

## R18-4-215. Backflow Prevention

A. A public water system shall protect its system from contamination caused by backflow through unprotected cross-connections by requiring the installation and periodic testing of backflow-prevention assemblies. Required backflow-prevention assemblies shall be installed as close as practicable to the service connection.

B. A public water system shall ensure that a backflow-prevention assembly is installed whenever any of the following occur:

1. A substance harmful to human health is handled in a manner that could permit its entry into the public water system. These substances include chemicals, chemical or biological process waters, water from public water supplies that has deteriorated in sanitary quality, and water that has entered a fire sprinkler system. A Class 1 or Class 2 fire sprinkler system is exempt from the requirements of this Section;

2. A source of water supply exists on the user's premises that is not accepted as an additional source by the public water system or is not approved by the Department;

3. An unprotected cross-connection exists or a cross-connection problem has previously occurred within a user's premises; or

4. There is a significant possibility that a cross-connection problem will occur and entry to the premises is restricted to the extent that cross-connection inspections cannot be made with sufficient frequency or on sufficiently short notice to ensure that unprotected cross-connections do not exist.

C. Unless a cross-connection problem is specifically identified, or as otherwise provided in this Section, the requirements of this Section shall not apply to single-family residences used solely for residential purposes.

D. A backflow-prevention assembly required by this Section shall comply with the following:

1. If equipped with test cocks, it shall have been issued a certificate of approval by:

- a. The University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCCHR), or

- b. A third-party certifying entity that is unrelated to the product's manufacturer or vendor, and is approved by the Department.

2. If not equipped with test cocks, it shall be approved by a third-party certifying entity that is unrelated to the product's manufacturer or vendor and is approved by the Department.

E. The minimum level of backflow protection that is provided to protect a public water system shall be the level recommended in Section 7.2 of the Manual of Cross-Connection Control, Ninth Edition, USC-FCCCHR, KAP-200 University Park MC-2531, Los Angeles, CA, 90089-2531, December 1993, (and no future editions or amendments), incorporated by reference and on file with the Department. The types of backflow prevention that may be required, listed in decreasing order according to the level of protection they provide, include: an air-gap separation (AG), a reduced pressure principle backflow prevention (RP) assembly, a pressure vacuum breaker

(PVB) assembly, and a double check valve (DC) assembly. Nothing contained in this Section shall prevent a public water system from requiring the use of a higher level of protection than the level required by this subsection.

1. A public water system may make installation of a required backflow-prevention assembly a condition of service. A user's failure to comply with this requirement shall be sufficient cause for the public water system to terminate water service.

2. Specific installation requirements for backflow prevention include the following:

a. Any backflow prevention required by this Section shall be installed in accordance with the manufacturer's specifications.

b. For an AG installation, all piping between the user's connection and the receiving tank shall be entirely visible unless otherwise approved in writing by the public water system.

c. An RP assembly shall not be installed in a meter box, pit, or vault unless adequate drainage is provided.

d. A PVB assembly may be installed for use on a landscape water irrigation system if the irrigation system conforms to all of the criteria listed below. An RP assembly is required whenever any of the criteria are not met.

i. The water use beyond the assembly is for irrigation purposes only;

ii. The PVB is installed in accordance with the manufacturer's specifications;

iii. The irrigation system is designed and constructed to be incapable of inducing backpressure; and

iv. The injection of chemical pesticides and fertilizers, chemigation, is not used or provided in the irrigation system.

F. Each backflow-prevention assembly required by this Section shall be tested at least annually, or more frequently if directed by the public water system or the Department. Each assembly shall also be tested after installation, relocation, or repair. An assembly shall not be placed in service unless it has been tested and is functioning as designed. The following provisions shall apply to the testing of backflow-prevention assemblies:

1. Testing shall be in accordance with procedures described in Section 9 of the Manual of Cross-Connection Control. The public water system shall notify the water user when testing of backflow-prevention assemblies is needed. The notice shall specify the date by which the testing must be completed and the results forwarded to the public water system.

2. Testing shall be performed by a person who is currently certified as a "general" tester by the California-Nevada Section of the American Water Works Association (CA-NV Section, AWWA), the Arizona State Environmental Technical Training (ASETT) Center, or other certifying authority approved by the Department.

3. When a backflow-prevention assembly is tested and found to be defective, it shall be repaired or replaced in accordance with the provisions of this Section.

G. A public water system shall maintain records of backflow-prevention assembly installations and tests performed on backflow-prevention assemblies in its service area. Records shall be retained by the public water system for at least three years and shall be made available for review by the Department upon request. These records shall include an inventory of backflow-prevention assemblies required by this Section and, for each assembly, all of the following information:

1. Assembly identification number and description,
2. Location,
3. Date of tests,
4. Description of repairs and recommendations for repairs made by the tester, and
5. The tester's name and certificate number.

H. A public water system shall submit a written cross-connection incident report to the Department and the local health authority within five business days after a cross-connection problem occurs that results in contamination of the public water system. The report shall address all of the following:

1. Date and time of discovery of the unprotected cross-connection,
2. Nature of the cross-connection problem,
3. Affected area,
4. Cause of the cross-connection problem,
5. Public health impact,
6. Date and text of any public health advisory issued,
7. Each corrective action taken, and
8. Date of completion of each corrective action.

I. An individual with direct responsibility for implementing a backflow prevention program for a water system serving more than 50,000 persons, or an individual with direct responsibility for implementing a backflow prevention program for a for a water system serving 50,000 or fewer persons if the Department has determined that such a need exists, shall be licensed as a "cross-connection control program specialist" by the CA-NV Section, AWWA, the ASETT Center, or another certifying authority approved by the Department.

**Historical Note**

Adopted effective August 8, 1991 (Supp. 91-3). Section repealed, new Section adopted effective April 28, 1995 (Supp. 95-2). Amended effective June 3, 1998 (Supp. 98-3). Section R18-4-215 repealed; new Section renumbered from R18-4-115 and amended by final rulemaking at 14 A.A.R. 2978, effective August 30, 2008 (Supp. 08-3).