

JPIASource

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ACWA JPIA Risk Management for the Water Industry



The Benefits of a Cross-Connection Ordinance



In 2016, a chemical mixing plant in Corpus Christi, Texas, accidentally pumped 24 gallons of an asphalt emulsifier concentration chemical back into the city's water main. When diluted with water, the initial 24 gallons of the chemical produced up to 8,000 gallons. During the investigation, it was found that no backflow preventer had been installed on the plant's incoming water line. This resulted in an unprotected cross-connection, allowing the chemical into the city's water main.

A cross-connection occurs when a potable water supply is connected to a non-potable source, such as irrigation systems, fire suppression systems, industrial piping, or even household appliances. As we can see from the incident in Corpus Christi, connections can pose significant risks if not properly managed. Backflow incidents can occur for several reasons, such as changes in water pressure and pump failures. When backflow happens, contaminated water from non-potable sources can enter the drinking water system, rendering it unsafe for consumption. Implementing an ordinance for water cross-connections is a great way to protect public health and ensure the integrity of your agency's water supply system.

Cross-Connection Regulations

Federal and state regulations, such as the Safe Drinking Water Act ([SDWA](#)) and Section [7584](#) of the California Code of Regulations, mandate that water suppliers maintain safe and potable water. Section 2.4 of the [Cross-Connection Control Policy Handbook](#) (CCCPH) from the State Water Resources Control Board (SWRCB) explains changes to existing cross-connections control regulations, which took effect in July 2024, to include updates to responsibilities and scope of control plans.

Four elements have been added to the responsibility and scope of a cross-connection control plan, including:

- Use of certified prevention assembly testers and cross-connection control specialists.



- Backflow incident response, reporting, and notification.
- Public outreach and education.
- Local entity coordination.

Additional new requirements include:

- A Cross-Connection Control Plan that describes achieving compliance with the CCCPH.
- New minimum requirements for backflow prevention assembly tester and cross-connection control specialist certification programs.
- Follow-up hazard assessments periodically or when user premise conditions change.
- Changes to the minimum backflow protection required for specific situations.

Cross-Connection Control Plan Components

Cross-connecting contamination can spread quickly throughout a water distribution system, affecting customers. An agency's ordinance addressing water cross-connections helps members and the community it serves comply with these regulations. The ordinance can assist with requiring appropriate backflow prevention measures and conducting regular inspections and maintenance. An ordinance helps mitigate these costs by preventing contamination incidents before they occur, thus saving members significant time and resources.

An ordinance should discuss installing appropriate backflow prevention devices at cross-connection points. It should clearly define what a cross-connection is and outline the types of connections and devices covered under federal and state regulations. One example of a device used is the Reduced Pressure Zone (RPZ) assembly, designed to prevent the backflow of contaminated water into the water supply.

The ordinance should outline regular inspections, hazard assessments, and testing of cross-connections/backflow prevention devices. It should also specify the frequency of these assessments, which will help identify and address potential issues before they occur.

The ordinance should also outline recordkeeping and reporting procedures. Compliance with the ordinance is very important, so terms for enforcement should be included. Actions for non-compliance should be clearly stated, such as potential fines and service disconnections.

Cross-Connection Ordinance or Policy

Member agencies establish rules and regulations on billing fees, metered service, connection fees, cross-connection, and backflow prevention. An agency's board approves these rules and regulations as ordinances, resolutions, regulations, or policies. Any board-approved document provides communication and guidance; however, there is a significant legal distinction between a board-approved ordinance and a policy. Both provide guidance, but a legal one is a formal ordinance carrying authority and potential penalties. Ordinances include mandatory requirements for the types of devices to use and the inspection process.

Based on the outcome of the *City of Oroville v Superior Court Butte*, an agency's required backflow device is stronger if the requirement of a backwater device is an ordinance or regulation instead of a "policy." Ordinances and regulations have enforcement options where a policy does not.

Members are encouraged to review their board-approved Cross-Connections and Backflow Prevention requirements on properties requiring a backflow device, type(s) of backwater device(s), or reference the [Uniform Plumbing Code's](#) requirement for a backwater device. During this review, it is also an excellent time to check if your agency's Cross-Connections and Backflow Prevention board-approved rules are a policy, resolution, regulation, or ordinance. The JPIA's best management practice is a Cross-Connections and Backflow ordinance.

Conclusion

An ordinance for water cross-connections offers extensive benefits for a safe water supply and public health protection. With continued public outreach, members can promote awareness and compliance by addressing the risks associated with water cross-connections. Such an ordinance ensures a safer and more sustainable water supply for everyone.

Resources

- [Environmental Protection Agency: Cross-Connection Control Manual](#)
- [Environmental Protection Agency: Distribution System Water Quality](#)
- [Cross-Connection Control Ordinance Small Water System](#)
- [State Water Resources Control Board Cross-Connection Control Policy Handbook](#)
- [SWRCB – The Handbook Presentation](#)
- [American Water Works Association: Backflow Prevention and Cross-Connection Control](#)
- [West Yost SWRCB CCCPH Article Updates on Ordinance Requirements](#)
- [JPIA Perspective – September/October 2019](#)



Test Your Knowledge

1. What is the primary objective of a water cross-connection ordinance?
 - A) To increase water pressure
 - B) To protect public health
 - C) To reduce water usage
 - D) To promote the use of non-potable water

2. Which of the following is NOT typically included as a component of a comprehensive water cross-connection ordinance?
 - A) Inspection and testing requirements
 - B) Record-keeping and reporting
 - C) Non-potable water used for drinking
 - D) Public education and outreach


3. What can be a consequence of not having a proper water cross-connection ordinance in place?
 - A) Increased water supply
 - B) Enhanced taste of drinking water
 - C) Contamination of potable water supply
 - D) Reduced pressure in water systems

4. Which device is commonly mandated by water cross-connection ordinances to prevent backflow?
 - A) Water softeners
 - B) Reduced Pressure Zone (RPZ) assemblies
 - C) Reverse osmosis systems
 - D) Desalination plants

5. How do water cross-connection ordinances benefit water agencies?
 - A) By increasing water sales
 - B) By preventing contamination events
 - C) By encouraging higher water usage
 - D) By eliminating the need for water treatment facilities



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The JPIASource is not intended to be exhaustive. The discussion and best practices suggested herein should not be regarded as legal advice. Readers should pursue legal counsel or contact their insurance providers to gain more exhaustive advice.

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- 5. B
- 4. B
- 3. C
- 2. C
- 1. B