



Encorp Switchgear Helps Ease California's Stressed Utility Industry



The Challenge: Power to the Grid

To ease energy supply shortages and improve system reliability, the State of California is relying on several independent power producer plants in Northern California - and Encorp paralleling switchgear -- to periodically supply additional power to the California grid.

The California Department of Water Resources contracted with NEO Corp., a subsidiary of NRG Energy, Inc. (NYSE: NRG) on the project. NEO, an independent power producer, owns the state-of-the-art facility - called the Chow II Power Plant - which is powered by efficient natural gas fueled internal combustion engines controlled and interconnected by Encorp switchgear.

The plant, located in Chowchilla, 30 miles north of Fresno, CaUf., can supply up to 49 megawatts of power to the California grid to meet energy shortfalls or to cushion sharp spikes in wholesale power prices. Pacific Gas & Electric and other California utilities then can purchase the power if needed.

The Chow II plant, which supplies enough power to meet the electricity needs of approximately 50,000 homes, can operate as a peaking, intermediate or baseload plant to meet the varying demand for electricity. NRG North America, with its subsidiaries, contributes more than 1,600 megawatts to California's power supply.

Encorp In Action

Stewart & Stevenson, which supplies custom-packaged power systems, including generator sets for prime and back-up power, contracted Encorp to design and build paralleling switchgear for installation on 16 Chow II power plant generators. Stewart & Stevenson also supplied engine-generator sets manufactured by Deutz.

Encorp equipment installed at Chow II includes: the Generator Power Control (GPC), Virtual Power Plant, Virtual Maintenance Monitor software and medium voltage digital paralleling switchgear, which features electrically operated draw-out breakers.

The Outcome

Encorp equipment and services allow Chow II operators to remotely dispatch and diagnose any problems with the 16 gensets. In addition, Encorp's dispatch and command features allow generators, which typically run 3,000 hours per year, to be turned on or off based on the "spark spread"-the price difference, when power is traded, between the cost to run gensets and the cost at which power is being sold.

Encorp Equipment at Chow II Power Plant

Encorp's Digital Paralleling Switchgear provides control, communication and grid interconnection capabilities for on-site electrical generators located at commercial and industrial facilities.

The GPC, or gold box, is the world's first truly integrated generator power control. The GPC integrates the functionality of several discrete electrical components into a single solid-state assembly .

Encorp's **Virtual Power Plant** software provides multi-site dispatch of generators and remote graphical metering, monitoring and control.

The Virtual Maintenance Monitor software provides site-specific generator metering, monitoring and control that offers detailed information, including energy demand metering, harmonics, alarm logging and engine and generator information.

The system also creates an interface between the Chow II plant and the California ISO, allowing the ISO to better manage the California grid by knowing when Chow II is available as a power source and the kilowatt-hour production when it is on-line.

Beyond the benefits of its equipment, Encorp was selected to provide switchgear to the Chow II project because of the company's quick delivery time, typically half the industry standard.