

# Important Things to Remember with New Meter Reading Technology and Water Loss



After isolating a leak to an area, several hundred meter pits were inspected. A leaking pressure regulator was found. The meter pit, surrounded by tall grass, was located approximately thirty feet from a driveway to the property. This leak was flowing 10 GPM.

**W**hile Automatic Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) have been around for some time, water loss still plagues many systems. The AMI technologies were designed to make life easier and to help improve water loss through consistent monthly readings and smart metering. Once these technologies were deployed into many systems across the country and all the kinks were worked out, meter readings started to be reported daily or monthly like clockwork, month after month and year after year. As time goes on, unknown problems begin to develop due to how efficient the meter reading process has become. You open the AMI software system and run the report with all the readings or you hop in your vehicle buzzing up and down all the roads in the system with the radio antenna whipping in the wind! Life is good – so easy!

Well, unfortunately, water loss has been knocking at the door of many systems costing them thousands of dollars in lost revenue every month. Many systems have reached out to KRWA for guidance and assistance to bring their water loss back under control. I wish that KRWA had a magic wand to find the problems, but this is rarely the case. While we do have a few tricks up our sleeves, it usually comes down to basic troubleshooting, reviewing water loss reports, testing master meters for accuracy, and physically inspecting the meters out in

the distribution system. That is right, you know where I'm going with this, "METER READING THE OLD FASHION WAY". During the original installation of an AMI system, we assume that all programming and billing issues have been resolved to correct any issues with the readings and correct the usage being reported. While reading the numbers on the meter is NOT the purpose of this exercise today and yes reading meters was always a good workout back when everyone went to every meter and pulled the lids open to read the meter. While manually reading those meters, systems were also inspecting the equipment and the area around the pit – for guess what? LEAKS! So if your system has seen an increase in water loss, it's time to get your boots on the

ground and start with a meter inspection – especially if they have not been looked at in years.

Winter can be hard on equipment, resulting in damage. Leaking meters or pressure regulators can contribute to water loss, which can go on for months since the customer may still have water and no complaints of low pressure have been reported. The water leaking through a cracked freeze plate on the bottom of the meter typically is not registered and will not show up as usage. Meter pits that have pressure regulators are usually installed inline before the meter. If the regulator begins to leak, the usage will not show up through the meter as well.

Even though the AMI technology is great when utilized properly, general maintenance and inspection should still

## Questions for water systems using AMI . . .

Since these new AMI meter systems have been installed, and the knowledge of where meter pits are located goes out the door with the previous operator. Even after a couple of years of not going to the meter site can make an experienced operator that had been there many times before scratch their head, because a landowner cut a few trees or did some landscaping to change the looks of things. I encourage all systems to ask these questions:

- Does your operator know where everything is located in the system?
- Is the district or city utility maps up to date with current GIS locations?
- If the answer to question 2 is "No", you might be in trouble when it comes

to correcting your water loss problem. Area meters, more valves, more time, and more funds will be needed to fix your problem unless KRWA can pull a rabbit out of your hat. Most of the time it just takes a second set of eyes, looking for what might be a simple solution, or just going through the system shutting off valves, and listening for water gushing through the pipeline.

be a part of any system's yearly operations. So if your city or rural water district has downsized from full-time operators to part-time or contract operators or running on a skeleton crew, I suspect that some time or another problems will arise like water loss that will require the efforts of full-time personnel or elected officials to volunteer THEIR time to help. And of course, KRWA will always be willing to lend an extra hand. Some of these problems can be found within a few hours, but in some cases, months go by and many trips back to the system are necessary. By the time you read this article, springtime will be here. I encourage any system that has seen an increase in water loss over the last few months to consider doing a meter inspection. Who knows what problems might be find. Make time to do an annual inspection of all the meters in your system or even better yet, semi-annually.



**This manual-read meter froze; the meter did not register the gallons lost through the crack.**



**The meter had frozen; it was cracked on the inlet side.**

### Gain Insights at the Annual Conference

I encourage readers to attend the KRWA Annual Conference. Make sure someone from your city or rural water district attends the pre-conference session on Tuesday, March 28. “Remote Data Collection and Integration To Improve Operation and Management”. The panel will discuss how remote data collection has evolved, the technologies available, new integrations for improving operations and management, and the

implication of these technologies on the future of water and the environment. Numerous exhibitors will also be showcasing the latest in technology in EXPO Hall.

*Kris Kline began work with Kansas Rural Water on September 30, 2021. He previously was Director of Utilities at Osage City, Kan. and also had 12 years of experience as Operation’s Manager at Osage RWD 8.*



**This damaged pressure regulator is cacked in the center of the unit.**



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