Powered Up

PacifiCorp is working with Black & Veatch to implement a combination of grid-scale battery storage and renewable power to support reliable and resilient electricity for Panguitch, Utah.

Project Summary

Black & Veatch provided engineering, procurement and construction (EPC) services for a battery energy storage and solar project that will provide reliable and sustainable electricity to residents in the Utah town of Panguitch.

The project is composed of a 650kWac monocrystalline photovoltaic (PV) plant utilizing a horizontal single-axis tracking system. The solar PV project utilizes 150 kW SMA string Inverters, which are tied to an owner-supplied 1 MVA step-up transformer.

Panguitch, Utah benefits from more than 250 days of sunshine annually. The 650-kilowatt array of solar panels, mounted atop a ground mounted tracking system, will capture sunshine and route it to a 1 MW, 5 MW hour battery energy storage system (BESS).

The battery energy storage system, or BESS, helps integrate renewable energy into the grid by storing and delivering power even when the sun isn't shining. The energy storage system is designed to react to the fluctuations in demand for power throughout the day, which enables PacifiCorp to improve the reliability and resiliency of service without upgrading traditional grid poles-and-wires infrastructure.

BLACK & VEATCH

Panguich, Utah Project Datapoints

250+ days
of sunshine annually

650 kw
array of solar panels

5 mwh
hour BESS system

"Projects like the one in Panguitch are chipping away at old notions of the intermittency of renewable energy. As the capacity of batteries rise and the costs of solar and battery equipment fall, we expect more utilities to join PacifiCorp in exploring these innovative solutions for their customers."

Mario Azar, President | Black & Veatch Power

Getting Technical

The BESS consists of two packaged containers housing the Samsung SDI Lithium Ion Batteries. The batteries are arranged into battery racks each holding 17 battery racks. Each container has a wall-mounted HVAC system to maintain the necessary temperature for the batteries and operating equipment to function properly and maintain battery health. Each container will also have a 500 kW inverter tied to a 1 MVA step-up transformer.

Additionally, the site is operated by a control building provided by Black & Veatch. This control building houses the main site controller (controlling both the PV System and the BESS), as well as these key features:

1. A microgrid controller capable of monitoring and dispatching all elements of the microgrid based on optimized control routines, including the optimization based on energy demand, solar production, and weather data.

2. Integration with the PacifiCorp Utility SCADA system.
3. Digital power metering system to monitor power flow within the microgrid and integration of this metering system with the microgrid control system.

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