PG&E Deploys Its First Lithium-Ion Battery Storage Facility featuring Tesla Powerpack Technology

By Paul Doherty

Building on the success of its Vaca-Dixon and Yerba Buena battery storage systems, PG&E recently deployed its third energy storage facility in Yuba County.

Co-located with PG&E’s Browns Valley substation roughly 50 miles north of Sacramento, the new, 500 kW/2000 kWh battery storage system is PG&E’s first lithium-ion energy storage facility and features Tesla Powerpack technology.

The facility features 22 Tesla Powerpacks, each about the size of a refrigerator, and will provide important services for balancing energy supply and demand, as well as for improving power quality and reliability for customers. The batteries’ modular design is adapted from the technology used in Tesla’s electric cars.

PG&E worked with Cupertino Electric, an electrical engineering and construction company headquartered in San Jose, on the design and installation of the facility.

“Browns Valley is a great example of PG&E’s commitment to integrating new technologies and collaborating with leading companies to drive a clean energy future,” said Roy Kuga, vice president, Grid Integration and Innovation, PG&E.

PG&E believes that battery storage can help customers save money and energy, address integration challenges associated with increasing penetration of renewables and distributed energy resources, and enhance the overall reliability of an ever-changing energy supply.

Browns Valley is PG&E’s first energy storage system installed to reduce peak demand during the hot summer months through a technique known as “peak shaving.”

It also represents the first time a Tesla energy storage system will be fully integrated into PG&E’s Supervisory Control and Data Acquisition (SCADA) system. While the storage system will operate autonomously to shave peaks, PG&E’s grid operators will also be able to take control of the system as needed to respond to system emergencies.

The Powerpack system will charge when demand is low and then send reserved power to the grid when demand grows, providing up to 500kW of power to address potential overloading on the substation’s transformers. PG&E has integrated the Browns Valley system with existing distribution operations protocols, roles and responsibilities.

“Projects like Browns Valley offer a tremendous opportunity to better understand how we can fully realize the value of energy storage in different applications, including enhancing the overall reliability of our distribution grid and integrating renewable resources to maintain system reliability at lower overall costs to customers,” Kuga added.

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