

### **62-555.360 Cross-Connection Control for Public Water Systems.**

(1) Cross-connections, as defined in Rule 62-550.200, F.A.C., are prohibited unless appropriate backflow protection is provided to prevent backflow through the cross-connection into the public water system. This does not prohibit a public water system from being interconnected to another public water system of the same type without backflow protection (i.e., a community water system [CWS] may be interconnected to another CWS without backflow protection, a non-transient non-community water system [NTNCWS] may be interconnected to another NTNCWS without backflow protection, and a transient non-community water system [TWS] may be interconnected to another TWS without backflow protection).

(a) Appropriate backflow protection for various applications is described in *Recommended Practice for Backflow Prevention and Cross-Connection Control: AWWA Manual M14*, Third Edition, as clarified and modified in paragraphs (b) and (c), below, and in Table 62-555.360-2, which appears at the end of this section. The third edition of *AWWA Manual M14* is incorporated herein by reference; is available from the American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235, [www.awwa.org](http://www.awwa.org); and is available for review at the Department of Environmental Protection, Source and Drinking Water Program, MS 3520, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, at the Department of Environmental Protection district offices, and at the Approved County Health Departments.

(b) Except for the temporary cross-connections described in paragraph (c), below, cross-connections between a public water system and a wastewater system or reclaimed water system are prohibited (i.e., an air gap shall be maintained between any public water system and any wastewater system or reclaimed water system). The Department shall allow an exception to this requirement if the supplier of water provides justification for the exception and provides alternative backflow protection that achieves a level of reliability and public health protection similar to that achieved by an air gap (e.g., two biannually-tested reduced-pressure principle assemblies installed in series); however, in no case shall the Department allow a single, annually-tested mechanical backflow preventer to be used as the only protection against backflow of wastewater or reclaimed water into a public water system.

(c) Temporary cross-connections may be made between a public water system and a wastewater system or reclaimed water system for either of the following purposes:

1. To supply water for flushing or testing a new wastewater force main or new reclaimed water main, in which case a double check valve assembly or reduced-pressure principle assembly shall be provided at the cross-connection.

2. To supply water for temporarily operating a new reclaimed water main that has not yet been connected to a reclaimed water supply, in which case a reduced-pressure principle assembly shall be provided at the cross-connection.

(2) Each community water system (CWS) shall establish and implement a cross-connection control program utilizing backflow protection at or for service connections from the CWS in order to protect the CWS from contamination caused by cross-connections on customers' premises. This program shall include a written plan that is developed using recommended practices of the American Water Works Association set forth in *Recommended Practice for Backflow Prevention and Cross-Connection Control: AWWA Manual M14*, Third Edition, as clarified and modified in paragraph (a), below. The third edition of *AWWA Manual M14* is incorporated herein by reference and is available as indicated in paragraph 62-555.360(1)(a), F.A.C.

(a) The minimum components that each CWS shall include in its written cross-connection control plan are listed and described in Table 62-555.360-1, which appears at the end of this section. The categories of customers for which each CWS shall ensure backflow protection is provided at or for the service connection from the CWS to the customer are listed in Table 62-555.360-2, which appears at the end of this section.

(b) Each CWS serving more than 10,000 persons shall prepare and submit cross-connection control program annual reports. The first annual report shall cover calendar year 2016, and subsequent annual reports shall cover each calendar year thereafter. These reports shall be prepared using Form 62-555.900(13), Cross-Connection Control Program Annual Report, effective 5-5-14, which is incorporated herein by reference and which is available as described in Rule 62-555.900, F.A.C., and at <http://www.flrules.org/Gateway/reference.asp?No=Ref-04104>. These reports shall be submitted to the appropriate Department of Environmental Protection district office or Approved County Health Department within three months after the end of the calendar year covered by the report.

(3) Upon discovery of a prohibited or inappropriately protected cross-connection, public water systems either shall ensure that the cross-connection is eliminated, shall ensure that appropriate backflow protection is installed to prevent backflow into the public water system, or shall discontinue water service. If the discovered cross-connection is on the premises of a customer of a community water system (CWS) and if the customer's premises is in a category described in Table 62-555.360-2, which appears at the end of this section, the CWS shall ensure that appropriate backflow protection is provided at or for the water service connection to the

customer regardless of whether the cross-connection is eliminated or whether internal backflow protection is installed at the cross-connection to the customer's plumbing system.

Table 62-555.360-1: Minimum Components that Each Community Water System (CWS) Shall Include in Its Written Cross-Connection Control (CCC) Plan (Effective 5-5-14)	
Component Number and Description	
I.	Legal authority for the CWS's CCC program – i.e., an ordinance, a bylaw or resolution, or water service rules and regulations. The legal authority shall include or reference Components 2 and 3, below.
II.	The CWS's policy establishing where backflow protection at or for service connections from the CWS is mandatory.
A.	This policy shall identify categories of customers for which the CWS is requiring backflow protection at or for the service connection to the customer and shall specify the minimum backflow protection that the CWS is requiring for each such category of customers.
B.	This policy shall be no less stringent than Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C.
III.	The CWS's policy regarding ownership, installation, inspection/testing, and maintenance of backflow protection that the CWS is requiring at or for service connections from the CWS.
A.	This policy shall specify whether the CWS or customer is responsible for installation, inspection/testing, and maintenance of backflow protection being required at or for service connections.
B.	This policy shall specify design and performance standards, and shall specify installation criteria, for new backflow protection being required at or for service connections. Installation criteria shall be consistent with installation criteria in <i>AWWA Manual M14</i> as incorporated into subsection 62-555.360(2), F.A.C., and shall assure the backflow protection is installed as close as practical to the CWS's meter or customer's property line but, in all cases, before the first distribution line off of the customer's water service line.
C.	This policy shall specify the frequency for inspecting air gaps (AGs) being required at or for service connections and shall specify qualifications for persons inspecting such AGs. All AGs being required at or for service connections pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be inspected at least annually.
D.	This policy shall specify the frequency for testing backflow preventer assemblies <sup>1</sup> being required at or for service connections, shall specify qualifications for persons testing such assemblies, and shall specify test procedures for such assemblies. Assemblies being required at or for non-residential service connections <sup>2</sup> pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be tested after installation or repair and at least annually thereafter and shall be repaired if they fail to meet performance standards. Assemblies being required at or for residential service connections <sup>2</sup> pursuant to Table 62-555.360-2 shall be tested after installation or repair and at least biennially thereafter and shall be repaired if they fail to meet performance standards.
E.	This policy shall specify the frequency for refurbishing or replacing dual check devices (DuCs) being required at or for service connections. DuCs being required at or for service connections pursuant to Table 62-555.360-2, which appears at the end of Rule 62-555.360, F.A.C., shall be refurbished or replaced at least once every 5 to 10 years or at a lesser frequency determined by the CWS if the CWS documents that the lesser frequency is appropriate based on data from spot-testing DuCs in its system or based on data from backflow sensing meters in its system.
IV.	The CWS's procedures for evaluating customers' premises to establish the category of customer and the backflow protection being required at or for the service connection(s) from the CWS to the customer. <sup>3</sup>
A.	The CWS shall evaluate the customer's premises at a newly constructed service connection before the CWS begins supplying water to the service connection.
B.	The CWS shall evaluate the customer's premises at an existing – i.e., previously constructed – service connection whenever the customer connects to a reclaimed water distribution system, whenever an auxiliary water system is discovered on the customer's premises, whenever a prohibited or inappropriately protected cross-connection is discovered on the customer's premises, and whenever the customer's premises is altered under a building permit in a manner that could change the backflow protection required at or for a service connection to the customer.
V.	The CWS's procedures for maintaining CCC program records. <sup>4</sup>
A.	The CWS shall maintain a current inventory of backflow protection being required at or for service connections from the CWS.

B. The CWS shall maintain records of the installation, inspection/testing, and repair of backflow protection being required at or for service connections from the CWS.

<sup>1</sup> Backflow preventer assemblies include the following: double check valve assemblies (DCs) and double check detector assemblies (DCDAs); pressure vacuum breaker assemblies (PVBs); and reduced-pressure principle assemblies (RPs) and reduced-pressure principle detector assemblies (RPDAs).

<sup>2</sup> For the purpose of this table, “residential service connection” means any service connection, including any dedicated irrigation or fire service connection, that is two inches or less in diameter and that supplies water to a building, or premises, containing only dwelling units; and “non-residential service connection” means any other service connection.

<sup>3</sup> CWSs may evaluate customers’ premises using questionnaires, reviews of construction plans or pertinent records, on-site inspections, or any combination thereof.

<sup>4</sup> CWSs may maintain all records in either electronic or paper format.

Table 62-555.360-2: Categories of Customers for Which Each Community Water System (CWS) Shall Ensure Minimum Backflow Protection Is Provided at or for the Service Connection from the CWS to the Customer (Effective 5-5-14)	
Category of Customer	Minimum Backflow Protection <sup>1</sup> to Be Provided at or for the Service Connection from the CWS to the Customer
Beverage processing plant, including any brewery	DC if the plant presents a low hazard <sup>2</sup> ; or RP if the plant presents a high hazard <sup>2</sup>
Cannery, packing house, rendering plant, or any facility where fruit, vegetable, or animal matter is processed, excluding any premises where there is only restaurant or food service facility	RP
Car wash	RP
Chemical plant or facility using water in the manufacturing, processing, compounding, or treatment of chemicals, including any facility where a chemical that does not meet the requirements in paragraph 62-555.320(3)(a), F.A.C., is used as an additive to the water	RP
Dairy, creamery, ice cream plant, cold-storage plant, or ice manufacturing plant	RP <sup>3</sup>
Dye plant	RP
Film laboratory or processing facility or film manufacturing plant, excluding any small, noncommercial darkroom facility	RP
Hospital; medical research center; sanitarium; autopsy facility; medical, dental, or veterinary clinic where surgery is performed; or plasma center	RP
Laboratory, excluding any laboratory at an elementary, middle, or high school	RP
Laundry (commercial), excluding any self-service laundry or Laundromat	RP
Marine repair facility, marine cargo handling facility, or boat moorage	RP
Metal manufacturing, cleaning, processing, or fabricating facility using water in any of its operations or processes, including any aircraft or automotive manufacturing plant	DC if the facility presents a low hazard <sup>2</sup> ; or RP if the facility presents a high hazard <sup>2</sup>
Mortuary	RP
Premises where oil or gas is produced, developed, processed, blended, stored, refined, or transmitted in a pipeline or where oil or gas tanks are repaired or tested, excluding any premises where there is only a fuel dispensing facility	RP
Premises where there is an auxiliary or reclaimed water system <sup>4,5</sup>	A. At or for a residential service connection <sup>6</sup> ; DuC <sup>7</sup>

	B. At or for a non-residential service connection <sup>6</sup> : DC if the auxiliary or reclaimed water is a low hazard <sup>8,9</sup> ; or RP if the auxiliary or reclaimed water is a high hazard <sup>8,9</sup>
Premises where there is a cooling tower	RP
Premises where there is an irrigation system that is using potable water and that: I. Is connected directly to the CWS's distribution system via a dedicated irrigation service connection	I. At or for a residential or non-residential dedicated irrigation service connection <sup>6</sup> : PVB if backpressure cannot develop in the downstream piping <sup>10</sup> ; or RP if backpressure could develop in the downstream piping <sup>10</sup>
II. Is connected internally to the customer's plumbing system	II. None <sup>11</sup>
Premises where there is a wet-pipe sprinkler, or wet standpipe, fire protection system that is using potable water and that: I. Is connected directly to the CWS's distribution system via a dedicated fire service connection <sup>12</sup>	I.A. At or for a residential dedicated fire service connection <sup>6</sup> : DuC if the fire protection system contains no chemical additives and is not connected to an auxiliary water system <sup>4</sup> ; or RP or RPDA if the fire protection system contains chemical additives or is connected to an auxiliary water system <sup>4,13</sup>
II. Is connected internally to the customer's plumbing system	I.B. At or for a non-residential dedicated fire service connection <sup>6</sup> : DC or DCDA if the fire protection system contains no chemical additives and is not connected to an auxiliary water system <sup>4</sup> ; or RP or RPDA if the fire protection system contains chemical additives or is connected to an auxiliary water system <sup>4,13</sup>
Radioactive material processing or handling facility or nuclear reactor	II. None <sup>11</sup>
Paper products plant using a wet process	RP
Plating facility, including any aircraft or automotive manufacturing plant	RP
Restricted-access facility	RP
Steam boiler plant	RP
Tall building – i.e., a building with five or more floors at or above ground level	DC if the customer has no potable water distribution lines connected to the suction side of a booster pump; or RP if the customer has one or more potable water distribution lines connected to the suction side of a booster pump

Wastewater treatment plant or wastewater pumping station	RP
Customer supplied with potable water via a temporary or permanent service connection from a CWS fire hydrant	Varies <sup>14</sup>

<sup>1</sup> Means of backflow protection, listed in an increasing level of protection, include the following: a dual check device (DuC); a double check valve assembly (DC) or double check detector assembly (DCDA); a pressure vacuum breaker assembly (PVB); a reduced-pressure principle assembly (RP) or reduced-pressure principle detector assembly (RPDA); and an air gap. A PVB may not be used if backpressure could develop in the downstream piping.

<sup>2</sup> The CWS shall determine the degree of hazard. “Low hazard” or “non-health hazard” and “high hazard” or “health hazard” are defined in *AWWA Manual M14* as incorporated in paragraph 62-555.360(1)(a), and subsection 62-555.360(2), F.A.C.

<sup>3</sup> A DC may be provided if it was installed before 5-5-14; and if such a DC is replaced on or after 5-5-14, it may be replaced with another DC.

<sup>4</sup> For the purpose of this table, “auxiliary water system” means a pressurized system of piping and appurtenances using auxiliary water, which is water other than the potable water being supplied by the CWS and which includes water from any natural source such as a well, pond, lake, spring, stream, river, etc., includes reclaimed water, and includes other used water or industrial fluids described in *AWWA Manual M14* as incorporated in paragraph 62-555.360(1)(a), and subsection 62-555.360(2), F.A.C.; however, “auxiliary water system” specifically excludes any water recirculation or treatment system for a swimming pool, hot tub, or spa. (Note that reclaimed water is a specific type of auxiliary water and a reclaimed water system is a specific type of auxiliary water system.)

<sup>5</sup> The Department shall allow an exception to the requirement for backflow protection at or for a residential or non-residential service connection from a CWS to premises where there is an auxiliary or reclaimed water system if all of the following conditions are met:

- The CWS is distributing water only to land owned by the owner of the CWS.
- The owner of the CWS is also the owner of the entire auxiliary or reclaimed water system up to the points of auxiliary or reclaimed water use.
- The CWS conducts at least biennial inspections of the CWS and the entire auxiliary or reclaimed water system to detect and eliminate any cross-connections between the two systems.

<sup>6</sup> For the purpose of this table, “residential service connection” means any service connection, including any dedicated irrigation or fire service connection, that is two inches or less in diameter and that supplies water to a building, or premises, containing only dwelling units; and “non-residential service connection” means any other service connection.

<sup>7</sup> A DuC may be provided only if there is no known cross-connection between the plumbing system and the auxiliary or reclaimed water system on the customer’s premises. Upon discovery of any cross-connection between the plumbing system and any reclaimed water system on the customer’s premises, the CWS shall ensure that the cross-connection is eliminated. Upon discovery of any cross-connection between the plumbing system and any auxiliary water system other than a reclaimed water system on the customer’s premises, the CWS shall ensure that the cross-connection is eliminated or shall ensure that the backflow protection provided at or for the service connection is equal to that required at or for a non-residential service connection.

<sup>8</sup> Reclaimed water regulated under Part III of Chapter 62-610, F.A.C., is a low hazard unless it is stored with surface water in a pond that is part of a stormwater management system, in which case it is a high hazard; well water is a low hazard unless determined otherwise by the CWS; industrial fluids and used water other than reclaimed water are high hazards unless determined otherwise by the CWS; reclaimed water not regulated under Part III of Chapter 62-610, F.A.C., and surface water are high hazards.

<sup>9</sup> Upon discovery of any cross-connection between the plumbing system and any reclaimed water system on the customer’s premises, the CWS shall ensure that the cross-connection is eliminated.

<sup>10</sup> A DC may be provided if both of the following conditions are met:

- The dedicated irrigation service connection initially was constructed before 5-5-14.
- No chemicals are fed into the irrigation system.

<sup>11</sup> The CWS may rely on the internal backflow protection required under the *Florida Building Code* or the predecessor State plumbing code. The CWS may, but is not required to, ensure that such internal backflow protection is inspected/tested and maintained the same as backflow protection provided at or for service connections from the CWS.

<sup>12</sup> The Department shall allow an exception to the requirement for backflow protection at or for a residential or non-residential dedicated fire service connection from a CWS to a wet-pipe sprinkler, or wet standpipe, fire protection system if both of the following conditions are met:

- The fire protection system was installed and last altered before 5-5-14.
- The fire protection system contains no chemical additives and is not connected to an auxiliary water system as defined in Footnote 4.

<sup>13</sup> Upon discovery of any cross-connection between the fire protection system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated.

<sup>14</sup> The CWS shall ensure that backflow protection commensurate with the degree of hazard is provided at or for the service connection from its fire hydrant.

*Rulemaking Authority 403.086(8), 403.853(3), 403.861(9) FS. Law Implemented 403.086(8), 403.852(12), 403.853(1), 403.855(3), 403.861(17) FS. History—New 11-19-87, Formerly 17-22.660, Amended 1-18-89, 1-3-91, 1-1-93, Formerly 17-555.360, Amended 8-28-03, 5-5-14.*