



# Cross-Connection in a Water Distribution System: A Guide for Tennessee Municipal Elected Officials

Part 6 of a 6 Part Series

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August 2020



Municipal Technical Advisory Service  
INSTITUTE *for* PUBLIC SERVICE



A cross-connection is when you have a connection to a customer which has the potential of introducing a harmful substance into the water distribution system. This would include factories, commercial operations, hospitals, funeral homes, car washes, irrigation systems (including a homeowners), a farmer filling up a pesticide/herbicide application tank, a feed lot, etc.

The harmful substance could be introduced into the water distribution system by either back pressure (where the customer has greater pressure than the system) or back siphonage (where the system loses pressure and water flows back into the distribution system).

To protect all the customers from this potential problem a cross-connection protection device is utilized. The device could be a reduced pressure zone back flow preventor, a double or single check valve or a simple air gap device.

Per Tennessee Department of Environment and Conservation regulations, these devices checked on an annual basis by a someone who is certified by the state. The report is kept by the utility per TDEC regulations. Any device which fails the check will be tagged and the customer notified that the device must be repaired or replaced within a specified time.

The rules regarding cross-connection are listed below:

#### **Rule 0400-45-01.17**

(6) (a) Pursuant to T.C.A. § 68-221-711(6), the installation, allowing the installation, or maintenance of any cross-connection, auxiliary intake, or bypass is prohibited unless the source and quality of water from the auxiliary supply, the method of connection, and the use and operation of such cross-connection, auxiliary intake, or bypass has been approved by the Department. The arrangement of sewer, soil, or other drain lines or conduits carrying sewage or other wastes in such a manner that the sewage or waste may find its way into any part of the public water system is prohibited.

(b) 1. All community water systems must adopt an ordinance or policy outlining the prohibitions in subparagraph (a) of this paragraph and submit a copy of the executed ordinance or policy to the Department for written approval. All community water systems shall develop a written plan for a cross-connection control program to detect and eliminate or protect the system from hazards associated with cross-connections. The written plan must be approved by the Department.

2. After adoption and approval of the cross-connection ordinance or policy and plan, each community water system must establish an ongoing program to detect and eliminate or protect the system from hazards associated with cross-connections. Records of the cross-connection control program must be maintained by the supplier of water and shall include such items as date of inspection, person contacted, recommendations, follow-up, and testing results.

Cross-connection plans and policies shall present information in conformance with the “Cross-Connection Control Manual and Design Criteria for Cross-Connection Control Plans, Ordinances and Policies” as published by the Department.

Community water systems shall ensure that cross-connections between the distribution system and a consumer’s plumbing are surveyed and/or inspected and determined not to exist or contain a significant risk or are eliminated or controlled by the installation of an approved backflow preventer commensurate with the degree of hazard.

Non-community water systems shall ensure that unprotected cross-connections are not allowed to exist within the water system. The non-community water system shall conduct periodic inspections of the water system and maintain a statement of inspection completion to include acknowledgement of the hazards associated with cross-connections.

## Source

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**Rules of Tennessee Department of Environment and Conservation. Division of Water Resources. Chapter 0400-45-01.**

<https://publications.tnsosfiles.com/rules/0400/0400-45/0400-45-01.20190217.pdf>



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