



Town of Peterborough Utilities Division Cross-Connection Control Program

Purpose – Cross-connections between water supplies and non-potable sources of contamination represent one of the most significant threats to health in the water supply industry. This program is designed to maintain the safety and portability of the water in the Peterborough Water Department's system by establishing rules and procedures to control cross-connection situations and to prevent the contamination of public drinking waters by the backflow of water or other liquids, mixtures or substances into the distributing system from a source or sources other than its intended source. This document is intended to supplement the regulations promulgated by the New Hampshire Department of Environmental Services as listed below.

Authority – The authority for adopting this Article is the New Hampshire Code of Administrative Rules, ENV-WS 364 Backflow Prevention.

Definitions – As used in this Article, the following terms shall have the meanings indicated:

BACKFLOW: The flow of water or other foreign liquids, gases or other sub

: BACKFLOW PREVENTER :

AIR GAP – A physical separation sufficient to prevent backflow between the free-flowing discharge end of the potable water system and any other system.

ATMOSPHERIC VACUUM BREAKER – A device that prevents back siphonage by creating an atmospheric vent where there is either a negative pressure or sub-atmospheric pressure in a water system.

BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENT - A device having two (2) check valves separated by an atmospheric vent.

DOUBLE CHECK VALVE – A device having two (2) spring-loaded, bronzed-faced-with-rubber-disc check valves, with shutoff valves and test cocks for periodic testing

HOSE BIB VACUUM BREAKER – A device that is permanently attached to a hose bib and which acts as an atmospheric vacuum breaker.

PRESSURE VACUUM BREAKER – A device containing a spring-loaded check valve and a spring-loaded atmospheric vent that opens when pressure approaches atmospheric pressure.

REDUCED PRESSURE-PRINCIPLE BACKFLOW PREVENTER – An assembly of check valves and a reduced pressure zone that spills water to the atmosphere in the event of failure of the valves. It has valves and fittings that allow the device to be tested.

BACK SIPHONAGE: Backflow resulting from negative or less than atmospheric pressure in the water system.

BACK PRESSURE: A condition in which the owner's system pressure is greater than the supplier's system pressure.

NH DES: The State of New Hampshire Department of Environmental Services.

CONTAINMENT: A method of backflow prevention that requires a backflow preventer at the water service entrance

CROSS-CONNECTION: Any actual or potential physical connection or arrangement between two (2) otherwise separate systems, one of which contains potable water and the other of which contains water of unknown or questionable safety and/or steam, chemicals, gases or other contaminants whereby there may be a flow of an unapproved water to a water supply.

CROSS-CONNECTION CONTROL: In compliance and in conjunction with the New Hampshire Code of Administrative Rules, ENV-WS 364 Backflow Prevention. The Department will publish an established set of rules and initiate a cross-connection control program to protect the public water supply system. No cross-connection within the system will be allowed unless protected by an approved backflow preventer commensurate with the degree of potential hazard. All such devices shall be located at the water service entrance and all water consumption within the premises shall pass through the protective device. The Department is further empowered to establish and collect certain fees and charges associated with the inspection and testing of premises and devices. Said fees and charges shall be reviewed with the Board of Selectmen and incorporated into the annual budget.

DEPARTMENT: The Peterborough Water Department.

FIXTURE ISOLATION: A method of backflow prevention in which a backflow preventer is located to correct a cross-connection at an in-plant unit rather than at the water service entrance.

OWNER: Any person who has legal title to or license to operate or inhabit in a property upon which a cross-connection inspection is to be made or upon which a cross-connection is present.

PERMIT: A document issued by the Department that allows the use of a backflow preventer.

PERSON: Any individual, partnership, company, public or private corporation, political subdivision or agency of the state, department, agency or instrumentality of the United States or any other legal entity.

WATER SERVICE ENTRANCE: That point in the owner's water system beyond the sanitary control of the Department. This will ordinarily be the curb stop at the property line and will always be before any unprotected branch.

Administration –

- A. The Department will operate a cross-connection control program, including keeping necessary records, which fulfills the requirements of the NH DES Cross-Connection Regulations.
- B. The owner shall allow his property to be inspected for possible cross-connection and shall follow the provisions of the Department's program and the NH DES regulations if a cross-connection is permitted.
- C. If the Department requires that the public supply be protected by containment at a property, the owner shall be responsible for water quality beyond the out let end of the containment device and can utilize fixture isolation for that purpose.
- D. Both the Department and the owner shall attempt to eliminate all cross-connections.

Responsibility –

A. Code Enforcement Department:

- 1. On new or renewal plumbing applications, the Code Enforcement will issue cross-connection permit applications to the owner, with notification to the Department.
- 2. The Code Enforcement Department shall issue a certificate of occupancy only after a backflow preventer is installed.
- 3. The Code Enforcement Department shall notify the Department of any unprotected cross-connections observed at premises during other plumbing or building inspections.

B. Department:

- 1. On new or renewal plumbing work, the Department shall:
 - a. Provide a backflow preventer application form to the Code Enforcement Department;
 - b. Receive completed forms from the owner;
 - c. Perform on-site evaluation and inspection and/or plan review to determine if a backflow preventer is required;
 - d. Notify the Code Enforcement Department of requirements;
 - e. Issue backflow preventer permit; and
 - f. Perform installation inspections and testing.
 - g. Backflow Prevention device tester must be certified by DES.

2. For premises existing prior to the start of this program, the Department will perform evaluations and inspections of plans or premises and inform the owner, by letter, of any correction deemed necessary, the method of making the correction and the time allowed for the correction to be made. Ordinarily, thirty (30) days will be allowed.
3. The Department will not allow any cross-connection to remain unless it is protected by an approved backflow preventer for which a permit has been issued and which is regularly tested and operates satisfactorily.
4. The Department shall inform the owner by letter of any failure to comply by the time of the first re-inspection. The Department will allow an additional fifteen (15) days for the correction. If there is a failure to comply with the needed correction by the time of the second re-inspection, the Department shall inform the owner, by letter, that the water service to the owner's premises will be terminated within a period not to exceed five (5) days. A copy of this letter will be forwarded to the Health Officer and Code Enforcement Department. If the owner informs the Department of extenuating circumstances as to why the correction has not been made, extensions to these time periods may be granted by the Department, but in no case shall exceed an additional thirty (30) days.
5. If the Department determines at any time that a serious threat to the public health exists, service shall be terminated immediately.
6. The Department shall begin initial premises inspections to determine the nature of existing hazards and corrections to be made. The initial focus shall be concentrated on industrial and high-hazard premises. The Department shall eventually inspect each industrial, commercial, governmental and large residential premise. The Department shall re-inspect each premise at the time of permit renewal or every five (5) years.
7. The Department shall have on its staff a person who is a certified backflow prevention device tester and who is responsive for the implementation of this program.

C. Owner:

1. The owner shall be responsible for the elimination or protection of a cross-connection on his/her premises. The owner shall have the responsibilities as contained in these regulations.
2. The owner, after being informed by a letter from the Department, shall at his/her expense install, maintain, test, or have tested any backflow preventer on his/her premises.
3. The owner shall correct any malfunctions of the backflow preventer that may be revealed by periodic testing. This shall include the replacement of parts or the replacement of the backflow preventer if deemed necessary by the Department.

4. The owner shall inform the Department of any new proposed or modified cross-connection and also any existing cross-connection of which the owner is aware but has not been found by the Department.
5. Any owner having a private well or other private water source must have a permit if the well or source is cross connected to the Department's system, and permission to cross-connect may be denied by the Department. The owner may be required to have a backflow preventer at the service entrance if a private water source is maintained, even if it is not cross connected to the Department's system.
6. The owner shall not install a bypass around any backflow preventer unless there is a backflow preventer on the bypass. Owners who cannot shut down operation for testing must supply the additional devices necessary to allow testing to take place.
7. The owner shall only install Backflow preventer(s) listed or approved by the University of Southern California foundation for Cross-Connection Control and Hydraulic Research. (USC)
8. The owner shall install the backflow preventer in a manner approved by the Department.
9. If the owner installs plumbing to provide potable water for domestic purposes, which is on the Department's side of the backflow preventer such plumbing must have its own backflow preventer or individual fixture isolation.
10. The owner shall be responsible for the payment of all fees for permit(s), annual or semiannual device testing or retesting in the case a device fails to operate correctly, and second re-inspections for noncompliance with the Department or NH DES rules and regulations.
11. Owners having new swimming pool installations shall install a backflow preventer at the nearest sill cock used for pool use before any permit shall be issued. Failure to do so will result in immediate termination of water. Owners of existing pools shall install a backflow preventer within fourteen (14) days of being notified by the Department. This regulation shall apply to both in-ground and aboveground installations.
12. Owners having outside watering setups for gardens shall install a backflow preventer on that line if it branches before any other preventer.

Degree of Hazard

The Department recognizes the difference in the threat to the public water system arising from different types of cross-connection. These are classified as follows:

- A. **Low degree of hazard:** If backflow were to occur, the resulting effect on the water supply would be a change in its aesthetic qualities. The foreign substance must be nontoxic to humans.

- B. **High degree of hazard:** If backflow were to occur, the resulting effect on the water supply could cause illness or death if consumed by humans either from a chemical, bacteriological or radiological standpoint. The effects of the contaminants may result from short or long-term exposure.

Permits

- A. Department shall not permit a cross-connection within the public water supply system unless it is deemed necessary and cannot be eliminated.
- B. Cross-connection permits are required for each backflow prevention device and are secured from the Department. There is no fee for permits.
- C. The permit shall contain the following information.
- a) Permit number e) Contact Name d) Description of Contaminates
 - b) Name of Business f) Name of Owner
 - c) Business Address g) Type of Device
- D. Permits shall be renewed every five (5) years and are nontransferable. Permits are subject to revocation for cause by the Department and become immediately revoked if the owner should so change the type of cross-connection or degree of hazard associated with the service.

Existing Backflow Preventer

Any existing backflow preventer shall be allowed by the Department to continue in service unless the degree of hazard is such as to supersede the effectiveness of the present backflow preventer or result in an unreasonable risk to the public health.

Testing

- A. Backflow prevention devices shall be inspected and tested at least semiannually in high hazard and low hazard situations and annually on irrigation systems.
- B. Periodic testing shall be performed by the Departments certified inspector for a \$50.00 fee pass or fail.
- C. The testing shall be accomplished during the Department's regular business hours of 7:30am to 3:00pm. Exceptions to this, when at the request of the owner, will require additional charges to cover increased costs to the Department.
- D. Any backflow preventer that fails during a periodic test will be repaired or replaced by the owner. Certain high-hazard situations will not be allowed to continue unprotected if the backflow preventer fails the test and cannot be repaired immediately. In other situations, a compliance date of not more than seven (7) days after the test date will be established. The owner is responsible for the provision of spare parts, repair tools or a replacement device. Parallel installation of two (2) devices is an effective means of the owner ensuring uninterrupted water service during testing or repair of devices.

Inability to turn water off for testing will be an automatic failure

Records and Reports

Records and reports shall be kept as follows:

- 1) Master files on customer inspections;
- 2) Master files on cross-connection permits;
- 3) Copies of permit applications;
- 4) Copies of lists and summaries