

Cross Connection Control James Probst, Chair

What the heck is cross connection control, and what does backflow have to do with it? The above speculations are key reasons why I accepted the challenge of chairing the newly formed Indiana AWWA Cross Connection Control (CCC) Committee. Protecting private and public drinking water systems is not very well understood by the public, nor are the dangers posed by potential contaminants backflowing into drinking water systems. Awareness and compliance are key factors for preventing backflow incidents and protecting people's lives. I'm confident the CCC committee will have positive influence in the backflow industry and will achieve the developed goals. The backflow industry is well represented by CCC committee members. The committee is comprised of respected leaders from water utilities, irrigation contractors, fire protection companies, mechanical contractors, plumbers, heating and air conditioning companies, and the backflow testing industry. Let's take a look at some information to gain a better understanding of what cross connection control is and how an installed backflow preventer protects drinking water systems. What can we learn from reviewing the Indiana's definition of cross connection control listed below?

"Cross connection means any physical arrangement, including cross connection control devices not in working order, whereby a public water supply distribution system is directly connected, either continuously or intermittently, with any secondary source of supply, sewer, drain, conduit, pool, piping, storage reservoir, plumbing fixture, or other device that contains, or may contain, and is capable of imparting to the public water supply, contaminants, contaminated water, sewage, or other waste or liquid of unknown or unsafe quality." Basically a cross connection is a pathway between a potential hazard and drinking water. If hazards enter the drinking water system, they now pose a tremendous danger to the public's health. The definition clearly states the importance of maintaining a working backflow assembly at all times as failed equipment is considered a cross connection.

Guidance for cross connection control regulations is driven by the Federal Environmental Agency. State codes relating to cross connection control are derived from regulations listed under the Safe Drinking Water Act of 1974 (SDWA) and the Total Coliform Rule (TCR) adopted in 1989. The TCR rule was updated and implemented as the Revised Total Coliform Rule (RTCR) on April 1, 2016. The RTCR's intent is to improve public health protection and enhanced protection requirements for public drinking water systems. The rule added requirements that the water purveyor identify how contaminants entered the public water system and implement a corrective action to prevent future occurrences. State agencies implement EPA guidelines and rules by adopting regulations specific to cross connection control and backflow protection. Backflow regulation code is adopted by the Indiana Department of Environment Management, Indiana Department of Health, Indiana Homeland Security and the Occupational Safety and Health Administration regulations. Indiana has a well know court case where a water purveyor was held liable for the death of a customer that consumed contaminated drinking water due to an unprotected cross connection. This court case is now considered common law across the country and is reviewable for adjudicating future lawsuits as a past precedent case.

Then there are standards for approving backflow assemblies, the mechanical protection devices installed on drinking water systems for preventing backflow. You cannot just install any backflow assembly on a drinking water system; they shall be approved by an accredited product standard organization, be installed correctly, tested annually, and be in working order at all times. If the assembly does not meet all the state's regulations, then the water utility is poised for a backflow

contamination incident. Hopefully, we have learned from the past mistakes like Flint, Michigan's lead services contaminating water for the entire city.

You may have already learned a little about cross connection control and backflow testing before reading the article, but the information I've provided only scratches the surface of what you'll need to know if you're involved in this industry. I teach State Backflow Tester Certification Courses for people wanting to become certified in backflow testing and cross connection control. At the beginning of the training course, students do not fully appreciate the importance of CCC. However, by the end of the 40 hour certification course, the importance of being knowledgeable in CCC and correctly accomplishing related tasks becomes very apparent to students. Protecting people's lives and helping to provide safe drinking water are of the highest priorities since all of us expect our water will be safe when we turn on the tap. Our AWWA CCC committee fully recognizes the potential risks to human health that result from backflow contamination. Understanding the backflow industry helps ensure water utilities are provided with resources to manage their program and that technicians have access to up to date industry knowledge to stay current on changes in rules and technology. The CCC members are extremely knowledgeable on backflow protection rules and work closely with government agencies to provide guidance on existing and future CCC regulations. As a committee, our mission is to help promote awareness regarding the importance of cross connection control and guidance for the industry, thus helping to prevent future backflow incidents in our drinking water systems.