

# SCADA benefits without SCADA costs

By Jason Weinberger

**W**ater and wastewater managers have a tremendous amount of information at their disposal, and they leverage that information every day to ensure efficient operations.

*The method managers use to collect that data is important in terms of timeliness and management: The most critical information needs to be presented as priority, while less critical data needs to be filtered appropriately. When obtained, filtered and delivered properly, the right data can prevent pump failures and sewage spills, as well as properly size future upgrades to the system based on the historical data collected.*

## Advanced remote monitoring solutions

Many data collection solutions in the field today leave facilities either burning tremendous budget on a full-scale SCADA system or, in a scenario that requires significant budget and resources, sending field technicians out in a truck to manually check lift stations on a regular basis.

### Finding the Happy Medium

Some simple autodialers are marketed as “remote monitoring systems,” and some more evolved monitoring solutions are marketed as SCADA. These are fairly loose descriptions of the products that are actually being sold to water and wastewater utilities and operators. A new category of pump monitoring, advanced remote monitoring (ARM), is aided by advances in technology and combines the best of these offerings to more specifically address the needs of water and wastewater professionals. ARM offers 90% of the SCADA analytical capabilities at a fraction of the cost. Adding analytics and report-driven functionality to a simple alarm unit eliminates the need for onsite check-ins and delivers customized information.

“Part of my job is keeping up with the best, most cost-effective tools in helping me deliver water and wastewater solutions,” said Wayne Ramey of Ramey Environmental Compliance Inc., a Colorado-based company contract operator of water and wastewater facilities as well as collection and distribution systems. “By monitoring and analyzing my lift stations remotely, I reduce the pressures on my staff, maximize my assets and effectively manage my business.”

ARM reduces liability associated with spills, mitigates equipment repair costs and drastically reduces the amount of time field technicians are required to spend on site gathering data. Additionally, data collected using ARM is warehoused off site, reducing capital IT expenditures. The data is also made available for historical trending models in order to optimize strategic growth of the utility.

### ARM vs. Autodialers

Autodialers are effective, but by using a good remote monitoring system, utilities—especially utilities with multiple units to monitor—can get significantly more functionality. For the same cost as the phone

line needed for the autodialer to communicate, far more data about the health of a station can be transmitted to remote servers over a cellular or satellite data plan. When an alarm event occurs, the station reports to a data center and operators are alerted via an e-mail, text message or phone call from the remote servers.

“We have had stations where we suspected inflow problems but couldn’t accurately diagnose them,” said Jack Morin, assistant supervisor at East Richland County in South Carolina, where he is monitoring 13 pump stations with Aquavx ARM solutions. “Now I apply the historical inflow reports to the station, diagnose the problem and see that after it rains there is a spike. I can tell a lot about my entire system.”

East Richland County had a handful of old land-line-based alarm dialers, but was spending a lot of manpower sending personnel out to check the stations every day. This system did not provide any qualitative information about the stations that enabled operators to anticipate problems or adequately troubleshoot before sending maintenance personnel to the site.

“In addition to economizing manpower, the county wanted to be able to generate various reports from their stations—and wanted these reports to be customized to meet the county’s unique information requirements,” said Mike Osborne of AO Inc., the consulting and installing company for East Richland County.

ARM offers more than just notification of alarm events. Operators get the current status of equipment as well as analytics. This includes the delivery of historical reports and trending capabilities such as pump run frequency and duration, pump motor usage, lift station inflow and pump flow output, sump pump motor activation, number of cycles and a comparison of the how many times each pump is cycling. A complete system should still maintain the onsite keypad interface so that operators can access data while at a given site.

### ARM vs. SCADA

For many small and mid-size utilities, a SCADA system offers attractive functionality but is too expensive and complicated for many of their needs. A good ARM system is an affordable alternative to SCADA. Designed to be up and running quickly and easy to use, it requires less capital expenditure because it



Station stats report.



When an alarm event occurs, the station reports to a data center and operators are alerted by e-mail, text message or phone call.



Field data.

eliminates the need for costly radio networks, polling servers, custom screen development and expensive customized hardware. The simplicity of the ARM infrastructure reduces ongoing system maintenance of the monitoring system to near zero and increases the likelihood that it is going to work as intended. These systems also avoid the significant costs of software customization and maintenance required with traditional SCADA.

"For about the same cost as a monthly landline, we have so much more than the simple alarm dialers we were using," Morin said.

An ARM system can be designed to meet the needs of the small- to medium-size utilities that may not have the desire or budget for a full-blown SCADA system but still need to receive critical data.

#### What You Need, When You Need It

ARM provides operators with the precise data necessary to effectively and efficiently run a utility. Because reports are event-driven (reporting by exception), the system does not deliver exhaustive data every two minutes as other systems might; by contrast, it delivers only the most essential data at critical points during the operation of the utility.

"Obviously, we live in an information age," Ramey said. "But more isn't always better. I want a surgical approach to the information I receive, not a shotgun blast. My ARM solution delivers just the information I need. If I need more, I can always go and pull it from the system or easily instruct the system to give me exactly the additional data points I require."

Current SCADA users can benefit from ARM solutions as a supplement to their existing system. New locations coming online that are not served by the current network or systems can be hosted as an interim solution. Or, if the SCADA system is missing the functionality offered by ARM, data can be imported to the hosted servers to increase capabilities while continuing to leverage the SCADA investment—all without the cost of development for custom screens. **WWD**

Jason Weinberger is vice president, strategy and business development, for Aquavx and M2M Data Corp. Weinberger can be reached at [jweinberger@m2mdatacorp.com](mailto:jweinberger@m2mdatacorp.com).

For more information, write in 1104 on this issue's Reader Service Card or visit [www.wwdmag.com/lm.cfm/wd111004](http://www.wwdmag.com/lm.cfm/wd111004).

## Reduce Your Footprint...



### ...with Verderflex Dura

The most cost efficient hose pumps in the world.

- 70% smaller footprint\*
- 40% longer hose life\*
- Reduced number of parts\*
- Cooler running\*
- Flow rates to 114 US GPH
- Pressure to 174 PSI

\*in comparison to equivalent pump types

Save Money Save Energy  
Save Time Save Space

[www.verdergpm.com](http://www.verdergpm.com)  
[info@verder.com](mailto:info@verder.com)

**VERDERFLEX®  
DURA**

Write in 109

## Protect your MBR.



At Enviro-Care, we care about MBR protection. That's why our ECVSA-M Rotating Drum Screen is designed specifically for MBR pre-treatment. The ECVSA-M's highly efficient screen drum and proprietary face seal virtually eliminate bypass of hair and fibrous materials that can foul your delicate membranes. The ECVSA can also be provided as part of an MBR Headworks Package with Coarse Screens, Conveyors and Washer/Compactors providing single-source MBR protection.

Call or email us today to learn more about Enviro-Care's entire line of headworks and MBR pre-treatment equipment.

 **Enviro-Care**

5701 Industrial Ave. Rockford IL 61111  
Phone: 815-636-8306  
Email: [ecsales@enviro-care.com](mailto:ecsales@enviro-care.com)  
Web: [www.enviro-care.com](http://www.enviro-care.com)



Enviro-Care is proud to be Savi's exclusive North American technology partner and licensee.

Write in 110