

## MEREDITH WATER DEPARTMENT

### BACKFLOW, CROSS-CONNECTION ORDINANCE

#### **I. PURPOSE**

Cross connections between water supply 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 potability of the water in the Meredith water 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, gases, mixtures or substances into the distribution system from a source or sources other than its intended source. This ordinance is intended to supplement the regulations promulgated by the State of New Hampshire, Department of Environmental Services as listed in section II below. The attention of all concerned parties is directed to those regulations.

#### **II Authority**

- A. New Hampshire Code of Administrative Rules  
Part, Env-Ws 364, Cross-connection
- B. Meredith Water Department

#### **III DEFINITIONS**

##### **A. Backflow Preventer**

- 1. Double Check Valve

A device having two spring loaded, bronze faced with rubber disc check valves, with shut off valves and test cocks for periodic testing.

- 2. Reduced Pressure Principle

An assembly of check valves and a reduced pressure zone which spills water to the atmosphere in event of the failure of the valves. It has valves and fittings, which allow this device to be tested.

- 3. Low Hazard Dual Check Valve

This valve makes a closed system. Used for residential and commercial low hazard areas where testing of backflow devices is not necessary.

**B. Backflow**

The flow of water or other foreign liquids, gases or other substances into the distribution system of a public water supply from any source other than the intended source.

**C. Backflow-pressure**

A condition in which the customer system pressure is greater than the pressure from the suppliers system.

**D. Back-siphonage**

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

**E. Certified Tester**

A person who has proven to the Town his/her competency in testing backflow preventers. Each person who is certified to make test, repairs and reports in relation to backflow preventers shall be conversant with all laws, rules and regulations and have completed a backflow, cross-connection course with certification to prove such.

**F. DES**

The State of New Hampshire Department of Environmental Services.

**G. Cross-connection**

Any physical connection or arrangement between two otherwise independent piping system, one of which contains potable water and the other water or substances of unknown or questionable safety to public health: whereby water or other substances may flow from one system to the other, the direction of the flow depending on the pressure differential between the two system.

**H. Fixture Isolation**

A method of isolating a cross-connection with a backflow at a unit rather than at the service entrance.

**I. Owner**

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

**J. Water Service Entrance**

That point in the Owner's water system beyond the sanitary control of the Meredith Water Supply. This will ordinarily be the outlet end of the water and will always be before any unprotected branch.

**K. Permit**

A document issued by the Town, which allows the use of a backflow preventer.

L. The Town of Meredith Water Department or representative of the town.

**IV. ADMINISTRATION**

A The Town will operate a backflow, cross-connection control program, including keeping necessary records, which fulfills the requirements of DES Cross-connection Regulations and is approved by DES.

B. The Owner shall allow his property to be inspected for possible cross-connections and shall follow the provisions of the Town's program and DES Regulation if a cross-connection is permitted.

C. If the Town requires that the public supply be protected by containment at a property, the Owner shall be responsible for water quality beyond the outlet end of the containment device, and can utilize fixture isolation for that purpose.

D. Both the Town and the Owner shall attempt to eliminate all cross-connections.

**V. RESPONSIBILITY**

**A. DES**

1. Establishment and administration of rules covering cross-connection.

2. Review of inspection reports.
3. Review and approval of the cross-connection control program of each system
4. Certification of backflow prevention device testers.
5. Maintenance of a list of approved backflow prevention devices of various types.

**B. Town**

1. The Town shall not permit any cross-connection at any point within its system unless approved by a permit specifically issued by the Town for the cross-connection.
2. Any backflow prevention devices required by the rule of DES or by the Town, shall be of a model and construction approved by DES and the Town.
3. The Town shall hand out cross-connection permit applications to the Owner, receive completed form from Owner, perform on-site evaluation and inspection and/or review to determine backflow preventer required: issue backflow preventer Permit and perform inspection of installation.
  - A. Upon request of the property Owner, a low hazard dual check valve may be installed and inspected by the Town.
4. The Town shall notify all customers of backflow preventers of any backflow thermal expansion problem on closed systems.
5. The Town shall establish a time for completion of necessary corrections or removal of actual potential cross-connection: take into consideration the degree of hazard involved and the time required to obtain and install the needed equipment. The Town shall use every means at their disposal to obtain voluntary cooperation. However if proper protection has not been provided after a reasonable period of time following legal notification, the Town shall physically separate the public water supply from the on-site piping system in such a manner that the two systems cannot again be connected by an unauthorized person.

6. The Town shall deny services to any premises where a cross-connection exists until corrective action is taken. If necessary, water services shall be disconnected for failure to test or maintain backflow prevention devices in a manner acceptable to the Town. If it is found that the backflow prevention device has been removed or by-passed or otherwise rendered ineffective, water service shall be disconnected unless correction are made immediately.

7. The Town shall begin initial premise inspections to determine the nature of existing hazards and corrections to be made, following approval of this program by DES, during the calendar year 1993. Initial focus shall be concentrated on industrial and high hazard premises. The Town shall eventually inspect such industrial, commercial governmental or large residential premises.

8. The Town shall begin re-inspect each premise at the time of Permit renewal or every five years.

9. The Town shall have on its staff a person who is a certified backflow prevention device tester and who is responsible for the implementation of this program.

### **C. Owner**

1. The Owner shall be responsible for the elimination or protection of all cross-connections on his premises between the private system and the Town Water System.

2. The Owner after being informed by a letter from the Town, shall at his expense install, maintain and test or have tested, any backflow preventer on his premises. The Owner may purchase backflow prevention devices from the Town.

3. The Owner shall comply with all provisions of any Permit and the Town Cross-connection Program, including renewal of Permit.

4. The Owner shall have suitable arrangements made so that inspections can be made during regular business hours.

5. The Owner shall maintain a spare parts kit and any special tools required for the removal of and/or re-assembly of backflow device.

6. The Owner shall inform the Town 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 Town.
7. Any Owner having a private or other private water source must have a Permit if the well or source is cross-connected to the Town system, and permission to cross-connect may be denied by the Town. 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 Town's Water System.
8. The Owner is required to repair immediately any backflow device that fails. Parts, if not on hand shall be ordered within 24 hours and shipped by the fastest means available. Any repair taking more than seven days will result in discontinuance of water service or by other means in order to protect the Meredith Water System.
9. The Owner shall only install backflow preventers listed and/or approved by the Town and DES, in a manner approved by the Town.
10. The Owner shall not install a by-pass around and backflow device unless there is a backflow preventer on the by-pass. Owners who cannot shut down operation for testing must supply the additional devices necessary to allow testing to take place
11. If the Owner installs plumbing to provide potable water for domestic purposes, which is on the Town side of the backflow preventer, such plumbing must have its own backflow preventer or individual fixture isolation.
12. The Owner shall be responsible for the payment of all fees for Permit(s), annual or semi-annual testing, re-testing in the event the device fails to operate correctly, and a second re-inspection for non-compliance with the Town or DES rules and regulations.

## **VI. DEGREE OF HAZARD**

The Town 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 esthetic qualities. The foreign substance must be non-toxic 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 humans either from a chemical, bacteriological or radiological standpoint. The effect of the contaminants may result from short or long-term exposure.

### **VII. PERMITS**

- A. The Town 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 Town. There is no fee for the initial Permit. A fee is established for the renewal of a Permit.
- C. Permits shall be renewed every five years and are non-transferable. Permits are subject to revocation for cause by the Town and become immediately revoked if the Owner should so change the type of cross-connection or degree of hazard associated with the service.
- D. Economic factors shall not be accepted for non-compliance with this or any part of this program.

### **VIII. EXISTING IN-USE BACKFLOW PREVENTION DEVICES**

Any existing backflow preventer shall be allowed by the Town to continue 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.

## **IX. RECORDS AND REPORTS**

### **A. Records**

1. Master files on customer inspections.
2. Master files on cross-connection Permits.
3. Copies of Permits and Permit applications.
4. Copies of lists and summaries supplied to DES

### **B. Reports**

1. Initial lists to DES by February 1, 1994.
2. Annual update lists to DES by February 1.
3. Annual summary of inspection to DES by February 1,

## **X. INSTALLATION**

- A. It shall be the responsibility of the Town to ensure that backflow prevention devices are installed where required, tested for proper function upon completion of installation, tested semi-annually in high hazard situations and annually in low hazard situation or more as required to meet performance standards.
- B. Devices must be installed in a manner consistent with installation instructions, as well as all State of New Hampshire and Town of Meredith codes. This includes installation as well as maintenance and repair of backflow devices.
- C. Only approved devices shall be installed. A list of approved backflow devices may be obtained from the Town.
- D. The Owner may choose the Town or another qualified person to install the backflow device.
- E. Backflow devices shall be installed in a location where they are easily accessible: backflow devices shall not be hidden from view and shall be protected from freezing, flooding abuse, corrosive fumes, liquids, grit or other factors that could cause failure.
- F. No backflow devices shall be installed in pits (a structure below grade that is not a direct part of the building).
- G. Backflow devices must be installed with valves on both the inlet side and outlet side of the device: the device must be located in the service entrance before any feeder lines: it may placed on either side of the water meter and be accessible for testing.
- H. All fire services will be required to have an approved Double Check Valve Assembly installed.
- I. If a Reduced Pressure Principal Device is installed, it must be 12 inches above the ground to allow proper drainage.

