



Operating and maintaining a public water system requires much more than collecting water samples and meeting state and federal reporting requirements. Water utilities range from what can be simple to highly complex. Regardless, each requires ongoing monitoring, maintenance, and management. As a KRWA staff member, I'd like to explain some of the most frequent requests I receive on behalf of KRWA.

### Maintaining adequate treatment

The first concern is water treatment. During warm weather periods, the battle for many systems is maintaining adequate chlorine residuals. As temperatures rise, chlorine may gas off faster and biofilms and bacterial growths become more active. Sometimes this results in high turbidity, which may impact water quality and the cost of treating the water for consumption. In worse cases, a water system can end up with little or no detectable chlorine residuals. This in turn could impact customers as a boil water advisory may need to be issued.

Some operators fight the loss of chlorine residual for the entire summer season, so it's vital to prevent it before it happens. Most times, low chlorine residuals can be avoided with two simple steps: 1) increase the chlorine residual as soon as temperatures start warming; and, 2) monitor the water system frequently. In summer, maintain 2 mg/L or greater chlorine residuals in water storage tanks. Regular flushing and overflowing storage tanks can also help address the loss of chlorine residuals.

### Leaks and water loss

Dealing with water loss issues is the second most frequent request for assistance. Causes can be as simple as having failing waterlines for reasons sometimes including bad installations, failing glued joints on older PVC, a break due to shifting soils or washouts in creek crossings. In some cases, fire hydrants are closed too quickly.

### Water hammer

Closing a fire hydrant too fast can result in what is known as water hammer. What happens is that a pressure surge is created when the water is slowed rapidly. Pipelines can break due to the rapid fluctuations of pressure. Such breaks can be especially difficult to fix depending on where the break occurs. A city in northeast Kansas once had this



happen on its main street, beginning with one leak. A special saw had to be used to cut through the concrete and asphalt. Once the first leak was found and repaired, another leak was evident a week later. A week later, there was another leak. This third leak fortunately was the last. Educating fire department members is the best way to prevent this type of broken line.

Contractors sometimes hit waterlines, whether installing power poles, fiber optic lines, or working on other projects. Usually, the contractor has failed to ensure that pipelines are located before digging. If lines are marked out properly, contractors are responsible for the cost of repairing any damage they cause. In some cases, the water systems gamble by not marking utilities even when locates are requested. That seems very irresponsible to me. So rather than locate a 6-inch waterline, would a system rather deal with service interruptions and repair the pipeline?

## Regulations

And now, the latest concerning issue is the new Lead and Copper Rule Revisions. While the goal is noble to remove lead service lines, it's not going to be possible to obtain search warrants to enter private properties to check all the plumbing. So the current requirement is that systems conduct customer surveys, which are to be completed by October 24, 2024. That seems like a really unique date. KRWA advocates that local systems can do this on their own and KRWA has provided training and a model, simplified survey format that can be provided to customers and be returned to the water systems.

And sometimes, the call for help is not one that is regularly encountered. Recently, I helped a water system that had turned down the lime and shut off the carbon dioxide in the treatment plant, with the understanding that doing so would help them meet the contact time for a four-log removal. They followed this process for several months which they were advised to do by another party. The result was that a large amount of calcium hardness developed in the clearwell and distribution system. As the problem continued, check valves, meters, residential filter systems, and faucet aerators were affected. As a general rule, people do their best to operate systems properly.

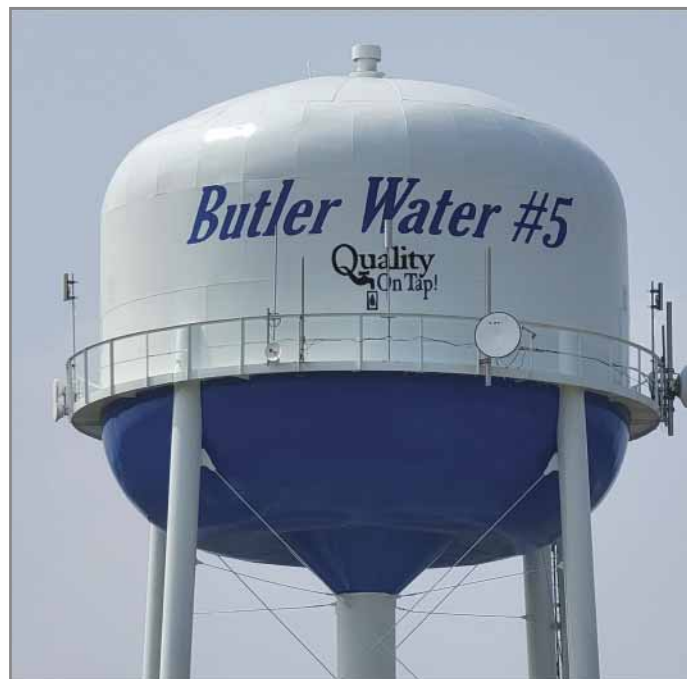
Often today's operators are given information from prior operators or others that may not be the best advice. For the most part, seeking advice from a previous operator is beneficial. No problem is impossible or unsolvable. However, some may just take longer to resolve. KRWA is ready, willing, and able to work alongside local operators and officials on whatever problem any water or wastewater system has, including this one, which may require cleaning of the clearwell, tanks and even some pigging of waterlines and checking for inaccurate meters due to depositing of the calcium.

## Experience counts

An underlying issue to many water treatment problems or the inability to resolve them is a shortage of water treatment operators and/or the lack of experience by those at the helm. KRWA is glad to step into these situations to help those tasked with providing healthy drinking water for Kansans and to provide training as appropriate.

KRWA's staff have more than 600 years of experience. Many KRWA staff members have decades of experience and are some of the most highly trained professionals in the state. KRWA is available 24 hours a day and 365 days a year. It requires overhead and commitment to respond in a timely way. If you contact KRWA, someone will answer the phone in person or respond promptly. You can count on that and we will work with system operators and others to find solutions and fixes to any system's problems.

*Lonnie Boller is a Technical Assistant at KRWA. He has been employed by KRWA since 2001. Lonnie is a Class II certified operator; he previously was Water Plant Supervisor for the City of Horton. He has also attended and completed training at the University of Kansas Law Enforcement Training Center.*



*"Providing solutions for informative decisions on storage tanks."*

**Inspection + Service + Coating + Repair**

[www.tankspek.com](http://www.tankspek.com) 800.624.1023 [info@tankspek.com](mailto:info@tankspek.com)

JOPLIN, MO BAXTER SPRINGS, KS BERRYVILLE, AR

**TANKSPEK CORP**  
TOWER INSPECTIONS + CONSULTING SERVICES

