

Cross Connection FAQ

Q. What is a Cross-Connection?

A. A cross-connection is a DIRECT, INDIRECT, or a POTENTIAL connection between the distribution system and another system of questionable quality. For example, the most common cross-connection is a common garden hose. If the garden hose happens to be connected to chemical applicator, at the same time there is a reduction in system pressure, water can be sucked back through the hose and into the public water mains.

Q. What is backflow?

A. Normally water flows from the distribution system through the customer's meter and into the facility. Backflow is the reverse of flow of water from its normal direction back into the distribution system.

Q. What causes the backflow?

A. Backflow may occur when there is a loss of system pressure or the customer's water pressure increases above that of the distribution system.

Two types of backflow are BACKSIPHONAGE and BACKPRESSURE.

- BACKSIPHONAGE occurs when low or negative pressure on the supply side of the system causes the reversal of the normal flow of water. It may be caused on the supply side of the system when there is a break on a water main, increased water usage during firefighting, or when a motorist hits a fire hydrant and causes damage.
- BACKPRESSURE occurs when the water pressure within the customer's plumbing system exceeds the pressure of the water utility's distribution system. Backpressure may be caused by differences in elevation, booster pumping, or a chemical injection system.

Q. What is the primary health risk?

A. The primary hazard associated with cross-connections is contaminated water being drawn back into the public water system. If consumed, the contaminated water can cause serious illness.

Q. What can be done to protect our public water system from cross-connections?

A. In 1995, the Arkansas Department of Health amended Act 96 of 1913 (Rules and Regulations Pertaining to Public Water Systems) and mandated that all public water utilities institute a Cross-Connection Control Program. The intent of the program is to locate, identify, and eliminate, or protect against, all potential cross-connections. Customers found to have a cross-connection or a potential cross-connection must be isolated from the public water system. A Reduced Pressure Zone Assembly (RPZA) is required on all water services where a potential cross-connection may exist.

Q. How is the need for a device determined?

A. All commercial and industrial customers within the water system service area will periodically be inspected by MWW personnel to determine whether state regulations require the installation of an assembly.

Q. What facilities typically have hazards that require an RPZA assembly?

- Air Conditioning Cooling Towers
- Apartments / Condominiums
- Auto Repair, Paint & Body Shops
- Beauty & Barbers Salons
- Car & Truck Wash Facilities
- Commercial Laundries
- Facilities with Swimming Pools
- Farms & Agricultural Operations
- Film Processing Laboratories
- Food Processing
- Funeral Homes

- Health Clubs & Spas
- Industrial & Manufacturing
- Landfills & Dumps
- Lawn Irrigation Systems
- Metal Plating Plants
- Medical Facilities
- Multi-Tenant Facilities
- Recycling Facilities
- Restricted Facilities
- Restaurants & Clubs
- Schools
- Sewer Plants
- Sites with Chemicals
- Tattoo & Piercing
- Testing Laboratories
- Veterinarian & Kennels
- Zoos & Animal Shelters

Q. What are the requirements for testing the assembly?

A. The ADH mandates the testing of assemblies within 10 days of installation and annually thereafter.

Q. Who has authorization to test?

A. Only personnel with Assembly Tester Technician certification from the ADH may test backflow assemblies. Only personnel with a valid license from the Arkansas Fire Protection Licensing Board and the AHD may test assemblies on Fire Protection Systems. A listing of Certified Assembly Tester Technicians may be found in the Yellow Pages under "Backflow Prevention Devices & Services," "Sprinklers – Lawn and Garden," and the plumbing section.