

# Cross Connection Basic Information

Millions of taxpayer dollars are spent every year to protect drinking water sources, water delivery systems, and treatment facilities. However, even with the best infrastructure, the integrity of the drinking water system and the quality of the water can be compromised by a single cross connection. The resulting backflow can cause illness and in an extreme case, death.

A **cross connection** is any actual or potential connection between the water you want to drink and any other source or system makes it possible for any used water, industrial fluid, gas or substance to enter your drinking water.

**Backflow** is undesirable reversal of flow of water or mixtures of water and contaminated substances into the distribution pipes of the drinking water supply. The contaminated water could then be distributed through the water system to consumers.

Cross connections can easily happen in any home, building or water system. Age or changes in the piping affecting the operation of the plumbing system are causes. Frequently, persons unaware of the inherent dangers of cross connections install plumbing. Connections to water supply systems are made for simple convenience without considering the dangerous conditions that may be created. Increased pressure or lack of pressure in a water delivery system, can, in turn, cause backflow. **Examples** of cross connections at residential units are a connection between culinary water pipes and secondary irrigation pipes, improper installation of a water softener, and improper lawn irrigation connection to a culinary water system. In commercial and industrial facilities, improper connection between the fire suppression system and the culinary water system pose dangers.

Cross connections and backflow incidences in Utah have resulted in dangerous, highly contaminated water unexpectedly entering drinking water systems. Irrigation waters, oil, toxic boiler compounds, sewage, pesticides, and other extremely dangerous contaminants have found their way into drinking water systems.

To prevent these occurrences, a joint responsibility contract, sometimes verbal and more often written, exists between the drinking water system and the consumer. This contract dictates that the water purveyor will provide a safe, adequate supply to the consumer and the consumer will maintain his or her privately owned plumbing system in compliance with local ordinances, requirements, codes and policies. If this joint responsibility contract is enforced, it will protect both the drinking water system and the private consumer's responsibility and liability. Contact you local water system to find out about their efforts to protect you from cross connections. Ask your neighbors if they are aware of what a cross connection is.

More details can be found at the following websites:

<http://www.abpa.org/> The American Backflow Prevention Association  
<http://www.utabpa.org/> Utah Chapter of the American Backflow Prevention Association  
<http://www.usc.edu/dept/fccchr/> University of Southern California – Foundation for Cross Connection Control and Hydraulic Research  
[http://www.drinkingwater.utah.gov/backflow\\_tech.htm](http://www.drinkingwater.utah.gov/backflow_tech.htm) Utah Division of Drinking Water

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