

# Cellular SCADA Offers Reliable Backup Monitoring in Pebble Beach



Nestled on the bluffs of California's Monterey Peninsula, Pebble Beach is considered one of the nation's premier residential communities and golf resorts. It is home to multi-million-dollar estates and meticulously maintained, internationally renowned golf courses.

The Pebble Beach Community Services District maintains a long-standing record of pump station reliability. When the district encountered recurring communication failures with its phone line-based SCADA system, it knew it was flirting with disaster. Another solution was a necessity.

"If we ever had a spill in our service area, the 'beheadings' might be a little more public and spectacular than others, but the result would be the same for any unprepared operator," said Frank Rose, district maintenance manager for the Pebble Beach Community Services District. "The federal and state Environmental Protection Agency mandates are quite clear: no spills."

## Weighing Redundancy Options

Built-in redundancy already was standard operating procedure in the district to proactively deal with service outages. It had installed two or more pumps at every lift station as a safeguard. After

communications interruptions began, the district decided to extend redundancy to the monitoring and control system.

Pebble Beach looked at the feasibility of both licensed and unlicensed (spread spectrum) radio-based SCADA monitoring systems. Upfront costs and integration of those systems were unwieldy at best. After talking with other radio-based SCADA users, the district also questioned their true reliability and maintenance.

"There were a number of times we felt we would be creating more problems than we'd be solving," Rose said. "The final straw was the anticipated resident reactions to Yagi antennas and their pole masts sticking up in the air at the lift stations on the golf courses. It just wasn't going to fly."

## Trial Installation Issues

The district was given a demonstration of the Mission Communications cellular-based SCADA/monitoring system by Dave Nemiroff, a consulting engineer. A trial unit that monitors AC failure, high level/low level, phase loss and two pump runtimes was placed on a submersible duplex pump station housed in an underground vault. The remote terminal unit (RTU) was installed with a Mission-supplied

low-profile antenna that minimized the district's exposure to unsightly antennas. One problem was uncovered shortly after the trial installation.

"After the unit was first installed, we got a phone call from Mission's Technical Support Group. It had detected through its diagnostics that the trial unit had poor cellular signal strength and was occasionally going offline," Nemiroff said. "The installer had taken the district's instructions on 'hidden from view' antennas a little far. The antenna had actually been mounted below ground in the lift station access vault. I was surprised the RTU worked at all—it was like trying to use a cell phone from a sub-basement elevator."

The district subsequently installed RTUs on all of its lift stations. More RTUs were quickly ordered to monitor the flow to the wastewater interceptor line and levels at the water storage tank. Pebble Beach was very satisfied.

"We were extremely pleased with the system's performance, so we started to take advantage of some of the other capabilities it offered," Rose said. "It's a little embarrassing. We bought Mission as a backup to our existing SCADA. In many areas it outperforms the primary system. It's certainly a heck of a lot less expensive and easier to use." **WWD**

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