

# Smart Wireless Provides Early Warning of Rapid Temperature Change for Remote Pump Stations

## RESULTS

- \$75,000 saved in capital and installation costs
- Improvement in plant reliability
- Pumps protected by early warning detection of rapid temperature change

## APPLICATION

Remote monitoring of system and equipment buildings

## CUSTOMER

Milford Power

## CHALLENGE

Milford Power, a 500 Megawatt plant located on the Atlantic coastline, utilizes two gas-fired turbines to produce electricity to the grid in Connecticut. The site includes 11 remote buildings that house water pumping and circulation equipment serving a variety of needs of the power generation infrastructure, such as cooling and fire prevention. Since winter brings freezing conditions, small heaters are located in each remote building to ensure the pumps operate properly. Freeze damage repairs or replacement of a pump system would cost \$10,000 - 20,000, and take the pump out of commission for up to three days.

Operators making rounds checked the temperature of these small enclosures and made visual checks of the pumps. If the heaters failed between the operator rounds, it was possible that the pumps would freeze. Milford Power wanted to find a technology that would display the temperatures of the enclosures in the control room. This would provide early warning detection of any rapid temperature change and allow preventative measures to be taken. It would also act as a fire prevention system back-up. A wired solution was not possible, because running trays over the roads or conduit under the structures was cost prohibitive. The power plant needed a wireless solution that could handle an environment with many obstructions.

## SOLUTION

Milford Power needed a highly reliable, robust wireless solution. "We selected Emerson's Smart Wireless products because we knew they were reliable," said Cliff Esmiol, Maintenance Supervisor for Milford Power. "We liked the communications approach, plus battery life, and cost."



*"We looked at various technologies and selected Smart Wireless because the easy, flexible self-organizing network could be installed and operational in a very short time."*

**Cliff Esmiol**  
Maintenance Supervisor

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**SOLUTION (CONTINUED)**

The customer purchased 11 Rosemount 648 wireless temperature devices and a 1420 wireless gateway. The temperature devices were placed in the equipment buildings around the plant and tested to be sure the self-organizing mesh network communicated properly before being installed. "It only took two hours to place all of the devices in the remote buildings and have them communicating to each other," commented Esmiol. "They easily communicated around buildings and other obstructions."

After the test confirmed the network was working properly, the devices were installed and connected through the wireless gateway to an existing PC in the control room. Milford decided to use a standard internet browser to display the measurements, although the points could easily be integrated into the existing host system or AMS™ Device Manager.

The network has proven to be reliable. In fact, when a new steel and concrete building was constructed, completely blocking a transmitter from the network, the signal was unaffected. The customer is pleased with the network, and stated that the technology is great, easy to install, and very easy to expand. For a fraction of the cost of a wired solution, Milford Power now has an early warning detection for rapid temperature change.

**"After installation we were able to get all the devices communicating within hours."**

**Cliff Esmiol**  
Maintenance Supervisor

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