

What Does a Proper Cross-Connection Control Program Look Like?

On December 16, 1974, the Congress of the United States passed a law, and the President signed it. This law is known as the Safe Drinking Water Act (SDWA). The law was established to protect the quality of drinking water. The law focuses on all waters actually or potentially designated for drinking use, whether surface water or groundwater. The SDWA also determined that cross-connections elimination is an important part of potable use by the consuming public.

The United States Environmental Protection Agency was selected to be the administrative authority for the SDWA. The EPA published regulations and set standards within the parameters of the law.

Section 1401(3) of the SDWA defines public water as "A systems for the provision to the public of piped water for human consumption if the system has at least 15 services connections or regularly serves 25 individuals." KDHE's rule states that systems with at least 10 connections are considered public water systems.

Section 1413 of the SWDA place primary enforcement on each state. Working within the scope of the SDWA, EPA mandated that each state develop and implement a cross-connection control program. Kansas has a program. KDHE does not have specific rules as to what your program must include. It is up to each water system (municipal or rural water district) to decide how to protect your consumers.

What is a cross-connection?

The National Plumbing Code defines a cross-connection as any connection or arrangement, physical or otherwise, between a potable water supply system and any plumbing fixture or any tank, receptacle, equipment or device, through which it may be possible for non-potable, used, unclean, polluted, and contaminated water, or other substances, to enter into any part of such potable water system under any condition.

As a public water system (otherwise known as a "water purveyor" in the context of drinking water regulations)

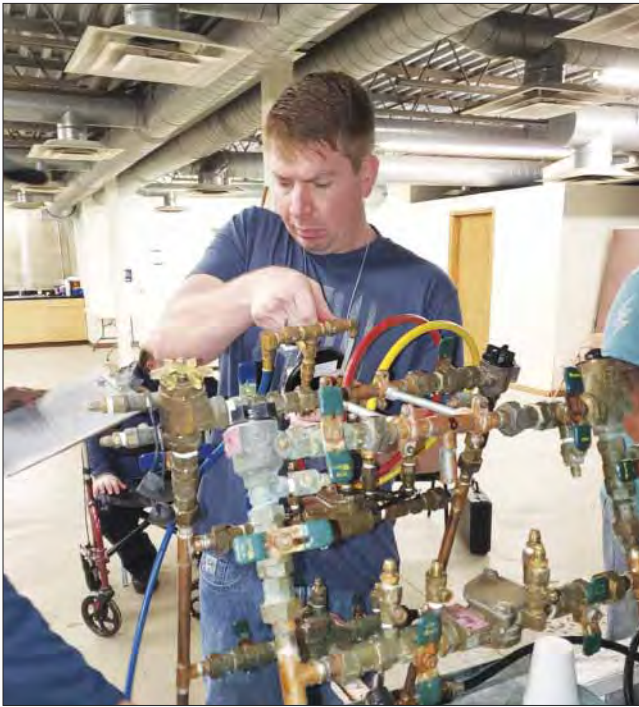


Duane McGowan with Fort Riley Utility Services refreshes skills testing backflow preventers at another training event at Grandview Plaza in February 2022.

should already have an ordinance or bylaw in place so to enforce cross-connection and backflow prevention regulations. In 1989 and 1990, with KDHE's review, KRWA provided examples and even formatted nearly 500 policies for individual water purveyors. An example policy is posted on KRWA's website at www.krwa.net/downloads.

Kansas requires isolation of cross-connections. What this means is that the water purveyor can not just install a backflow preventer on the service line and call it good. The purveyor must conduct a sanitary survey on the property to make sure that all hazards are protected on the property. It does little good to protect the service but still allows people on the property to have access to water that could be contaminated while it is on the property. Imagine using the eye wash station to flush out your eyes with the same water that was splashed in your eyes, to begin with. Does that mean that every water system needs to physically inspect every user's plumbing system? That would be an unmanageable task as access could be denied to the private property. The best remedy is to provide education on this matter to the customers. People take note when they find out that the citizens most likely to be the first to be affected by a cross-connection are the users at that location. KRWA also has a brochure available to provide that information. Call KRWA at 785.336.3760 if any purveyor has an interest.

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Jason Rugan with Rugan Lawn and Landscape LLC learns how to test a backflow preventer at Grandview Plaza in February 2022.



Dylan Tolbert with GreenTouch Lawn & Tree and apprentices Kylee Nikkle and Jeff Stigge from the city of Washington practice testing backflow preventers during KRWA-sponsored training at Grandview Plaza in December 2022.

Private wells on properties should not be connected to the public water system with some arrangement of manually-operated valves. Working as an operator for a city, I frequently noticed water running from the customer's side when I changed out a meter. People mean well but mistakes happen. Never allow a connection between potable water and sewer even with a backflow preventer. This is against the regulations.

Remember the lowest cost backflow preventer that can be installed is an air gap. Overhead fill stations can be equipped with a device so the hose can't fit into the tank being loaded with the city or RWD's water. Once such devices are installed, there are no more expensive tests that need to be performed. Just make sure that the device on the loading pipe has not been removed. There are several different backflow preventers and all of them have different locations and hazards each control. That discussion is for another article.

While any customer's plumbing arrangement can have a cross-connection, those with a higher risk of such possibilities include the following: hospitals; health clinics; funeral homes; vet clinics; furnace boilers; irrigation systems; fertilizer plants; industrial plants; feedlots; dental offices and bulk water fill stations.

KRWA conducts numerous cross-connection – backflow prevention sessions every year. The trainer, Terry Randles, worked for 34 years at the city of Topeka, and then for two years at Kaw Area Vo-Tech and then taught with Al Hermsen in 1988 and 1990 before training with KRWA. Terry works exclusively for KRWA-sponsored training. The first two days are at no charge for anyone just wanting to acquire information. A three-year verification of the operator being proficient in testing the devices requires attendance on the last two days of training, with the written exam being given on the last day. A new person who wants to be trained as a backflow device tester is required to attend all 4 days of training with the last day being the written exam. The cross-connection / backflow prevention tester/repairman courses all fill up rapidly. At the time this article is written, there are classes scheduled in February ... and there are more in the planning stage. Keep an eye on the KRWA's site at www.krwa.net and then click on the training link. Or for individual questions, etc., call me at 785-258-0642. This is a reminder too that the 2023 Annual Conference has training on cross-connection control. Where else to learn, network with others, see the newest technology, and have some fun too? Join your peers and enjoy one of the best water and wastewater conferences in America.

Bret Beye joined the KRWA staff in March 2017. He previously worked for 30 years at the city of Herington where he was Water Distribution and Sewer Collection Foreman. A Class III water operator and certified as a backflow device technician, Bret also served on the USD 487 Board of Education from 2003 to April 2017 where he was board president and vice-president.

