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

MICRO-COMM

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