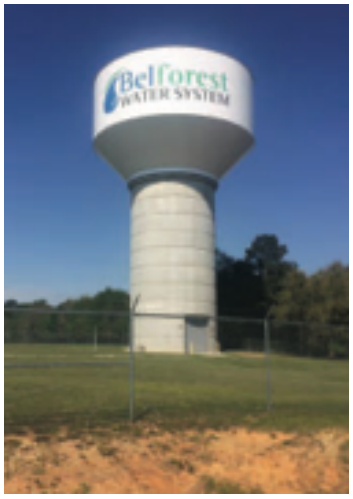
Making the Switch to AMI

Belforest Water System achieves astounding results in customer service and labor output

BY IAN MACLEOD



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Founded in May 1973, Belforest Water System (Belforest) started out serving a farm-laden, rural area, which has now grown to be home to some of the newest developments in Alabama's Baldwin County. Serving a footprint of approximately 15 square miles of flat terrain, Belforest hosts just over 4,000 service connections and is currently developing over 1,300 additional homes. With an eight-percent annual growth trend, Belforest found itself in the middle of a booming construction zone. The company currently operates on a staff of three office administrators and four outside operators, but most recently, Belforest has brought a field operations manager/professional engineer on board.

The meters in the system were rapidly nearing the end of their life span and Belforest's growth rate was exceeding staff's capacity to keep up. "We were changing 30 to 40 meters a month that were no longer working, and that was on top of the growth we were experiencing. It would not be uncommon for them [Belforest employees] to change out 50 to 60 meters a month," Amanda Selph, business manager at Belforest, said. "We were at a tipping point from a staffing perspective and we needed a solution that would show immediate financial results."

With Belforest's metering infrastructure nearing the end of its warranty, it was time for the utility's leaders to consider the next phase for its water infrastructure. Belforest considered factors such as rapid growth, fiscal responsibility, and the knowledge transfer between employees in anticipation of future growth. Twenty years of system knowledge resided within the memory of a single Belforest staff member, who lacked a solid system for documenting information for use by other team members. Without an AMI system to automatically track meter locations and customer water usage, Belforest not only faced increasing customer complaints but also increased labor time from tracking down issues through drive-bys, making the process much longer and more costly than necessary.

Belforest employees dreaded meter-reading day. The operators would spend the entire last business day of the month conducting drive-by readings. This would often require two workers in a truck — one to drive safely and the other to monitor the registration of the readings. Once the readings were processed there would inevitably be 50 missed or unread meters that required manual rereads. At a minimum, the reading process would cost 72–75 hours of operations labor per month, plus three days of quality control checks.

In 2016, as the end of the meter warranty approached, Master Meter introduced Belforest staff to Harmony MDM and its next generation migratable AMI solution, Allegro. Within less than a year, Belforest replaced 3,200 legacy meters with the new Allegro units, completed backend integrations to their business systems, and completed a full system audit. With their favorable previous experience with Master Meter solutions, the benefits of migrating to the combined Allegro/Harmony solution were clear and the costs of the upgrade were easily justifiable. Belforest quickly received board approval and full support through the required funding.

For Belforest, full implementation of AMI was the obvious choice. "When Amanda brought this project to us, the board felt that it was the perfect time to implement. It was nearly a $1 million investment, so we decided to jump on board before it became too costly," said Charles Dube, Belforest's board president.

The project included the deployment of two base stations atop Belforest's water towers for data collection and two repeaters, one of which is solar powered, to help extend AMI network coverage to the outermost parts of the water system. "Once the fixed network was in place, we had a subcontractor come in to change out our 3,900 registers system-wide," Dube said. While most AMI deployments, even small ones, often take place over multiple years, Belforest was able to move from project commitment to full implementation within roughly five months.

Since completing the project, Belforest has become an advocate for other utilities to consider an upgrade to Master Meter's Allegro AMI and Harmony MDM solution. "Learning from other's experience is critical to making the right decision when

upgrading your system," Selph said. She hopes that Belforest's success can help serve as a template for other utilities in the future. For Belforest, the new system has afforded staff members an increased level of ease in effectively serving customers.

The need for the new system upgrade became abundantly clear after implementation. Belforest has since seen the following improvements in their business:

The solution not only empowers employees to provide better customer service but also empowers customers to make more informed decisions about their water use.

Immediate Labor Cost Reduction. Belforest employees no longer spend their time physically monitoring meters or conducting manual reads. Since the implementation of Allegro AMI, staff experienced a 93 percent reduction in time spent on meter reads and administrative tasks.

Reduction in Work Order Management Time. Since the implementation of the Harmony software, Belforest also saw a reduction in time spent on work order management. Customer service representatives now have the ability to view live meter reads online and easily change account information, which resulted in an immediate drop in work orders. Staff can now complete 54 percent of work orders without ever leaving the office.

Reduction in Customer Leaks. Prior to Harmony, the average customer leak went undiscovered for two to three months, sometimes longer. With Harmony leak alerts, leaks are found in 24–48 hours and often addressed within days, if not hours. Most of the time, the office notifies a customer of a leak before the customer even realizes there is one.

Staff can drill down water usage to 15-minute increments and diagnose a steady pinhole leak or something more serious — such as a running toilet or a slab leak. Exportable, email-friendly reports show customers, in living color, what their meter is registering while offering troubleshooting suggestions.

Belforest staff member Julie Knippers works in Harmony all day. "I've had customers who have no idea they had a leak, and they are always appreciative when I can give them some direction as to how to check their lines," she said. "One customer in particular was living on a fixed income and saw a slight increase in her bill. Together with Harmony, we were able to identify the leak source, and she was back to normal very quickly."

Melissa Davidson, another Belforest employee, addresses leak alarms several times a week. "I've implemented a system where customers with small leaks receive letters, larger leaks get phone calls, and for really alarming leaks, I'll generate a work order and have our staff go and check the meter. I may even have them turn the meter off and knock on the customer's door." In a 12-month span, the office has sent almost 500 letters, made countless calls, and had endless positive customer interactions.

Reduction of Leak Adjustments. The new Master Meter AMI meters provide faster leak detection resulting in fewer leak adjustments. Belforest continues to see a downward trend of both the number of leak adjustments requested and the cost value of the adjustment. Leak adjustments are dropping from an average of six per month to an average of two per month, and the cost value of the adjustments are trending down 55 percent from 2014.

Customer Complaints. Within 15 minutes of receiving Harmony training, Knippers was implementing the software with a customer. This particular customer complained about a high bill, saying, "I can't have possibly used this much water! Your meter reading is wrong!" Julie pulled up the meter card, which showed normal usage for the entire month except two Saturdays of the month. She shared this information with the customer who then remembered that on those two Saturdays, he had power-washed his house and barn. The customer paid his bill and left without complaint.

Detailed meter reads empower customers to decide if the green lawns warrant the high water bill. "They [customers] do not know how much water is actually being put on their lawn when they run their sprinklers three times a week," Knippers added. "Some will adjust their usage; some will decide the high bill is worth the green grass." Harmony also empowers staff to better address the approximately 800 customer calls they receive each month. Staff uses Harmony to address 65 percent of these calls.

Master Meter's combined Allegro AMI and Harmony MDM solution not only empowers employees to provide better customer service but also adds to the value a water utility provides its customers by empowering them to make more informed decisions about their water use at home. **WW**

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