USCG Cape Hinchinbrook Light Station SCADA System
New Power System Controls for Historic, Strategic Lighthouse in Gulf of Alaska

BCI engineers camped out in the historic Hinchinbrook Island lighthouse for a recent project for the U.S. Coast Guard.

The company designed and built an upgraded control system for the site's two diesel generators, and provided a SCADA system that allows the site to be monitored and controlled by operators in the Coast Guard's Vessel Tracking Center in Valdez, approximately 80 miles away.

The generators provide power to the lighthouse, DGPS transmitters, VHF repeaters and a microwave radio system, all of which provide critical safety and security functions for the busy tanker, cruise ship and fishing vessel traffic passing through Prince William Sound.

With 100-foot cliffs surrounding the station and heavy seas from the fall storms, the only access to the remote site was by helicopter from Valdez. The job required plenty of helicopter charter time, including four sling loads of equipment and panels.

Cape Hinchinbrook Light Station and the Entrance to Prince William Sound. Gulf of Alaska.

Generator Controls and SCADA Panel.
Cape Hinchinbrook Light Station, Alaska.

The project schedule was very tight, allowing only five months for the complete design, build and commissioning. Within a week of contract award, BCI engineers were on site performing the initial survey. The project was installed and completely functional, one month early.

"This represents the next generation of Coast Guard remote monitoring of generators," said Gary Parker, electrical engineer for the Coast Guard's civil engineering unit in Juneau. "This is the first one of its type in Alaska."

"When anything goes wrong we know why, and can also do remote diagnostics," he added. The new system allows the Coast Guard to remotely switch between generators at the lighthouse and graph trends over time.

In a related project, BCI installed a SCADA system for the Coast Guard's radar station at Potato Point in Valdez Narrows in 1997. The remote site monitors oil tanker and other vessel traffic in and out of the Port of Valdez.

Potato Point Radar Station and Microwave Repeater.
Valdez Narrows, Alaska.

Both systems utilize Allen-Bradley PLCs to monitor and control the generators and power distribution at the sites. The SCADA software is Rockwell Automation's RSView, which communicates with the PLCs through a microwave radio link.