



Santa Rosa Ensures Continuous Water Resource Management with Marathon everRun and Wonderware InTouch HMI



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- Mitch Dobson, Senior Consultant, EMA, Inc.

PROFILE

City Utilities Department

150,000 Residents

21 MGD Water Distribution System

APPLICATION

Wonderware's InTouch HMI Software

THE COMPANY

The City of Santa Rosa, California Utilities Department controls water distribution for approximately 150,000 residents using Wonderware's InTouch® human-machine interface (HMI) software protected by Marathon's everRun software. Santa Rosa's system includes 605 miles of potable water pipeline that fill 20 enclosed reservoirs with a storage capacity of 19.45 million gallons. The city's average water usage is 21 million gallons per day (MGD) with a summer peak average of 33 MGD and a winter flow average of 13 MGD.

THE ENVIRONMENT

Using Wonderware® software, employees optimize system operations by adjusting set-points, monitoring equipment performance, as well as managing time-of-use for pumping schedules to maintain reservoir levels. InTouch HMI software detects pump station/reservoir intrusion and monitors process alarms. The control system features redundant unmanned control centers – operators access the control system from their vehicles using wireless technology. "Water is a basic need," said Paul Doroff, Department of Technology Coordinator, City of Santa Rosa. "We needed to eliminate any interruptions in water distribution services to our residents."

THE REQUIREMENTS

The Santa Rosa Utilities Department needed a simple, cost-effective way to protect its critical water distribution control system from downtime due to faults, failures and disasters. The protection system needed to eliminate three particularly costly downtime scenarios:

- Downtime during a water main break. Control system downtime could delay response to water main breaks potentially causing interruption of service, flooding, and other costly consequences.
- Interruption of electricity usage optimization. Downtime for the control system could interrupt a cost-saving electricity optimization function that saves electric costs by running pumps when electricity is less expensive.
- Downtime during natural disasters. Because Santa Rosa is located in an earthquake-prone area, the control system needs to be protected from earthquake, landslide, and other natural disasters that could interrupt water distribution when it is critically needed.

THE SOLUTION

The City of Santa Rosa, along with its control system consulting firm EMA, chose Marathon's everRun software-based system to meet the City's fault and disaster tolerance requirements. "The Marathon solution was simple, cost effective, and provided a higher level of protection than any other solution we looked at," said Mitch Dobson, Senior Consultant, EMA, Inc.

The everRun software runs two identical Windows servers in lockstep so they function as a single, fully redundant Windows server. If one server stops running due to fault, failure or disaster, the InTouch software continues to operate uninterrupted using the computing power of the other server. EMA purchased, installed, and configured the everRun software quickly and easily.

THE RESULTS

Since the successful completion of the Santa Rosa project, EMA and Marathon continue to work together using Marathon's unique redundant control systems platform at other water and wastewater facilities. "By making our control system continuously available, we can deploy our operations staff to the locations where they are needed around the city," said John Joyner, Senior Manager, City of Santa Rosa. "The cost savings resulting from this efficient use of staff resources paid for the Marathon software in a short time frame."

WORLDWIDE HEADQUARTERS

Marathon Technologies Corporation
295 Foster Street, Littleton, MA 01460
Tel 1.800.884.6425 / 1.978.489.1100
Fax 1.978.489.1101
info@marathontechnologies.com

www.marathontechnologies.com

EMEA HEADQUARTERS

Marathon Technologies UK Ltd
Regus House, Trinity Court
Wokingham Road, Bracknell
Berkshire, RG42 1PL
Tel +44 (0) 1344.706.241
Fax +44 (0) 1344.706.242
emea@marathontechnologies.com

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