

OAR CHAPTER 333
Division 061-0032
Public Water Systems

333-061-0074 Cross Connection Training Programs, Course, and Instructor Requirements

- (1) In order to qualify as a Department-approved Cross Connection Specialist or Backflow Assembly Tester-training program, the following requirements must be met:
 - (a) The training program must keep permanent records on attendance and performance of each student that enrolls in a course;
 - (b) The training program must submit the names of students who have successfully completed the training course to the Department upon completion of the training course;
 - (c) The training schedule must be set in advance and the schedule must be submitted to the Department quarterly for review and publication;
 - (d) The backflow training program must maintain a proper ratio of student-to-training equipment. A maximum ratio of three students for each backflow assembly test station is allowed for the Backflow Assembly Tester-training course;
 - (e) The training program must provide uniform training at all course locations;
 - (f) The training program shall provide the training materials necessary to complete the course. The training materials must be updated annually and submitted to the Department for approval; and
 - (g) The training program must have the following minimum training equipment available for each course:
 - (A) Each test station for Backflow Assembly Tester initial training and certification renewal courses shall include:
 - (i) An operating pressure vacuum breaker backsiphonage prevention assembly, spill-resistant pressure vacuum breaker backsiphonage prevention assembly, double check valve backflow prevention assembly, and a reduced pressure principle backflow prevention assembly, with appropriate test gauges for each assembly; and
 - (ii) A backflow prevention assembly failure simulator shall also be provided that is capable of simulating leaking check valves, shutoff valves, and relief valve failures.
 - (B) The training aids for the Backflow Assembly Tester and Cross Connection Specialist-training courses shall include the atmospheric vacuum breaker, pressure vacuum breaker backsiphonage prevention assembly, spill-resistant pressure vacuum breaker backsiphonage prevention assembly, double

check valve backflow prevention assembly, reduced pressure principle backflow prevention assembly, and a variety of test gauges.

- (h) The training program must maintain uniform course curriculum according to sections (2), (3), (4) and (5) of this rule section, and maintain uniform instructor requirements according to section (6) of this rule section, subject to approval by the Department.
- (2) Requirements for the Cross Connection Specialist-initial training course shall include:
- (a) A minimum of 30 hours of training;
 - (b) The course content shall contain, but is not limited to, the following topics:
 - (A) Definitions, identification of cross connection hazards, and the hydraulics of backflow;
 - (B) Approved cross connection control methods, backflow prevention assembly specifications, and testing methods used for Department-approved backflow prevention assemblies;
 - (C) Cross connection control requirements for public water systems, implementation of a cross connection control program, and writing a local cross connection control ordinance;
 - (D) Public education and record-keeping requirements for an effective cross connection control program;
 - (E) Facility water use inspection techniques and hands-on inspection of local facilities to identify actual or potential cross connections;
 - (F) Cross connection control program enforcement and managing a Backflow Assembly Tester program; and
 - (G) Review and discussion of Cross Connection Specialist safety issues.
 - (c) A minimum score of 85% is required to pass the Department-approved Cross Connection Specialist written examination.
- (3) Requirements for the Backflow Assembly Tester-initial training course shall include:
- (a) A minimum of 40 hours of training;
 - (b) The course content shall contain, but is not limited to, the following topics:
 - (A) Definitions, identification of cross connections, and the hydraulics of backflow;
 - (B) Hazards associated with backflow pollution and contamination of potable water, approved cross connection control methods, and cross connection control program requirements for public water systems;
 - (C) Backflow prevention assembly approval requirements, specifications and installation requirements for approved

- backflow prevention assemblies, and backflow prevention assembly repair techniques;
 - (D) Complete disassembly and reassembly of each type of backflow prevention assembly;
 - (E) Hands-on demonstration of the correct test procedures, troubleshooting for each type of backflow prevention assembly, and diagnosis of two failure and/or abnormal conditions during the hands-on backflow assembly test of each type of backflow prevention assembly;
 - (F) Test gauge calibration and gauge accuracy verification methods; and
 - (G) Review and discussion of Backflow Assembly Tester safety issues.
- (c) A minimum score of 75% is required to pass the Department-approved Backflow Assembly Tester written examination; and
 - (d) A minimum score of 90% is required to pass the Department-approved Backflow Assembly Tester physical-performance examination.
- (4) Requirements for Cross Connection Specialist certification renewal shall include:
- (a) A minimum of 0.6 CEU of training;
 - (b) The course content shall contain, but is not limited to, the following topics:
 - (A) Review of cross connection control regulations OAR 333-061-0070 through 0073;
 - (B) Review and discussion of recent backflow incidents and identification of cross connections; and
 - (C) Review and discussion of Cross Connection Specialist safety issues.
- (5) Requirements for Backflow Assembly Tester certification renewal shall include:
- (a) A minimum of 0.5 CEU of training, excluding examination time;
 - (b) The course content shall contain, but is not limited to, the following topics:
 - (A) Review of cross connection control regulations OAR 333-061-0070 through 0073;
 - (B) Review of approved test procedures for backflow prevention assemblies;
 - (C) Hands-on demonstration of the correct test procedures for each type of backflow prevention assembly;
 - (D) The correct student diagnosis and explanation of two failure and/or abnormal conditions during the hands-on backflow prevention assembly test of each type of backflow prevention assembly;

- (E) Review and discussion of Backflow Assembly Tester safety issues; and
- (F) Written examination that includes questions on cross connection control regulations OAR 333-061-0070 through 0073.
- (c) A minimum score of 75% is required to pass the Department-approved Backflow Assembly Tester written examination; and
- (d) A minimum score of 90% is required to pass the Department-approved Backflow Assembly Tester physical-performance examination.
- (6) Instructor qualification requirements shall include:
 - (a) To be eligible as an instructor for Cross Connection Specialist-initial training or certification renewal course, the following experience in the cross connection control field is required:
 - (A) Must be currently certified as a Cross Connection Specialist in Oregon;
 - (B) Must have 2-years experience in enforcement of cross connection control requirements, or as a certified Cross Connection Specialist, or have related experience, subject to approval by the Department;
 - (C) Must participate in two complete Cross Connection Specialist training courses as a student instructor assigned to teach a portion of the curriculum. A student instructor training program schedule must be submitted to the Department for approval before training begins;
 - (D) Must receive a recommendation from the instructor of record for approval as an instructor. An unfavorable recommendation must be documented by supporting information and may be challenged by the trainee or by the Department; and
 - (E) Must attend at least one instructor update meeting provided by the Department each year.
 - (b) To be eligible as an instructor for the Backflow Assembly Tester initial training or certification renewal course, the following experience in the backflow prevention field is required:
 - (A) Must be currently certified as a Backflow Assembly Tester in Oregon;
 - (B) Must have 2-years experience as a certified Backflow Assembly Tester and experience installing, testing backflow prevention assemblies, or as a vocational instructor, or have related experience, subject to approval by the Department;
 - (C) Must participate in two complete Backflow Assembly Tester training courses as a student instructor assigned to teach a portion of the text curriculum and the physical- performance portion of the curriculum. A student instructor training program

schedule must be submitted to the Department for approval before training begins;

- (D) Must receive a recommendation from the instructor of record for approval as an instructor. An unfavorable recommendation must be documented by supporting information and may be challenged by the trainee or by the Department; and
- (E) Must attend at least one instructor update meeting provided by the Department each year.

(c) The Department shall maintain a list of qualified instructors.

Stat. Auth.: ORS 431 & ORS 448

Stats. Implemented: ORS 431.110, ORS 431.150, ORS 448.131, ORS 448.150, ORS 448.268 & ORS 448.273

- 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 *

TABLE 1
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 unapproved 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

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 2

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)	