



Keep the Pumps Pumping

By Ralph Royall

A wireless, Web-based alarm system expands pump capabilities and reduces operating costs in Midlothian, Texas

*L*ocated approximately 30 miles from both Dallas and Fort Worth, Midlothian, Texas, has become one of the state's fastest-growing cities, developing at a rate of more than 15% per year. People are choosing to relocate there to escape big-city living but remain close to the action. Midlothian strives to stay on the cutting edge of technology in order to support its expansion while keeping costs down.

As part of this technological advancement, Midlothian sought a more efficient way to monitor the performance of its pump stations. The city's water distribution division cur-

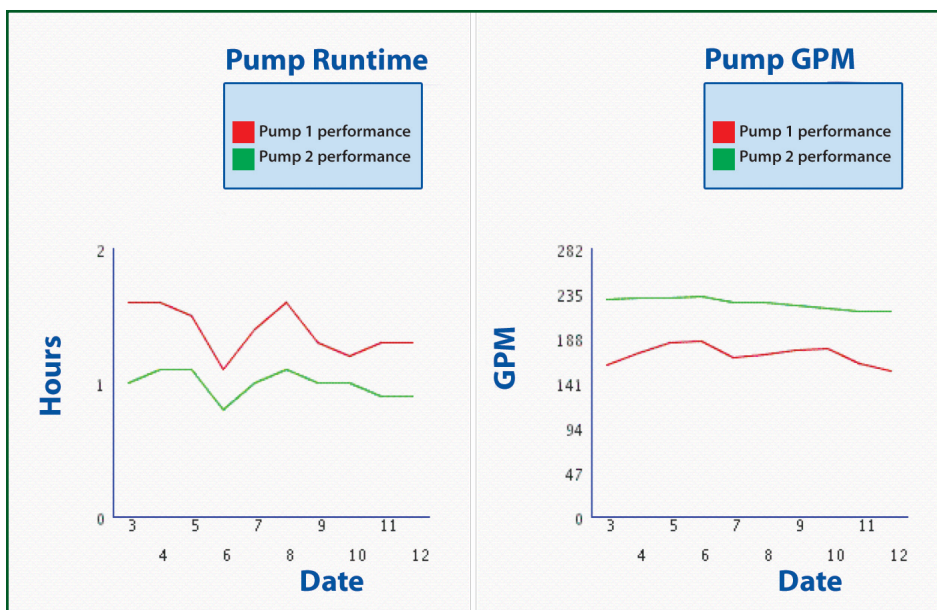
rently maintains and repairs more than 100 miles of main lines and numerous water valves that provide potable water. The wastewater collection division maintains and repairs more than 150 miles of sanitary sewer lines, 750 manholes and 12 lift stations.

The previous monitoring system the city had been using at one of its lift stations, however, was not providing useful information. The staff could not monitor the pumps remotely and had to visit every lift station twice a day to make sure each pump was working properly.

With 12 pump stations, a population on the rise and a growing realization of the importance of pump reliability, Midlothian turned to RACO Manufacturing and Engineering Co. for improved functionality and a more efficient way to monitor pump station performance.

Technological priorities

The city had built up trust in RACO through use of its Verbatim and Catalyst systems, so when officials learned about the functionality of AlarmAgent.com—a wireless, Web-based alarm detection and notifi-



On-demand statistics show problems as they occur. Graphical performance reports are available to AlarmAgent.com users.



cation system—they were quick to jump on board and replace the system being used at the pump lift station.

Pump performance optimization. Now, using AlarmAgent.com, the city's staff can monitor pump performance on demand. This includes the review of flow rates, start rates and alternations of pump cycles.

AlarmAgent.com makes monitoring pumps in a lead/lag operation simple by ensuring equal loads and shared wear. By monitoring the day-to-day pump discharge and pump cycles, the city is better able to recognize drops in the wastewater discharge of either pump and quickly restore it to peak-level operation.

Disaster prevention. Thousands of dollars in repairs can result if a pump clogged by debris goes unnoticed. The system prevents these concerns by signalling a lower pump output, thus allowing the city to quickly find the problem and take corrective action.

The staff can also monitor high and low

water level alarm points in wet wells, spotting potential problems before a pump or one of its parts gets seriously damaged. For example, if a high level condition in the wet well went unalerted, sewer water could begin backing up into residents' basements. This could cause costly property damage but also violate U.S. Environmental Protection Agency Clean Water Act. Likewise, if a low level condition in the wet well went unnoticed, air could enter the pump and create devastating damage.

Recently, the system alerted a city worker to a particular pump inefficiency that turned out to be the result of a mop head clogged in the pump. This early warning prevented severe pump damage.

Prioritized staff management. Each morning, staff members log on to the website and review reports regarding system activity. Specific trouble spots can then be pinpointed, and only those pumps need to be manually checked that day. This saves time and frees

staff for other work.

Future installation and scalability. The system's capabilities wireless eliminate the need for landline-based connections and requires very little infrastructure. This makes for easy, cost-effective installation and upgrading.

Results

Now, each time a lift station is added in Midlothian, standard city procedures dictate that AlarmAgent.com needs to be added as well. The city's pumps now perform at their ideal capacity the majority of the time, lowering operating costs and using less energy. Most importantly, the city has greater access to pump flow information for preventing catastrophic failures before they happen.

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