across mixed day/night shifts with no recordable safety incidents.

WHY IT MATTERS

- Supports the customer's renewable reliability goals with continuous peak-load balancing.
- Reduces O&M costs through a modular, service-ready system configuration.
- Demonstrates disciplined EPC coordination between battery-storage construction teams.
- Strengthens the customer's delivery record under the client's engineering oversight.

PROJECT OUTCOMES

BES crews successfully executed all electrical scope requirements for the Longbow Solar and BESS facility despite aggressive schedules, trade stacking, dewatering challenges, and numerous lightning delays. Early hurdles included limited laydown space, evolving design adjustments from multiple stakeholders, and tight coordination between trades. Benchmark mitigated these by sequencing conduit and trenching operations ahead of mechanical installation, implementing night-shift crews to sustain progress, and maintaining clear communication with the client and the customer's engineering teams. Despite schedule pressure and high manpower demands, all systems were energized on time — showcasing Benchmark's ability to deliver complex



renewable infrastructure safely, efficiently, and with complete alignment to client performance and quality expectations.

- **Zero recordable incidents** — a daily workforce of ~35 electricians completed 22,000+ man-hours with no recordable incidents.
- **Cable install** — more than 75,000 linear feet of electrical cable installed to spec tolerance.
- **Quality control** — zero rework required on QA/QC turnover packages.



RENEWABLES

BATTERY STORAGE

MEDIUM VOLTAGE

138KV INTERCONNECTION

Benchmark Electrical Solutions: Powering Progress with Precision and Integrity

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