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2024 California Best Projects

Best Project, Energy/Industrial: Stanton Battery Energy Storage System

Photo: Energy Vault

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Stanton Battery Energy Storage System

Stanton, Calif.

BEST PROJECT

Submitted by: BEI Construction Inc.

Owner: Wellhead Electric Co./W Power LLC

Lead Design Firm: Energy Vault Holdings Inc.

General Contractor: BEI Construction Inc.

One of Southern California's largest energy storage systems is now operational, providing clean power and improved grid resiliency across southwest Los Angeles. The 68.8-MW/275.2-MWh Stanton Battery Energy Storage System (SBESS) was completed on time and within budget in less than five months in August 2023.

In addition to increasing the resiliency of the local electrical grid, the SBESS is helping to reduce the grid's overall carbon intensity. Crews manually installed 15,540 battery modules, each weighing 265 lb, which required meticulous planning and collaboration. The process involved unboxing and manually loading each module into a rack.

Photo by Jerry Zampino/BEI Construction

Despite the physical demands and the scale of the task, the team efficiently loaded an average of 486 battery modules per day and completed nearly 1,000 electrical terminations daily, all within 32 calendar days and within limited buildable space of about 50,000 sq ft—and in the middle of a record-breaking heat wave in July 2023. With total storage capacity of about 275 MWh, that translated into nearly 6 kWh per sq ft.

To deliver this many batteries to the site, more than 100 semi-truck deliveries were necessary. Coordinating these deliveries and ensuring that each module was correctly installed and terminated required seamless communication and cooperation across the team.

Crews also installed 795 steel H-piles, totaling more than 10,560 linear ft combined, that provide crucial structural support for the project's battery enclosures and sound wall. This robust foundation will ensure the stability and longevity of the installation.

Despite these challenges across 50,000 worker hours, the project team logged zero lost-time incidents or recordables. Key safety initiatives that made this possible included daily, weekly and biweekly meetings, from job safety analyses to safety visits and audits. Comprehensive and proactive measures that exceed industry standards helped ensure a safe jobsite.

Completion of the SBESS under a compressed timeline on a limited site also established a new industry benchmark. The first 68 MW discharge test was completed just one day after the final battery was loaded, followed by the first successful four-hour discharge test just 114 days after construction began.

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