

OAR CHAPTER 333
Division 061-0070
Public Water Systems
Effective 2-15-2008

333-061-0070 Cross Connection Control Requirements

- (1) Water suppliers shall undertake cross connection control programs to protect the public water systems from pollution and contamination.
- (2) The water supplier's responsibility for cross connection control shall begin at the water supply source, include all public treatment, storage, and distribution facilities under the water supplier's control, and end at the point of delivery to the water user's premise.
- (3) Water suppliers shall develop and implement cross connection control programs that meet the minimum requirements set forth in these rules.
- (4) Water suppliers shall develop a procedure to coordinate cross connection control requirements with the appropriate local administrative authority having jurisdiction.
- (5) The water supplier shall ensure that inspections of approved air gaps, approved devices, and inspections and tests of approved backflow prevention assemblies protecting the public water system are conducted:
 - (a) At the time of installation, any repair or relocation;
 - (b) At least annually;
 - (c) More frequently than annually for approved backflow prevention assemblies that repeatedly fail, or are protecting health hazard cross connections, as determined by the water supplier;
 - (d) After a backflow incident; or
 - (e) After an approved air gap is re-plumbed.
- (6) Approved air gaps, approved devices, or approved backflow prevention assemblies, found not to be functioning properly shall be repaired, replaced or re-plumbed by the water user or premise owner, as defined in the water supplier's local ordinance or enabling authority, or the water supplier may take action in accordance with subsection 9(a) of these rules.
- (7) A water user or premise owner who obtains water from a water supplier must notify the water supplier if they add any chemical or substance to the water.
- (8) Premise isolation requirements:
 - (a) For service connections to premises listed or defined in Table 32 (Premises Requiring Isolation), the water supplier shall ensure an

approved backflow prevention assembly or an approved air gap is installed;

- (A) Premises with cross connections not listed or defined in Table 32 (Premises Requiring Isolation), shall be individually evaluated. The water supplier shall require the installation of an approved backflow prevention assembly or an approved air gap commensurate with the degree of hazard on the premise, as defined in Table 33 (Backflow Prevention Methods);
 - (B) In lieu of premise isolation, the water supplier may accept an in-premise approved backflow prevention assembly as protection for the public water system when the approved backflow prevention assembly is installed, maintained and tested in accordance with the Oregon Plumbing Specialty Code and these rules.
- (b) Where premise isolation is used to protect against a cross connection, the following requirements apply;
- (A) The water supplier shall:
 - (i) Ensure the approved backflow prevention assembly is installed at a location adjacent to the service connection or point of delivery;
 - (ii) Ensure any alternate location used must be with the approval of the water supplier and must meet the water supplier's cross connection control requirements; and
 - (iii) Notify the premise owner and water user, in writing, of thermal expansion concerns.
 - (B) The premise owner shall:
 - (i) Ensure no cross connections exist between the point of delivery from the public water system and the approved backflow prevention assemblies, when these are installed in an alternate location; and
 - (ii) Assume responsibility for testing, maintenance, and repair of the installed approved backflow prevention assembly to protect against the hazard.
- (c) Where unique conditions exist, but not limited to, extreme terrain or pipe elevation changes, or structures greater than three stories in height, even with no actual or potential health hazard, an approved backflow prevention assembly may be installed at the point of delivery; and

- (d) Where the water supplier chooses to use premise isolation by the installation of an approved backflow prevention assembly on a one- or two-family dwelling under the jurisdiction of the Oregon Plumbing Specialty Code and there is no actual or potential cross connection, the water supplier shall:
 - (A) Install the approved backflow prevention assembly at the point of delivery;
 - (B) Notify the premise owner and water user in writing of thermal expansion concerns; and
 - (C) Take responsibility for testing, maintenance and repair of the installed approved backflow prevention assembly.
- (9) In community water systems, water suppliers shall implement a cross connection control program directly, or by written agreement with another agency experienced in cross connection control. The local cross connection program shall consist of the following elements:
 - (a) Local ordinance or enabling authority that authorizes discontinuing water service to premises for:
 - (A) Failure to remove or eliminate an existing unprotected or potential cross connection;
 - (B) Failure to install a required approved backflow prevention assembly;
 - (C) Failure to maintain an approved backflow prevention assembly; or
 - (D) Failure to conduct the required testing of an approved backflow prevention assembly.
 - (b) A written program plan for community water systems with 300 or more service connections shall include the following:
 - (A) A list of premises where health hazard cross connections exist, including, but not limited to, those listed in Table 32 (Premises Requiring Isolation);
 - (B) A current list of certified cross connection control staff members;
 - (C) Procedures for evaluating the degree of hazard posed by a water user's premise;
 - (D) A procedure for notifying the water user if a non-health hazard or health hazard is identified, and for informing the water user of any corrective action required;
 - (E) The type of protection required to prevent backflow into the public water supply, commensurate with the degree of hazard

that exists on the water user's premise, as defined in Table 33 (Backflow Prevention Methods);

- (F) A description of what corrective actions will be taken if a water user fails to comply with the water supplier's cross connection control requirements;
 - (G) Current records of approved backflow prevention assemblies installed, inspections completed, backflow prevention assembly test results on backflow prevention assemblies and verification of current Backflow Assembly Tester certification; and
 - (H) A public education program about cross connection control.
- (c) The water supplier shall prepare and submit a cross connection control Annual Summary Report to the Department, on forms provided by the Department, before the last working day of March each year.
 - (d) In community water systems having 300 or more service connections, water suppliers shall ensure at least one person is certified as a Cross Connection Control Specialist, unless specifically exempted from this requirement by the Department.
- (10) Fees: Community water systems shall submit to the Department an annual cross connection program implementation fee, based on the number of service connections, as follows:

Service Connections:	Fee:
15-99	\$30.
100-999	\$75.
1,000-9,999	\$200.
10,000 or more	\$350.

- (a) Billing invoices will be mailed to water systems in the first week of November each year and are due by January first of the following year;
 - (b) Fees are payable to Department of Human Services by check or money order;
 - (c) A late fee of 50% of the original amount will be added to the total amount due and will be assessed after January 31 of each year.
- (11) In transient or non-transient non-community water systems, the water supplier that owns and/or operates the system shall:
- (a) Ensure no cross connections exist, or are isolated from the potable water system with an approved backflow prevention assembly, as required in section (12) of this rule;

- (b) Ensure approved backflow prevention assemblies are installed at, or near, the cross connection; and
 - (c) Conduct a cross connection survey and inspection to ensure compliance with these rules. All building permits and related inspections are to be made by the Department of Consumer and Business Services, Building Codes Division, as required by ORS 447.020.
- (12) Approved backflow prevention assemblies required under these rules shall be assemblies approved by the University of Southern California, Foundation for Cross Connection Control and Hydraulic Research, or other equivalent testing laboratories approved by the Department.
- (13) Backflow prevention assemblies installed before the effective date of these rules that were approved at the time of installation, but are not currently approved, shall be permitted to remain in service provided the assemblies are not moved, the piping systems are not significantly remodeled or modified, the assemblies are properly maintained, and they are commensurate with the degree of hazard they were installed to protect. The assemblies must be tested at least annually and perform satisfactorily to the testing procedures set forth in these rules.
- (14) Tests performed by Department-certified Backflow Assembly Testers shall be in conformance with procedures established by the University of Southern California, Foundation for Cross Connection Control and Hydraulic Research, Manual of Cross Connection Control, 9th Edition, December 1993, or other equivalent testing procedures approved by the Department.
- (15) Backflow prevention assemblies shall be tested by Department-certified Backflow Assembly Testers, except as otherwise provided for journeyman plumbers or apprentice plumbers in OAR 333-061-0072 of these rules (Backflow Assembly Tester Certification). The Backflow Assembly Tester shall provide a copy of each completed test report to the water user or premise owner, and the water supplier:
 - (a) Within 10 working days; and
 - (b) The test reports will be in a manner and form acceptable to the water supplier.
- (16) All approved backflow prevention assemblies subject to these rules shall be installed in accordance with OAR 333-061-0071 and the Oregon Plumbing Specialty Code.

- (17) The Department shall establish an advisory board for cross connection control issues consisting of not more than nine members, and including representation from the following:
- (a) Oregon-licensed Plumbers;
 - (b) Department-certified Backflow Assembly Testers;
 - (c) Department-certified Cross Connection Specialists;
 - (d) Water Suppliers;
 - (e) The general public;
 - (f) Department-certified Instructors of Backflow Assembly Testers or Cross Connection Specialists;
 - (g) Backflow assembly manufacturers or authorized representatives;
 - (h) Engineers experienced in water systems, cross connection control and/or backflow prevention; and
 - (i) Oregon-certified Plumbing Inspectors.

TABLE 32 PREMISES REQUIRING ISOLATION* BY AN APPROVED AIR GAP OR REDUCED PRESSURE PRINCIPLE TYPE OF ASSEMBLY HEALTH HAZARD	
1.	Agricultural (e.g. farms, dairies)
2.	Beverage bottling plants**
3.	Car washes
4.	Chemical plants
5.	Commercial laundries and dry cleaners
6.	Premises where both reclaimed and potable water are used
7.	Film processing plants
8.	Food processing plants
9.	Medical centers (e.g., hospitals, medical clinics, nursing homes, veterinary clinics, dental clinics, blood plasma centers)
10.	Premises with irrigation systems that use the water supplier's water with chemical additions (e.g., parks, playgrounds, golf courses, cemeteries, housing estates)
11.	Laboratories
12.	Metal plating industries
13.	Mortuaries
14.	Petroleum processing or storage plants
15.	Piers and docks

16.	Radioactive material processing plants and nuclear reactors
17.	Wastewater lift stations and pumping stations
18.	Wastewater treatment plants
19.	Premises with piping under pressure for conveying liquids other than potable water and the piping is installed in proximity to potable water piping
20.	Premises with an auxiliary water supply that is connected to a potable water supply
21.	Premises where the water supplier is denied access or restricted access for survey
22.	Premises where the water is being treated by the addition of chemical or other additives

* Refer to OAR 333-061-0070(8) Premise Isolation Requirements.

** A Double Check Valve Backflow Prevention Assembly could be used if the water supplier determines there is only a non-health hazard at a beverage bottling plant.

TABLE 33 BACKFLOW PREVENTION METHODS USED FOR PREMISE ISOLATION	
DEGREE OF IDENTIFIED HAZARD	
Non-Health Hazard (Pollutant)	Health Hazard (Contaminant)
BACKSIPHONAGE OR BACKPRESSURE	BACKSIPHONAGE OR BACKPRESSURE
Air Gap (AG)	Air Gap (AG)
Reduced Pressure Principle Backflow Prevention Assembly (RP)	Reduced Pressure Principle Backflow Prevention Assembly (RP)
Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA)	Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA)
Double Check Valve Backflow Prevention Assembly (DC)	
Double Check-Detector Backflow Prevention Assembly (DCDA)	