

**STATE PRIMARY DRINKING WATER REGULATIONS
AS AMENDED APRIL 29, 2005
R.61-58.7(F)**

F. Cross Connection Control

(1) General

(a) All public water systems shall initiate and maintain a viable cross connection control program. Such a program shall consist of:

- (i) Locating and eliminating unprotected cross connections.
- (ii) Maintaining records pertaining to the location of existing backflow prevention assemblies, type and size of each assembly and annual test results.

(b) No person shall install, permit to be installed or maintain any cross connection between a public water system and any other non-public water system, sewer or a line from any container of liquids or other substances, unless an approved backflow prevention device or assembly is installed between the public water system and the source of contamination.

(2) Low Hazard Cross Connections

A connection between an approved public water system and another water source not hazardous to health but not meeting the standards of the approved public water system and not cross-connected within its system with a potentially dangerous substance shall be considered a low hazard category cross connection. At a minimum, an approved Double Check Valve Assembly or Pressure Vacuum Breaker must be installed on a low hazard cross connection except as provided for in section 3 below.

(3) Residential Lawn Irrigation Systems

(a) Low hazard residential lawn irrigation systems - Each public water system which has low hazard residential irrigation systems directly or indirectly connected to their public water system must have a written low hazard residential lawn irrigation system cross connection control policy. This policy must be documented in writing and must be approved by the governing body of the public water system. The policy must specify the minimum acceptable device for low hazard residential lawn sprinkler systems. The minimum acceptable device for low hazard residential lawn sprinkler systems is a residential dual check. If a water system specifies another backflow prevention assembly as the minimum acceptable protection for these cross connections, the policy must be approved by the governing body of the public water system with due opportunity being provided for public comment and participation. The written policy must:

- (i) Identify the type of backflow prevention device or assembly that is required to be installed on low hazard residential lawn irrigation system connections.
- (ii) Establish a schedule for the required testing of double check valve

assemblies, or other testable assembly, if testable assemblies are designated by the policy as minimum acceptable protection for low hazard residential lawn irrigation systems. The minimum testing frequency must be specified in the policy and appropriate records must be maintained to verify compliance with the established testing requirements.

(iii) Establish a schedule for the required change out of residential dual checks if these are the devices designated by the policy as minimum acceptable protection for low hazard residential lawn irrigation systems. The minimum change out frequency must be specified in the policy and appropriate records must be maintained to verify compliance with the established change out requirements.

(b) High hazard residential lawn irrigation systems – Any residential lawn irrigation system that includes chemical addition, or is also connected to another water source which is not an approved public water system, shall be considered a high hazard cross connection and must meet the requirements of paragraph (4) below.

(4) High Hazard Cross Connections

(a) A connection between an approved public water system and a service or other water system which has or may have any material in the water dangerous to health, or connected to any material dangerous to health, that is or may be handled under pressure, or subject to negative pressure, shall be considered a high hazard category cross connection. Protection shall be by air gap separation or an approved reduced pressure principle backflow prevention assembly.

(b) Reduced pressure principle backflow prevention assemblies shall not be installed in any location subject to possible flooding. This includes pits or vaults which are not provided with a gravity drain to the ground's surface that is capable of exceeding the discharge rate of the relief valve.

(5) Fire Sprinkler Systems

Fire line sprinkler systems, except those in the high hazard category shall be protected by an approved double check valve assembly. High hazard fire sprinkler systems shall include, but not be limited to: antifreeze systems, foam systems, systems charged from or tied into ponds, lakes, streams, or any water source other than the approved public water supply. High hazard category fire sprinkler systems shall comply with the requirements of Paragraphs (4) above.

(6) Approved Devices and Assemblies

The Department shall prepare and publish a list of backflow prevention assemblies approved by the Department for use in S.C., and this list shall be updated at least once annually.

(7) Testing Requirements

When double check valve assemblies, pressure vacuum breakers, and/or reduced pressure principle backflow prevention assemblies are installed to protect a public water system against the possibility of backflow from a customer's water service, routine testing of the assemblies shall be performed by a certified tester.

- (a) Each assembly shall be tested by a certified tester after installation and before use by the customer. Except as specified in paragraph 3(a)(ii) above, each assembly shall be tested at least once annually by a certified tester.
- (b) The public water system is to receive a written report of the inspection and testing results for all assemblies tested within its distribution system. The report shall be submitted by the certified tester making the inspection and test.
- (c) All backflow prevention assemblies shall be tested immediately after repairs of any kind are made to the assembly.

(8) Backflow Prevention Tester Certification

There are four (4) types of certified testers of backflow prevention assemblies; General Tester, Limited Tester, Inspector Tester, and Manufacturer's Agent. The definition of each type of certified tester is specified in R.61-58(A).

- (a) Each certified tester's license shall expire three (3) years from the date of issue. In order to renew this certification for three (3) more years, the tester shall come before a designated person approved by the Department and shall successfully complete a written examination with a passing score of 70%, and perform the prescribed test on an approved reduced pressure principle backflow prevention assembly, double check valve assembly, and a pressure vacuum breaker using the tester's own differential pressure gauge. The gauge must be accurate within 2% of full scale or +/-0.3 pounds per square inch differential (PSID). Any gauge found to be inaccurate or malfunctioning will be required to be calibrated or repaired as needed to bring it into compliance before certification will be renewed.
- (b) Any applicant for certification who fails to properly perform the above prescribed tests will have his certification revoked immediately and will have to successfully complete the state sponsored backflow prevention training and certification course in order to become re-certified as a tester of backflow prevention assemblies in South Carolina.
- (c) A certified tester may have his tester's certification revoked due to incompetence or falsification of test results, as determined by the Department.
- (d) The Department shall reserve the right to charge or allow for the charge of a nominal fee for the administration of the recertification of testers. This fee shall not exceed fifty dollars (\$50.00).

(9) Installations of Pressure Vacuum Breakers

Where used, pressure vacuum breakers shall be installed at a minimum of 12" inches above the highest downstream piping and shall not be subject to backpressure.