When It Rains, It Pours
New Metering Initiatives in the Midst of a Flood

One day in September 2011, Mary Beth DePugh, an account clerk for the Village of Johnson City Water Department in central New York, was getting ready to send out water bills. It would be the last month she’d have to use the 25-year-old, DOS-based billing software she’d battled for years. In October, brand new billing software from another provider would go live, followed by a system-wide meter change-out of 15- to 20-year-old meters in November. In addition, the Department would be implementing new automatic meter reading (AMR) via Neptune’s R900® System. Johnson City’s water would finally be under control.

The next day, however, the biggest flood in decades roared through the village. “We lost everything,” DePugh said. That included their office, submerged in several feet of water. They weren’t alone. “We had over 1,000 properties affected by the flood,” said Bob Bennett, director of Public Services. “It would take over two years for some of those damaged or unsanitary properties to be considered safe.” Many homes and some businesses had to be demolished, and eventually the Water Department lost its largest customer. It also lost several personnel positions as a result of the flood, compounding the problem of a workforce that had already shrunk by nearly a third from budget cuts in recent years.

RISING ABOVE WITH MOBILE AMR

In spite of the historic deluge, Bennett and his team were determined to move forward, starting with a move into temporary headquarters at Village Hall. Johnson City began installation of new water meters, along with advanced, combination solid-state absolute encoder/RF meter interface units.

With fewer personnel and many flooded sites, Johnson City’s new AMR system was put to the test. “After the flood, I had no meter reader,” said DePugh. “I had to bring on someone with no previous water department experience, almost off the street. But [operating the mobile AMR] was like ‘plug and play,’ and she ran with it. Our reading went on without a glitch.”

Bennett added, “We’re able with drive-by reading to do in a day, day-and-a-half, what used to take us six weeks of walking. Not only did it help us expedite getting our data but it also saved wear and tear on our employees and kept us from having to go into flooded sites in harm’s way.”

Along with faster readings, the Department’s data is much more accurate with a higher degree of resolution than ever before. “Our former meters read in hundreds of cubic feet,” DePugh said. “With our new encoder/MIUs, we now register consumption down to the last drop — 1/100ths of a cubic foot.”

In addition, the new meters are much more accurate, as shown by the results of meter testing. Thirty percent of the old meters registered less than half of flows, while another quarter of the old meters registered between 50 and 75 percent. The new meters are now all within the AWWA limits of 98.5 to 101.5 percent.

DePugh said, “We’re capturing all of our water, and [our customers] are paying for all of their water.” And when it comes to their usage, customers are also paying attention. “When they call in upset about their bills, we can use data-logging information to tell them they may have continuous or intermittent leaks,” she said. “It allows for self-education and behavior modification.”

Bennett noted how the system has helped optimize his workforce and reallocate personnel. When the Village board suggested cutting more personnel because of the increased efficiency from AMR, he refused. “The purpose of this is to get the people who are supposed to be there maintaining our system back maintaining our system,” Bennett said. “When you lose staff, you lose productivity. We’ve been able to keep our water distribution people in water distribution.”

According to Bennett, not only has productivity increased but so has revenue. “After the flood, the Village board questioned whether or not we were doing the right thing. They didn’t believe that we had seen the revenue that had been anticipated,” he said. “However, despite losing a little over 200 customers because of the flood, the first billing period afterward showed we still had a $40,000 to $50,000 increase in revenue for the quarter.”

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