



Badger Meter

New Meters and AMR System Deliver Outstanding Revenue Savings and Improved Efficiencies in Ozark Mountain Region

Tri County Regional Water upgrades to Badger Meter E-Series® Ultrasonic meters and ORION® Classic (CE) automatic meter reading (AMR) solution

Responsible for water delivery in sections of Pope and Yell counties in Arkansas, Tri County Regional Water serves a vast and diverse land mass. Mountainous terrain, dramatic changes in elevation and rural living are hallmarks of the area stretching many miles and situated in the Ozark Mountain range. To better serve its residential customers, the utility needed an accurate and reliable meter reading system it could depend on.

Faced with high levels of water loss, meter failure and an inadequate drive-by system, Tri County Regional Water turned to Badger Meter in the summer of 2012. Recommended by trusted Arkansas-based Henard Utility Products Inc., the Badger Meter solution includes 5/8x3/4 inch E-Series Ultrasonic meters and the ORION Classic (CE) automatic meter reading (AMR) system.

Seeking a new provider after previous system failures and inaccuracies

Serving 8,000 customers on a narrow budget, Tri County Regional Water chose to deploy its new meters and AMR system by county, starting with the areas of most critical need. Yell County, the smallest distribution system in the two counties, was experiencing an average water loss of 15-20% each month, despite the recent implementation of a new water-line system. It is also the furthest away from utility headquarters, making re-reads especially time consuming and costly.

"Our drive-by system was failing. Our radios and the actual dials themselves were not staying synced. For example, the meter would read 10,000 gallons, but my electronic read would only show 5,000 gallons. As a result, we had to do a lot of manual re-reads, which was very inefficient," shares Tri County Regional Water Manager John Choate.

"If you're paying for an automatic system, you want an automatic system," says Mike Henard, owner of Henard Utility Products Inc. "John's meters were failing and his radios wouldn't read—they just quit. He had struggled through four generation changes of his previous system because of failures."

E-Series Ultrasonic meters selected for size, durability and accuracy; proven to withstand the elements

After considering various meter products, Tri County Regional Water selected the E-Series Ultrasonic meter line for its reduced height, durability and accuracy.

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Meter Reader Mark Waldo collects a drive-by read using the utility's ORION Classic (CE) mobile reading system.



Tri County Regional Water is experiencing dramatic water loss reduction as a result of its new meters and meter reading system.

"The size of these meters was a key factor. They can be mounted upside down, vertical or horizontal and still be read correctly," says Choate. "I also really liked the stainless steel version and the simplicity of a one-piece electronic meter with no moving parts. Stainless steel gives me piece of mind knowing that these meters will have a long life. They also are in compliance with the latest BPA guidelines."

In an area with a broad range of elevations, the ability to withstand pressure changes was another critical factor in the meter selection process.

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Case Study

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"We are not losing nearly as much water. With 100-125 pounds per square inch (PSI) on the line, our previous meters would implode. Our new meters can withstand 'max stated' operating PSI of 175, but we found they will withstand 300 PSI, and more," says Choate. He continues, "Similarly, our former meters only read 20 gallons per minute accurately, whereas the Badger Meter product will read 25 gallons per minute and more."

Trusted and proven AMR technology improves efficiencies and measurement

To support its electronic meter selection, Tri County Regional Water implemented the ORION Classic (CE) one-way drive-by system. Using trusted and proven AMR technology, the utility can now collect accurate readings and take full advantage of the benefits attributed to a mobile meter reading system.

"In the areas we implemented the ORION product, we are now registering the water going through more accurately. Additionally, the meter and the radio read always show the same thing. I have confidence in this system both for its efficiency and its accuracy," says Choate.

Dramatic improvement in non-revenue water losses

Today, Tri County has converted all of the meters in Yell County to the E-Series Ultrasonic meters, and is consistently experiencing monthly water loss between 2.5-3%, a vast improvement over its previous 15-20% totals.

"In Yell County, we've had this system in place for two years and so far, I have been extremely happy with it. Our re-read time has completely gone away and the meters themselves are accurate, even at low flows, and wearing very well. The reading equipment never misses a read," shares Choate.

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www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
México | Badger Meter de las Américas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtlinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
Czech Republic | Badger Meter Czech Republic s.r.o. | Maříkova 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411
Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-04 Parkway Parade | Singapore 449269 | +65-63464836
China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412

As of spring 2014, the utility has also converted approximately 25% of its services in Pope County to the new meters and meter reading system, seeing similar positive results. Water loss has already dropped from the mid-30 percentile range, to 17%, then 12% and continues to improve each month as more E-Series meters are deployed.

"What we're seeing here is a 180 degree turnaround," says Henard. "We started the confidence-building process with John a few years ago after working on another large-scale project. For this initiative, we performed several trials and relied on other customers as positive references to attest to the quality of these products. We were sold this system assured of Badger Meter's superior reputation and outstanding service."

Water loss reductions save money and precious resources

With the revenue Tri County Regional Water is saving as a result of new system deployments, Choate plans to complete E-Series Ultrasonic meter and ORION Classic (CE) installations in Pope County.

"Our top goal is to provide safe drinking water at a reasonable price to all of our customers. We want to be as efficient as we can and this system allows us to do that. Besides all of the money savings, we also want to reduce waste because water is such a precious resource," concludes Choate.

Tri County Regional Water looks forward to the future as its water loss reductions continue to improve and the utility runs even more efficiently.

Tri County Solution

- **ORION Classic (CE)**
- **E-Series Ultrasonic meters, ORION Classic (CE) endpoints and ORION Network Gateway Transceivers**
- **Other system components include a Panasonic Toughbook laptop, Trimble Ranger handheld computers and Advanced Metering Analytics (AMA) software**

Results

- **Increased Accuracy**
 - Electronic meters provide an accurate and reliable solution to deliver long-term sustained accuracy for improved non-revenue water loss.
- **Improved efficiency**
 - Trusted and proven AMR technology accurately captures flow and delivers reliable reads, saving time and money
- **Enhanced Reliability**
 - Tri County Regional Water can depend on its new system to withstand the elements and deliver high performance