

Having responsibility requires due diligence, and some empathy for our fellow citizens – and water systems

When it comes to responsibility for doing a job, do you take the position of responsibility or do you look at whom you can pass it off to? Responsibility comes in many forms. The Oxford Dictionary defines responsibility as “a thing which one is required to do as part of a job or legal obligation”. So do you do your part? Certified water or wastewater operators spend a lot of time working alone. In smaller communities and RWDs, the operator often has no one looking over the shoulder as the operator does the daily duties, taking the chlorine residual tests, filling the chemical tanks, recording the pump readings, meter readings and all of the other things that operators have to do. Operators generally have the responsibility to do these jobs and to do them to the best of ability. That’s the operators’ job.

Responsibility does not stop with the systems’ operators. Responsibility is a part of each and every person associated with the city or RWD – whether the clerk/bookkeeper, the board member/council persons or the chairperson/mayor.

Public water systems have a responsibility to ensure that the system provides the safest, best tasting water possible to customers – all the way to their last tap. Public water systems are responsible to ensure that the water is safe by having adequate chlorine residuals to the last tap on the system. If a system cannot provide that quality, then the board/council is under a legal, and I think moral, obligation to do so. If the system produces its own water, then the system can make any necessary changes to improve the quality. On the other hand, what happens to that control when water is purchased from another source? If the system is small and purchases water from another water district, city or from a public wholesale water district, then who has the responsibility for the quality of the water? The State of Kansas requires that each system maintain a

minimum of 1.0 mg/l combined chlorine or 0.2 mg/l free chlorine. But where does that responsibility start and end? Is the system that sells water to another system responsible for the quality of the water to the ends of the purchasing system? Is it the seller’s responsibility to rechlorinate the water so that the purchasing system maintains chlorine residuals to the ends of its system? If the seller is meeting the state requirements at the point of delivery, then why should that system be required to build a rechlorination station just to increase chlorine residuals for the purchasing system? In the case of a public wholesale district or a large city water system selling to many smaller water systems, is it up to the larger water system to provide the smaller systems with high enough chlorine residual that will reach to the ends of the purchasing system’s lines? Should the larger system be responsible to spend the additional money and time to ensure that purchasers have an acceptable chlorine residual throughout their system? Is it the seller’s responsibility or is it the purchaser’s?

In talking with a number of the PWWSO managers/operators about this subject, I learned that how systems deal with the issue varies. Sam Atherton, Manager of Public Wholesale District 4 at Cherryville in southeastern Kansas reports that the PWWSO board of directors has

directed the wholesale district to provide as much chlorine as possible to the purchasing systems. To accomplish this, the wholesale district rechlorinates at one of its storage tanks. Last year, PWWSO 4 only had to rechlorinate for about two weeks during the hottest weeks of the summer. Connie Ralph, Manager at Public Wholesale 12 at Melvern in east-central Kansas reports that it is up to each of their purchasing systems to maintain adequate residuals. She comments that the wholesale district has not had a problem maintaining high chlorine residuals throughout the district.

The cost of rechlorination can range from \$2000 to more than \$20,000 dollars, depending on the



Gary Smith, Manager of PWWSO 11 in southeast Kansas, checks the ammonia settings on the newly installed equipment that the Wholesale District has installed. Looking on is Rex Heape, P.E., of Shafer, Kline & Warren, consultant on the changeover to total chlorine.

amount and type of equipment needed. Most systems only look at the amount of chlorine in the distribution system. With the need to add ammonia to the drinking water to help meet drinking water regulations, water systems must also test for the amount of this chemical. Adding chlorine of one type or another is normally a simple operation. However, when a city or district needs to add ammonia and test for it in the drinking water distribution system, the process can become complicated and expensive. Inadequate chlorine residual in stored water increases the potential for the breakthrough of organisms and can ultimately result in serious public health and compliance problems. Residual chlorine in drinking water distribution systems serves as a disinfection safety margin for preventing bacterial regrowth. However, maintaining sufficient chlorine residual in stored water can often present some major difficulties, especially during warm temperatures. Although water leaving a plant contains chlorine residuals of normally over 3.0 mg/l or greater, by the time the water makes it throughout the distribution system to the end user, the chlorine residuals in many systems deteriorate significantly, especially during the hot summer months. When this happens, it is the responsibility of the water system to increase the residuals in the drinking water distribution system to meet regulatory requirements. The question goes back to my opening point – who has the responsibility to ensure the safe quality of the water? Is it the seller's or perhaps has the seller passed it on to the purchaser?



Steve Geiger, Water Operator for the city of Uniontown, checks the pump at the rechlorination station that belongs to Bourbon County Consolidated RWD 2. The city of Uniontown purchases all of its water from Bourbon Cons. 2. This station has helped the city to maintain its chlorine residuals.

I hope you will attend the 2009 KRWA conference. This question and many others will be discussed and answered during the 56 training sessions that will be conducted. Plus, the conference provides a great opportunity to visit with other board/council members, operators and managers. Don't forget the 278 exhibit spaces filled with technology and services. I hope to see you at Century II Convention Center in Wichita, March 24 – 26.

Gary Armentrout has been a Technical Assistant for KRWA since Dec. 1999. Gary holds a Class 1 Wastewater Operator certification and has worked in a water plant for over 6 years. He is also presently the Chairman of Public Wholesale Water District 13.



NATGUN

Drink up, Kansas.



6.0 MG Natgun water storage tank for the City of Olathe, KS. Engineering by Burns & McDonnell Engineering Co.

No matter where you live, our job is to make sure your community always has reliable, maintenance-free water storage. It's a job Natgun takes seriously.

You keep drinking water, Kansas, and we'll keep building water storage tanks.

913-681-6006

www.natgun.com