

Micro-Comm saved Davidson Water millions and put control right in the palm of Gregg's hand.

When you ask Gregg Stabler, general manager, Davidson Water, Inc., about his Micro-Comm system, he'll extol its reliability and the company's continual technological improvements.

But when you chat with him further, you learn the system has delivered some pretty amazing results to the bottom line of this progressive North Carolina water treatment and distribution company. In fact, he says the Micro-Comm system, installed in the early 80s and substantially upgraded in 2007, has saved Davidson Water millions on electricity alone.

"Micro-Comm helped us develop software to automatically prefill tanks overnight, during (electrical) off-peak hours," Gregg explained. "Plus, their SCADA system allows us to program our nine back-up generators to turn on during peak time. Since 1992, those things alone have saved us \$250,000 to \$300,000 at just one pump station—several million dollars overall."

That's on top of the water saved due to the system's leak detection capabilities. And, it's in addition to initial savings experienced when Micro-Comm reconfigured control of the private, not-for-profit system from telephone to radio telemetry. Since the operation was a consolidation of five

water districts, it had previously leased telephone lines from as many as five different providers.

Davidson Water, which serves about 150,000 people, covers parts of four counties and pumps as much as 20 million gallons a day, connecting 54 remote terminal units (RTUs) seamlessly with its water plant and a separate office.

What's more, the cooperative, headed by a 15-person board of directors, plans to double plant capacity over the next five years, continuing to tap into Micro-Comm's high-tech software to create efficiencies.

Gregg already credits the system with helping them maintain a staff of just 70—about half the size of comparable systems. Plus, they've capitalized on the equipment's advanced information-gathering capabilities.

"Their SCADA system really has helped us stay lean and mean because we are able to see what's going on all the time, rather than having to do site checks," he said. "We also use the system's data to make



"When we've done upgrades, the new equipment would integrate with the old units so we didn't have to make an entire changeout. It saves us money each time. That's very important to us, being a large system."

— Gregg Stabler, general manager, Davidson Water, Inc.

adjustments in the way we operate. We can tie data into a hydraulic model, and an engineer can use that to do 5-, 10- and 20-year forecasting."

Gregg says they are in the process of GPSing all meters, valves and hydraulic lines, etc., which will help track demand; it will include an ID on all meters, which will link to the hydraulic model and the billing system through SCADA.

It's a far cry from the 10 x 15-foot panel covered with thumb wheels and graphs that used to control the system, backed up by a closet-full of data recorded on paper rolls. In contrast, today's system even allows them to monitor and

control SCADA operations on their cell phones.

As a result of all these benefits, Davidson staffers say they are more than satisfied.

"I love this new Micro-Comm equipment; it's just about bulletproof," said Sonny Grub, maintenance supervisor, Davidson Water, Inc. "For our size operation, I would put it up against anybody. We have a lot of stations and do all kinds of valve controls, and it clicks right along. I don't think it's possible to be much better."

To find out how Micro-Comm can put control back in your hands—and deliver impressive results to your system's bottom-line at the same time, contact our sales staff at (913)390-4500.



INNOVATION.

Micro-Comm has customized software just for Davidson Water; they like the way Micro-Comm continually upgrades and modifies hardware and software to keep pace with technology.

ECONOMY. Micro-Comm's critical thinking skills and advanced programming capabilities have enabled Davidson Water to save millions of dollars in electricity, alone, over the past 15 years.

SERVICE. Davidson water appreciates Micro-Comm's exclusive five-year warranty. They also use its service contract, which replaces faulty or damaged hardware at no charge. Service technicians can view and troubleshoot the system from their Olathe, Kansas offices.

CONVENIENCE. Micro-Comm's SCADAview 32 software employs customized, user-friendly screen graphics. Even better, the system can be monitored and controlled from staff-operated Blackberries.

RELIABILITY. Davidson's maintenance supervisor describes the Micro-Comm system as virtually "bulletproof."

SPEED. Information from 40+ remote sites is updated every 90 seconds over a VHF radio network. The plant, tanks and pump stations are connected via a high-speed, spread-spectrum radio network. If power is lost, back-up generators at remote pumps activate within 10 seconds.

VERSATILITY. Davidson staff says their system can now do almost anything they want it to; all they have to do is ask, then let Micro-Comm work out the strategy.

the MICRO-COMM ADVANTAGE for DAVIDSON WATER

How Micro-Comm helped Davidson Water, Inc. save millions.

OVERVIEW

Davidson Water, Inc., located 50 miles from Charlotte, NC, is the largest Farmers' Home Administration-financed, privately owned, rural water system in the world. It serves 150,000 residents across four counties in southwestern North Carolina, treating and distributing up to 20 million gallons of water per day. A total of 54 remote terminal units are used at 48 sites, spanning 600 square miles, with elevation variations of up to 630 feet.

In the early 1980s Micro-Comm successfully automated Davidson Water's distribution system from telephone controls (from five different utility providers) to radio telemetry. In addition to multiple smaller upgrades over the years, Micro-Comm performed a major upgrade to bring the water treatment plant inline with the distribution system. The system now operates seamlessly, with main controls located in the office and the plant.

LOGISTICS

- Water plant treating an average of 12 million gallons per day
- Up to 20 million gallons distributed per day
- A consolidation of five county water systems
- 3 river intake stations with total pumping capacity of 31 million gallons a day
- 3 raw water pump stations with 32 million-gallon pumping capacity
- 3 connected holding lakes that store approximate 75 million gallons
- Settling basins set up to handle up to 20 million gallons a day
- 9 emergency generators—at the office, plant and pump stations
- Additional monitoring at separate, nearby office
- 21 water tanks
- 21 booster pump stations
- 5 control valves

CHALLENGES

- Melding information from five water systems into one
- Separate operator computer workstations at plant and nearby office
- 42 remote locations across 600 square miles and four counties
- Rugged terrain with elevation variations of up to 630 feet
- Size and sophistication of system



Davidson Water's Micro-Comm system lets them monitor and control their SCADA system from the plant, the office, even their Web-based cell phones, saving them time and money.

SOLUTIONS

- Fashion operator workstations with Dell PCs running Micro-Comm's SCADAview 32 software and Windows XP
- Design user-friendly screen graphics to illustrate system operation
- Install SCADAview 32 with the WEB option, allowing total plant monitoring & control from any web browser, including mobile phones
- Enable operator monitoring and adjustments from plant or office
- Incorporate audible alarms keyed to operator-entered set points
- Utilize Ethernet TCP/IP data network throughout plant, enabling multiple control/monitoring points and enhancing speed and update time
- Include back-up HMI Server to preserve information
- Employ MicroWave Data Systems (MDS) Ethernet-based radio system to provide high-speed data link to remote system locations
- Create system with modular components for easy troubleshooting, replacement and upgrades
- Integrate PC-Anywhere software, giving Micro-Comm technicians complete long-distance trouble-shooting and programming capabilities

RESULTS

- Multimillion-dollar savings in electricity from creative use of leading edge software
- Substantial water savings due to advanced leak detection features
- Expanded information, reporting and forecasting capabilities
- Improved communication; access from laptops and any Web-based cell phones
- Enhanced speed of operation
- Versatile, flexible system that's easily customized
- Easy, economical expandability

Digital Control Technology
Where creativity and technology converge

15895 S. Pflumm
Olathe, Kansas 66062
(913) 390-4500; (913) 390-4550 (fax)
www.micro-comm-inc.com