

## Fresh/Waste Water

# Zetron SCADA Saves Water Dept. \$100K+ Annually

## They Can Monitor and Control Operations from the Desktop or Home



In recent years, as communities have grown, so has the need for water and the cost of providing it. As a result, finding cost-effective ways to manage and deliver water services has become a top priority for many city water departments.

This was certainly the case eight years ago when Brentwood Water Services, which provides water for the city of Brentwood, Tennessee, decided to purchase a Zetron SCADA (supervisory control and data acquisition) system to replace the one they had.

What's more, in the years since the system was originally installed, their use of it and the information it's able to provide has only gotten better.

### 'More reactive than proactive'

Brentwood is an affluent suburb of Nashville, with a population of about 35,000—up about 44 percent since the last census. With this rate of growth, water management has been an ongoing concern for

Brentwood. But eight years ago, their existing SCADA system simply wasn't providing the information they needed to manage their water services effectively.

The existing system could remotely control only two of their pump stations. Its telemetry—which remotely measures and reports information—was working on only three of their nine water tanks. And someone had to be on site to determine whether a tank was overflowing or a pump was malfunctioning.

"This made us more reactive than proactive," says Brentwood Water Services Assistant Director, Kevin Colvett. "You don't want to have to wait for someone to call in and say there's sewage running across the street to find out that something's gone wrong."

The Zetron SCADA system they installed to address these issues was a vast improvement over their previous system. It provides the reliable, 24/7 monitoring they need. Furthermore, over the years, they've been able to adapt it to perform even better monitoring and control. This has provided additional benefits that, when they first obtained the system, no one ever imagined they would eventually come to depend on.

### CommTech Communications

Brentwood chose two-way radio dealer CommTech Communications, of Nashville, Tennessee, to design, program, and install their new SCADA system.

"Brentwood picked us because we'd done their public-safety communications and the radio systems for their public works and the water department," explains CommTech Service Manager, Brad Adams. "We'd never done a SCADA system before, but we knew Zetron had SCADA equipment, and we're game for anything. So when they asked us to do it, we said we'd give it a shot."

## The Zetron SCADA 'package'

The SCADA package CommTech put together for Brentwood included Zetron's Model 1730 SCADA system controller, Model 1716 Remote Terminal Units (RTUs), and appropriate software. It was originally designed to monitor 32 sites, which included numerous water tanks, water pump stations, and sewer lift stations.

Brentwood began reaping the benefits of the new system as soon as it was installed.

For instance, with their previous system, they could determine tank water levels and whether a pump was running, but not whether it was working properly. The new system was able to measure the pressure of water going into and coming out of a pump so they could tell whether the pump was functioning as it should.

"With the new system, they could also see how a tank level fluctuated over a specified time period," says Adams. "This would tell them whether they needed to adjust their pump schedules to meet the demands of a specific neighborhood during a particular time of day."

## Going with the flow

Over the years, Brentwood's technicians and administrators became more adept at working with CommTech to exploit the Zetron SCADA system's automated capabilities.

The addition of flow meters is a case in point.

Adams explains: "Brentwood buys water from other cities' water departments. We added flow meters where they take water in from those sources so they can accurately track and compare the water flow and costs incurred from each of those sources. This allows them to purchase their water more cost effectively. They buy more water from the less-expensive source and only as much as they're obligated to buy from the costlier one. Before, these calculations were done manually, and it was hard to get really reliable numbers. Now it's all done automatically and precisely, which has saved them upwards of \$100,000 a year."

## Pump it up

More recently, CommTech added monitoring capabilities to the lift stations that pump wastewater to the sewage-treatment plant.

"Sometimes a lift-station pump wouldn't turn off when it was supposed to," says Adams. "This caused the wet well at the lift station to run dry, and the pump to burn out. We implemented a process that automatically generates an email alert if a lift-station pump runs for more than an

hour, so they can get out and fix it before it burns out. They're also able to monitor pump runtimes and make adjustments if one pump is running more than the others. They can balance the loads among the pumps more efficiently. And they can repair pumps before they fail and have to be replaced. This too saves them lots of money—we're talking thousands of dollars for those pumps."

## Remote possibilities

"Another really important feature is that they can monitor and control these operations right from their desktops," Adams continues. "So if something happens over the weekend, they can remote into their desktops from home and view or change a setting instead of having to come into the office or go to a site to do it."

## What we have is what we want

Brentwood has stayed with their Zetron SCADA system, even though, at one point, they almost replaced it with an entirely new, state-of-the-art SCADA system.

"About three years ago, we thought it might be time to update to newer technology," says Kevin Colvett "so we looked at several different systems. We quickly realized that, with a tweak or two, our existing Zetron system could provide anything these other systems had to offer. Some of the other systems had more sophisticated graphics and such, but they couldn't do more and weren't nearly as cost-effective, easy to use, or adaptable as our Zetron system. Sure, they'd be willing to change something down the line, but they'd charge us about \$250,000 dollars to do it. It became very clear to us that what we want is what we already have." ■

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