

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) For the purposes of this rule, the following definitions apply:
 - (a) "Pollutant" means a substance that creates an impairment of the quality of the water to a degree which does not create a hazard to the public health, but which does adversely affect the aesthetic qualities of the water.
 - (b) "Thermal expansion" means the pressure increase due to a rise in water temperature that occurs in water piping systems when such systems become "closed" by the installation of a backflow prevention assembly or other means, and will not allow for expansion beyond that point of installation.
- (3) 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 POD to the water user's premises.
- (4) Water suppliers shall develop and implement cross connection control programs that meet the minimum requirements set forth in these rules.
- (5) Water suppliers shall develop a procedure to coordinate cross connection control requirements with the appropriate local administrative authority having jurisdiction.
- (6) 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.
- (7) 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 premises 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.
- (8) A water user or premises owner who obtains water from a water supplier must notify the water supplier if they add any chemicals or substance to the water.
- (9) Premises isolation requirements:
 - (a) For service connections to premises listed or defined in Table 42 (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 42 (Premises Requiring Isolation), shall be individually evaluated. The water supplier shall require the installation of an approved backflow prevention

- (a) Oregon licensed Plumbers;
- (b) Authority certified Backflow Assembly Testers;
- (c) Authority certified Cross Connection Specialists;
- (d) Water Suppliers;
- (e) The general public;
- (f) Authority 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 or backflow prevention; and
- (i) Oregon certified Plumbing Inspectors.

Table 42

High Hazard Table (Premises Requiring Isolation* by an Approved Air Gap or a Reduced Pressure Principle Type of Assembly Health Hazard)
Agricultural (for example, farms, dairies)
Beverage bottling plants**
Car washes
Chemical plants
Commercial laundries and dry cleaners
Premises where both reclaimed and potable water are used
Film processing plants
Food processing plants
Medical centers (for example, hospitals, medical clinics, nursing homes, veterinary clinics, dental clinics, blood plasma centers)
Premises with irrigation systems that use the water supplier's water with chemical additions (for example, parks, playgrounds, golf courses, cemeteries, housing estates)
Laboratories
Metal plating industries
Mortuaries
Petroleum processing or storage plants
Piers and docks
Radioactive material processing plants and nuclear reactors
Wastewater lift stations and pumping stations
Wastewater treatment plants
Premises with piping under pressure for conveying liquids other than potable water and the piping is installed in proximity to potable water piping
Premises with an auxiliary water supply that is connected to a potable water supply
Premises where the water supplier is denied access or restricted access for survey
Premises where the water is being treated by the addition of chemical or other additives

* Refer to OAR 333-061-0070(8) premises isolation requirements.

** A DC could be used if the water supplier determines there is only a non-health hazard at a beverage bottling plant.

Table 43

Backflow Prevention Methods Used For Premises Isolation
DEGREE OF IDENTIFIED HAZARD

Non-Health Hazard, Low Risk (Pollutant)	Health Hazard, High Risk (Contaminant)
Backsiphonage or Backpressure	Backsiphonage or Backpressure
Air Gap	Air Gap
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)	

Stat. Auth.: ORS 448.131

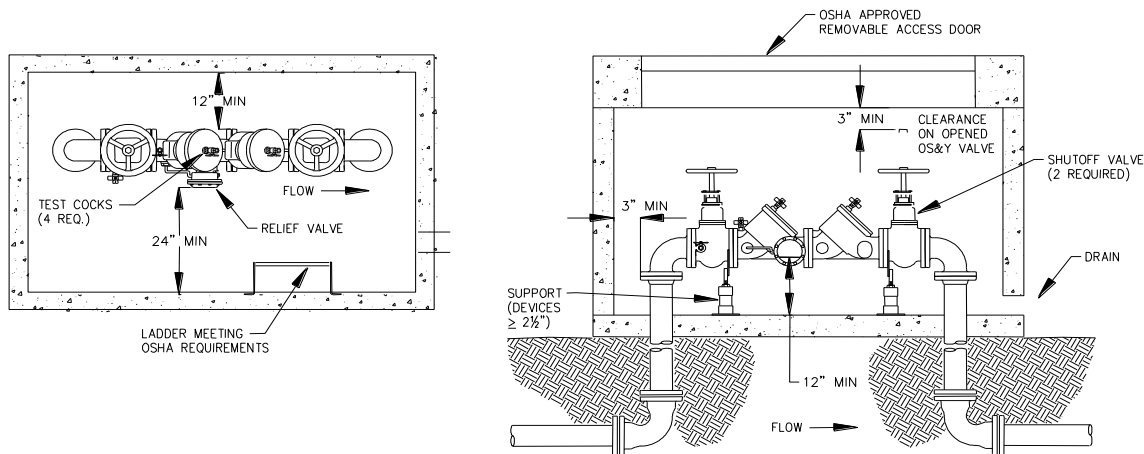
Stats. Implemented: ORS 448.131, 448.150, 448.278 & 448.279

333-061-0071

Backflow Prevention Assembly Installation and Operation Standards

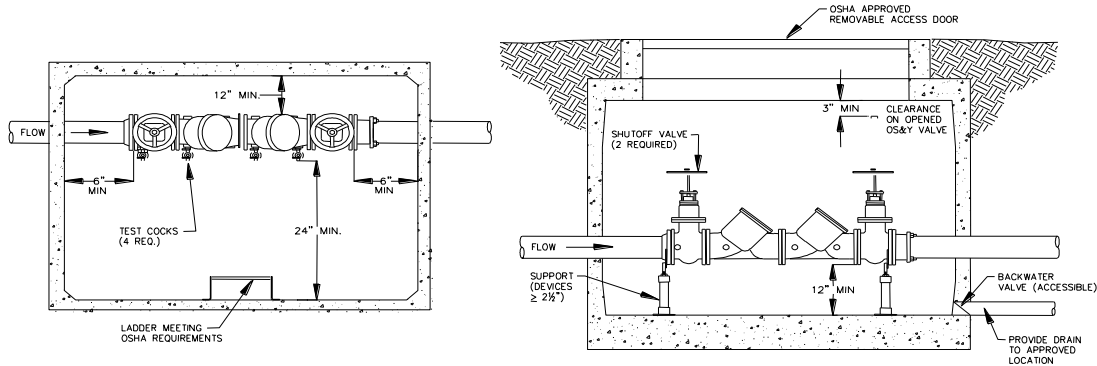
- (1) Any approved backflow prevention assembly required by OAR 333-061-0070 shall be installed in a manner that:
 - (a) Facilitates its proper operation, maintenance, inspection, and in-line testing using standard installation procedures approved by the Authority, such as, but not limited to, University of Southern California, Manual of Cross-Connection Control, 10th Edition, the Pacific Northwest Section American Water Works Association, Cross Connection Control Manual, 7th Edition, or the local administrative authority having jurisdiction;
 - (b) Precludes the possibility of continuous submersion of an approved backflow prevention assembly, and precludes the possibility of any submersion of the relief valve on a RP; and
 - (c) Maintains compliance with all applicable safety regulations and the Oregon Plumbing Specialty Code.
- (2) For premises isolation installation:
 - (a) The approved backflow prevention assembly shall be installed at a location adjacent to the service connection or POD; or
 - (b) Any alternate location must be with the advance approval of the water supplier and must meet the water supplier's cross connection control requirements; and
 - (c) The premises owner shall ensure no cross connections exist between the POD from the public water system and the approved backflow prevention assembly.
- (3) Bypass piping installed around any approved backflow prevention assembly must be equipped with an approved backflow prevention assembly to:
 - (a) Afford at least the same level of protection as the approved backflow prevention assembly being bypassed; and
 - (b) Comply with all requirements of these rules.

- (4) All Oregon Plumbing Specialty Code approved residential multi-purpose fire suppression systems constructed of potable water piping and materials do not require a backflow prevention assembly.
- (5) Stand-alone fire suppression systems, being a piping system within a premises intended to only serve as a fire protection system separated from the potable water system, shall be protected commensurate with the degree of hazard, as defined in Table 43 (Backflow Prevention Methods).
- (6) Stand-alone irrigation systems shall be protected commensurate with the degree of hazard, as defined in Table 43 (Backflow Prevention Methods).
- (7) A RP or RPDA:



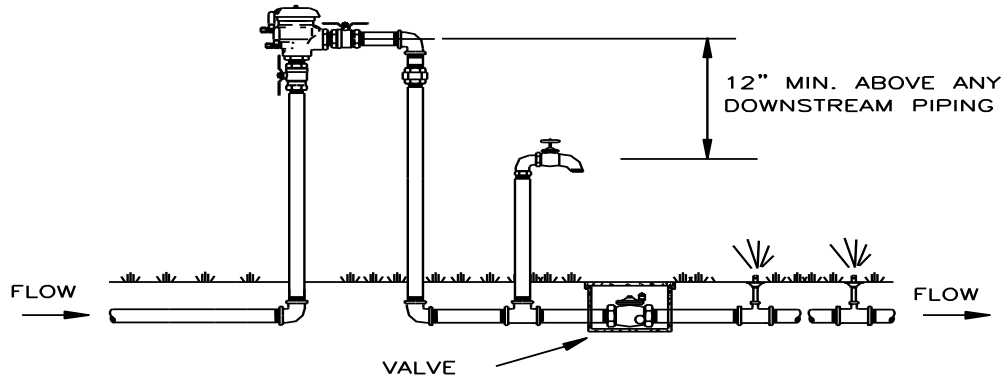
- (a) Shall conform to bottom and side clearances when the assembly is installed inside a building. Access doors may be provided on the top or sides of an above-ground vault;
- (b) Shall always be installed horizontally, never vertically, unless they are specifically approved for vertical installation;
- (c) Shall always be installed above the 100 year (1 percent) flood level unless approved by the appropriate local administrative authority having jurisdiction;
- (d) Shall never have extended or plugged relief valves;
- (e) Shall be protected from freezing when necessary;
- (f) Shall be provided with an approved air gap drain;
- (g) Shall not be installed in an enclosed vault or box unless a bore-sighted drain to daylight is provided where there is an unrestricted straight-line opening in the enclosure that vents to grade, and is sized and constructed to adequately drain the full flow discharge from the reduced pressure principle backflow prevention assembly thus preventing any potential for submersion of the assembly;
- (h) May be installed with reduced clearances if the pipes are two inches in diameter or smaller, are accessible for testing and repairing, and approved by the appropriate local administrative authority having jurisdiction;

- (i) Shall not be installed at a height greater than five feet unless there is a permanently installed platform meeting Oregon Occupational Safety and Health Administration (OR-OSHA) standards to facilitate servicing the assembly; and
 - (j) Be used to protect against a non-health hazard or health hazard for backsiphonage or backpressure conditions.
- (8) A DC or DCDA:

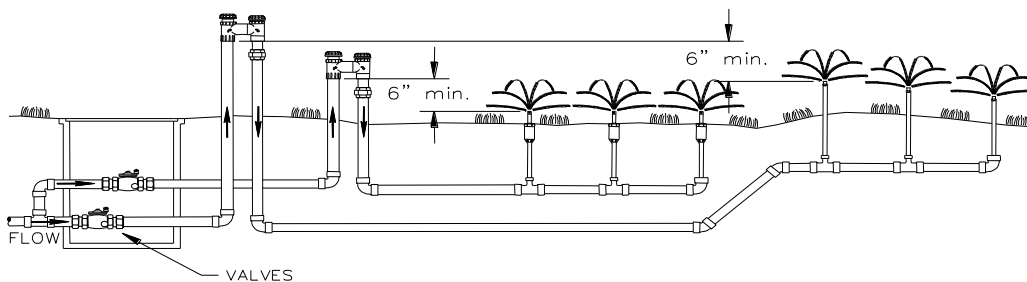


- (a) Shall conform to bottom and side clearances when the assembly is installed inside a building;
 - (b) May be installed vertically as well as horizontally provided the assembly is specifically listed for that orientation in the Authority's Approved Backflow Prevention Assembly List.
 - (c) May be installed below grade in a vault, provided that water-tight fitted plugs or caps are installed in the test cocks, and the assembly shall not be subject to continuous immersion;
 - (d) Shall not be installed at a height greater than five feet unless there is a permanently installed platform meeting Oregon Occupational Safety and Health Administration (OR-OSHA) standards to facilitate servicing the assembly;
 - (e) May be installed with reduced clearances if the pipes are two inches in diameter or smaller, provided that they are accessible for testing and repairing, and approved by the appropriate local administrative authority having jurisdiction;
 - (f) Shall have adequate drainage provided except that the drain shall not be directly connected to a sanitary or storm water drain. Installers shall check with the water supplier and appropriate local administrative authority having jurisdiction for additional requirements;
 - (g) Shall be protected from freezing when necessary; and
 - (h) Be used to protect against non-health hazards under backsiphonage and backpressure conditions.
- (9) A PVB or SVB shall:

Figure 3



- (a) Be installed where occasional water discharge from the assembly caused by pressure fluctuations will not be objectionable;
 - (b) Have adequate spacing available for maintenance and testing;
 - (c) Not be subject to flooding;
 - (d) Be installed a minimum of 12 inches above the highest downstream piping and outlets;
 - (e) Have absolutely no means of imposing backpressure by a pump or other means. The downstream side of the PVB or SVB may be maintained under pressure by a valve; and
 - (f) Be used to protect against backsiphonage only, not backpressure.
- (10) An Atmospheric Vacuum Breaker (AVB) shall:



- (a) Have absolutely no means of shut-off on the downstream or discharge side of the AVB;
- (b) Not be installed in dusty or corrosive atmospheres;
- (c) Not be installed where subject to flooding;
- (d) Be installed a minimum of six inches above the highest downstream piping and outlets;
- (e) Be used intermittently;
- (f) Have product and material approval under the Oregon Plumbing Specialty Code for non-testable devices.
- (g) Not be pressurized for more than 12 hours in any 24-hour period; and

(h) Be used to protect against backsiphonage only, not backpressure.

Stat. Auth.: ORS 448.131

Stats. Implemented: ORS 448.131, 448.150, 448.273 & 448.279

333-061-0072

Backflow Assembly Tester Certification

- (1) In order to be certified as a backflow assembly tester, individuals must successfully complete all the requirements of this rule for testing backflow prevention assemblies. Only the following individuals may perform the field-testing on backflow prevention assemblies required by these rules:
 - (a) Individuals certified by the Authority to test backflow prevention assemblies; and
 - (b) Journeyman plumbers defined as those who hold a certificate of competency issued under ORS chapter 693 or apprentice plumbers, as defined under ORS 693.010.
- (2) Journeyman plumbers or apprentice plumbers who test backflow prevention assemblies shall satisfactorily complete an Authority approved backflow assembly tester training course, according to rules adopted by the Director of Consumer and Business Services.
- (3) Individuals certified as a backflow assembly tester must comply with ORS 448.279(2).
- (4) All backflow assembly tester training courses must be approved by the Authority and taken at an Authority approved training facility.
- (5) Satisfactory completion of an approved backflow assembly tester training course means:
 - (a) Completing the course;
 - (b) Scoring at least 70 percent on the written examination; and
 - (c) Scoring at least 90 percent on the physical-performance examination.
- (6) In order to apply for initial backflow assembly tester certification, individuals must submit:
 - (a) A completed initial application with all required documentation as specified on the initial application form and in this rule, including but not limited to:
 - (A) Proof of high school graduation, GED, associate's degree, bachelor's degree, master's degree, or PhD; and
 - (B) Proof of satisfactory completion, as described in section (5) of this rule, of a backflow assembly tester initial training course within the 12 months prior to the Authority receiving the completed application; and
 - (b) The initial certification fee as specified in section (9) of this rule.
- (7) Backflow assembly tester certification expires on December 31 every two years based upon the first letter in the last name of the individual. Certification for individuals with names beginning in the letters A–K expire in even numbered years, and certification for individuals with names beginning in the letters L–Z expire in odd-numbered years. Certification renewal fees may be prorated if individuals are required

to renew their certification prior to the end of the most recent two-year certification period.

- (a) Backflow assembly testers may only perform tests if they possess current, valid certification.
 - (b) In order to apply to renew backflow assembly tester certification, individuals must submit:
 - (A) A completed renewal application with all required documentation as specified on the renewal application form and in this rule, including but not limited to:
 - (i) Proof of satisfactory completion, as described in section (5) of this rule, of either a backflow assembly tester renewal course or a backflow tester initial training course within the two year period prior to the expiration date of the certification; and
 - (ii) Yearly test gauge accuracy verification or calibration reports performed in the same month every year, as determined by the backflow assembly tester; and
 - (B) The certification renewal fee, as specified in section (9) of this rule.
 - (c) The Authority may grant certification renewal without a reinstatement fee until January 31 in the year following the expiration date of the certification. A reinstatement fee as prescribed by section (9) of this rule is required in addition to the renewal fee for all renewal applications received after the grace period ending on January 31 following the expiration date of the certification.
 - (d) Backflow assembly testers that fail to renew their certification for one year following the expiration date of their certification must meet the requirements established for applicants as prescribed by sections (6) or (8) of this rule as applicable.
- (8) In order to apply for backflow assembly tester certification based on reciprocity, individuals must submit:
- (a) A completed reciprocity application form with all required documentation as specified on the application form and in these rules, including but not limited to:
 - (A) Proof of current certification from a state or entity having substantially equivalent certification training and testing standards to those set forth in these rules, as determined by the Authority;
 - (B) Proof of satisfactory completion, as described in section (5) of this rule, of a backflow assembly tester initial training course or a backflow tester renewal course within the 12 months prior to the Authority receiving the completed application;
 - (C) Proof of high school graduation, GED, associate's degree, bachelor's degree, master's degree, or PhD; and
 - (D) Yearly test gauge accuracy verification or calibration reports performed in the same month every year, as determined by the backflow assembly tester; and

- (b) The reciprocity review and initial certification fees as specified in section (9) of this rule.
- (9) Fees related to backflow assembly tester certification.
- (a) Payments shall be made to the Oregon Health Authority, Public Health Division.
 - (b) The Authority will not refund any fees once it has initiated processing an application.
 - (c) Fees are:
 - (A) Initial Certification (2-years) \$195;
 - (B) Certification Renewal (2-years) \$195;
 - (C) Reciprocity Review \$35;
 - (D) Reinstatement \$50; and
 - (E) Combination Certification Renewal (2-years) \$305.
 - (d) Initial certification fees may be prorated to the nearest year for the remainder of the 2-year certification period.
 - (e) The Combination Certification Renewal fee applies when applicants simultaneously renew their backflow assembly tester and cross connection specialist certifications.
- (10) Enforcement related to Backflow Assembly Tester certification
- (a) The Authority may deny an initial application for certification, an application for renewal of certification, an application for certification based on reciprocity, or revoke a certification if the Authority determines the applicant/backflow assembly tester:
 - (A) Provided false information to the Authority;
 - (B) Did not possess certification issued by another state or entity because it was revoked;
 - (C) Permitted another person to use their certificate number;
 - (D) Failed to properly perform backflow prevention assembly testing;
 - (E) Falsified a backflow assembly test report;
 - (F) Failed to comply with ORS 448.279(2);
 - (G) Failed to comply with these rules or other applicable federal, state or local laws or regulations; or
 - (H) Performed backflow assembly tests with a gauge that was not calibrated for accuracy within the 12-month period prior to testing the assembly.
 - (b) Applicants or backflow assembly testers who have been denied initial, renewal, or reciprocity certification or whose certifications have been revoked have the right to appeal according to the provisions of chapter 183, Oregon Revised Statutes.
 - (c) Applicants or backflow assembly testers who have been denied initial, renewal, or reciprocity certification or whose certifications have been revoked, may not reapply for certification for one year from the date of denial or revocation of certification.

- (d) Applicants or backflow assembly testers may petition the Authority prior to one year from the date of denial or revocation and may be allowed to reapply at an earlier date, at the discretion of the Authority.
- (e) Backflow assembly tester test reports shall be made available to the Authority upon request.

Stat. Auth.: ORS 448.131, 448.279

Stats. Implemented: ORS 448.131, 448.278, 448.279

333-061-0073

Cross Connection Specialist Certification

- (1) In order to be certified as a cross connection specialist, individuals must successfully complete all the applicable requirements of this rule. Only individuals certified by the Authority may administer cross connection control programs.
- (2) Individuals certified as a cross connection specialist must comply with ORS 448.279(2).
- (3) All training courses must be taken at an Authority approved training facility or be an Oregon Environmental Services Advisory Council approved course.
- (4) Satisfactory completion of an approved cross connection specialist training course means:
 - (a) Completing the course; and
 - (b) Scoring at least 70 percent on the written examination.
- (5) In order to apply for initial cross connection specialist certification, individuals must submit:
 - (a) A completed initial application with all required documentation as specified on the initial application form and in this rule, including but not limited to:
 - (A) Proof of high school graduation, GED, associate's degree, bachelor's degree, master's degree, or PhD; and
 - (B) Proof of satisfactory completion, as described in section (4) of this rule, of a cross connection specialist initial training course within the 12 months prior to the Authority receiving the completed application;
 - (C) Proof of one-year of experience working with public water systems as defined in OAR 333-061-0020 or plumbing as defined in ORS 447.010; and
 - (b) The initial certification fee as specified in section (8) of this rule.
- (6) Cross connection specialist certification expires on December 31 every two years based upon the first letter in the last name of the individual. Certification for individuals with names beginning in the letters A-K expires in even numbered years, and certification for individuals with names beginning in the letters L-Z expires in odd numbered years. Certification renewal fees may be prorated if individuals are required to renew their certification prior to the end of the most recent two-year certification period.
 - (a) In order to apply to renew cross connection specialist certification, individuals must submit:

- (A) A completed renewal application with all required documentation as specified on the application form and in this rule, including but not limited to, proof of satisfactory completion of a total of at least 0.6 CEUs from cross connection-related training courses or meetings taken within the two year period immediately prior to the date of the Authority receiving the completed application. Training courses and meetings must be attended at an Authority approved training facility or be approved by the Oregon Environmental Services Advisory Council; and
- (B) The certification renewal fee, as specified in section (8) of this rule.
- (b) The Authority may grant certification renewal without a reinstatement fee until January 31 in the year following the expiration date of the certification. A reinstatement fee as prescribed by section (8) of this rule is required in addition to the renewal fee for all renewal applications received after the grace period ending on January 31 following the expiration date of the certification.
- (c) Cross connection specialists that fail to renew their certification for one year following the expiration date of their certification must meet the requirements established for applicants as prescribed by sections (5) or (7) of this rule.
- (7) In order to apply for cross connection specialist certification based on reciprocity, individuals must submit:
 - (a) A completed reciprocity application form with all required documentation as specified on the application form and in this rule, including but not limited to:
 - (A) Proof of current certification from a state or entity having substantially equivalent certification training and testing standards to those set forth in these rules, as determined by the Authority;
 - (B) Proof of satisfactory completion, as described in section (4) of this rule, of a cross connection specialist initial training course or cross connection specialist renewal course within the 12 months prior to the Authority receiving the completed application;
 - (C) Proof of high school graduation, GED, associate's degree, bachelor's degree, master's degree, or PhD; and
 - (b) The reciprocity application fee as specified in section (8) of this rule.
- (8) Fees related to Cross Connection Specialist certification.
 - (a) Payments shall be made to the Oregon Health Authority, Public Health Division.
 - (b) The Authority will not refund any fees once it has initiated processing an application.
 - (c) Fees are:
 - (A) Initial Certification (2-years) \$195;
 - (B) Certification Renewal (2-years) \$195;
 - (C) Reciprocity Review \$35;
 - (D) Reinstatement \$50; and
 - (E) Combination Certification Renewal (2-years) \$305.
 - (d) Initial certification fees may be prorated to the nearest year for the remainder of the 2-year certification period.

- (e) The Combination Certification Renewal fee applies when applicants simultaneously renew their backflow assembly tester and cross connection specialist certifications.
- (9) Enforcement related to cross connection specialist certification.
 - (a) The Authority may deny an initial application for certification, an application for renewal of certification, an application for certification based on reciprocity, or revoke a certification if the Authority determines the applicant/cross connection specialist:
 - (A) Provided false information to the Authority;
 - (B) Did not possess certification issued by another state or entity because it was revoked;
 - (C) Permitted another person to use their certificate number;
 - (D) Falsified a survey/inspection/Annual Summary Report;
 - (E) Failed to comply with ORS 448.279(2); or
 - (F) Failed to comply with these rules or other applicable federal, state or local laws or regulations.
 - (b) Applicants or cross connection specialists who have been denied initial, renewal, or reciprocity certification or who have had their certification revoked have the right to appeal according to the provisions of chapter 183, Oregon Revised Statutes.
 - (c) Applicants or cross connection specialists who have been denied initial, renewal, or reciprocity certification or who have had their certification revoked may not reapply for certification for one year from the date of denial or revocation of certification.
 - (d) Applicants or cross connection specialists may petition the Authority prior to one year from the date of denial or revocation and may be allowed to reapply at an earlier date, at the discretion of the Authority.

Stat. Auth.: ORS 448.131 & 448.279

Stats. Implemented: ORS 448.131, 448.278 & 448.279

333-061-0074

Cross Connection Training Programs, Course, and Instructor Requirements

- (1) In order to qualify as an Authority approved Cross Connection Specialist training program or facility or Backflow Assembly Tester training program or facility, 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 Authority upon completion of the training course;
 - (c) The training schedule must be set in advance and the schedule must be submitted to the Authority 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 Authority 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 PVB, SVB, double check valve backflow prevention assembly, and a RP, 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 training program or facility and Cross Connection Specialist training program or facility shall include the atmospheric vacuum breaker, PVB, SVB, double check valve backflow prevention assembly, RP, 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 Authority.
- (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 Authority-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 70 percent is required to pass the Authority 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 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 70 percent is required to pass the Authority-approved Backflow Assembly Tester written examination; and
 - (d) A minimum score of 90 percent is required to pass the Authority-approved Backflow Assembly Tester physical performance examination.
- (4) Requirements for Cross Connection Specialist certification renewal shall include:
 - (a) A minimum of 0.6 CEUs 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 CEUs 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 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 70 percent is required to pass the Authority approved Backflow Assembly Tester written examination; and
- (d) A minimum score of 90 percent is required to pass the Authority 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 of experience in enforcement of cross connection control requirements, or as a certified Cross Connection Specialist, or have related experience, subject to approval by the Authority;
 - (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 Authority 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 Authority; and
 - (E) Must attend at least one instructor update meeting provided by the Authority 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 of 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 Authority;
 - (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 Authority 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 Authority; and
 - (E) Must attend at least one instructor update meeting provided by the Authority each year.
 - (c) The Authority shall maintain a list of qualified instructors.

Stat. Auth.: ORS 448.131

Stats. Implemented: ORS 448.131, 448.150, 448.273, 448.278 & 448.279