CROSS.CONNECTION CONTROL.PLAN.POLICY

RESOLUTION NO. 16-03-22B

Effective Date: March 22, 2016

RECITALS

A. The Pennsylvania Safe Water Drinking Act (the "Act"), mandates certain requirements for public water systems.

B. The Act prohibits the introduction of contaminates into a public water supply by a customer of the supplier utilizing cross connections.

C. North Penn Water Authority ("Authority") has adopted certain rules and regulations governing the operation and use of its public water supply system, including cross connection and backflow protection policies.

D. The Authority desires to amend its policy in accordance with this Resolution and such requirements will be duly incorporated into the Authority's rules and regulations.

NOW, THEREFORE, BE IT RESOLVED, and it is hereby resolved by the Board of the Authority as follows:

Section 1 - General Policy:

1.0 Purpose: The purpose of this Policy is:

A. To protect the Authority's public water supply system from contamination or pollution by isolating within the consumer's water system contaminants or pollutants which could backflow through the service connection into the public water supply system.

B. To promote the elimination or control of existing cross-connections, actual or potential, between the public or consumer's potable water system and non-potable water system, plumbing fixtures and sources or systems containing process fluids.

C. To provide for the maintenance of a continuing program of cross-connection control which will systematically and effectively prevent the contamination or pollution of the public and the consumer's potable water system.

D. To comply with, Pa Code Title 25, Chapter 109.709(A)(l) of the PA Safe Drinking Water Regulations which states that it shall be the customer's responsibility to eliminate cross-connections or provide backflow prevention devices.

1.1 Application: This policy shall apply to all premises (commercial and non-commercial) served by the Authority's public water supply system.

1.2 Policy: The Authority and the consumer have the joint responsibility for the protection of the Authority's water supply system from contamination due to backflow of contaminants through the water service connection. If, in the judgment of the Authority or its authorized representative, an approved backflow prevention device is required, the Authority shall give notice to the consumer to install such approved backflow prevention device at each service connection to his/her/its premises. The consumer shall install such approved device or devices at his/her/its own expense within 45 days of receiving written notification from the

Authority; and failure, refusal or inability on the part of the consumer to install such device or devices shall constitute grounds for discontinuing water service to the premises until such device or devices have been installed and tested by a certified backflow prevention tester.

Section 2 - Definitions:

For the purpose of this policy, the definitions of words and phrases are the same as those set forth in the PA DEP Public Water Supply Manual Part VII, and any amendments made or to be made thereto, appearing on pages 2-4 thereof, which are attached hereto and made a part hereof as Exhibit "A".

Section 3 - Water System:

3.1 The water system shall be considered to consist of two parts: the Authority (public water supply) system and the consumer's water system.

3.2 The public water supply system shall consist of the source facilities and the distribution system and shall include all those facilities of the public water supply system under the control of the Authority up to the point where the consumer's water system begins. The consumer's water system shall include all facilities beyond the service connection, which are utilized in conveying water from the public distribution system to points of use.

3.3 The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the public distribution system.

3.4 The public distribution system shall include the network of conduits used for delivery of water from the source to the consumer's water system.

Section 4 - Cross Connections Prohibited:

4.1 No water service connection shall be installed or maintained to any premises where actual or potential cross-connections to the public water supply system or consumer's water system may exist unless such actual or potential cross-connections are abated or controlled to the satisfaction of the Authority.

4.2 No connection shall be installed or maintained whereby water from an auxiliary water supply may enter the Authority's system.

Section 5 - Survey and Investigations:

5.1 The consumer's premises shall be open at all reasonable times upon notice by the Authority or its authorized representatives for the purposes of conducting surveys and investigations of water use practices within the consumer's premises to determine whether there are direct or indirect cross-connections to the consumer's water system through which contaminants or pollutants could backflow into the public potable water system.

5.2 On request by the Authority, the consumer shall furnish information on water use practices on the consumer's premises.

5.3 It shall be the responsibility of the water consumer to conduct periodic surveys of water use practices on his/her/its premises to determine whether there are actual or potential cross-connections to his/her/its water system through which contaminants or pollutants could backflow into the public water supply system.

Section 6 - Where Protection is Required:

6.1 An approved backflow prevention device shall be installed immediately after the meter prior to the first branch line leading off each service line to a consumer's water system where, in the judgment of the Authority, an actual or potential hazard to the public water supply system exists.

6.2 An ASSE approved backflow prevention device shall be installed on each service line to a consumer's water system where the following conditions exist:

a) Service connections where any substance is handled in such a fashion as to create an actual or potential hazard to the Authority water supply system. This shall include systems having sources or auxiliary systems containing process fluids or water originating from the Authority water supply system, which are no longer under the sanitary control of the water purveyor.

b) Systems having internal cross-connections that, in the judgment of the Authority, are not correctable or intricate plumbing arrangements, which make it impractical to determine whether or not cross-connections exist.

c) Systems where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross-connection survey.

d) Service connections having a repeated history of cross-connections.

e) Others specified by the Authority.

6.3 An approved backflow prevention device shall be installed on each service line to a consumer's water system serving, but not necessarily limited to, the following type facilities unless the Authority determines that no actual or potential hazard to its public water supply system exists. In most cases all commercial service connections will require the installation of an ASSE approved in-line testable backflow prevention device or an approved air-gap.

a) Hospitals, mortuaries, clinics, nursing homes;
b) Dentist Offices
c) Any connection containing irrigation systems
d) Restaurants
e) Any service that contains a fire sprinkler system
f) Laboratories

g) Piers, docks, waterfront facilities
h) Sewage treatment plants, sewage pumping stations or storm water pumping stations.
i) Food or beverage processing plants
j) Chemical plants
k) Metal plating industries
l) Petroleum processing or storage plants
m) Radioactive material processing plants
n) Car wash or truck wash
o) Any other commercial connection

Section 7 - Type of Protection Required:

7.1 The type of protection required under Section 6.1, 6.2, and 6.3 of this policy shall depend on the degree of hazard which exists as follows:

a) An approved air gap separation shall be installed where the Authority water supply system may be contaminated with substances that are dangerous to the public health and could cause a severe health hazard. A severe health hazard is defined as sewage and radioactive materials.

b) An approved air gap separation or an approved reduced pressure zone backflow prevention device shall be installed where the Authority water supply system may be contaminated with a substance that could cause a health hazard.

c) An approved air gap separation or an approved reduced pressure principal assembly backflow prevention device or an approved double check valve assembly shall be installed where the Authority water supply system may be polluted with substance that would be objectionable, but not dangerous to health.

d) An approved pressure vacuum breaker assembly or spill resistant pressure vacuum breaker assembly shall not be installed in place of the above mentioned devices and may under no circumstance be used for containment protection of the service connection. These devices may only be used in connection with the appropriate containment device to provide combined protection subject to the approval of Authority to abate indirect cross- connections.

Section 8 - Backflow Prevention Devices:

8.1 Any backflow prevention device required by this policy shall be of a model or construction approved by the Authority and shall comply with the following:

a) Air gap separation to be approved shall be at least twice the diameter of the supply pipe, measured vertically above the top rim of the vessel, but in no case less than one inch.

b) A double check valve assembly or a reduced pressure principal assembly shall be approved by the Authority and shall mean a device that has been manufactured in full

conformance with standards established by the American Society of Sanitary Engineering (ASSE) entitled:

ASSE/ANSI 1015 Standard for Double Check Valve Backflow Assemblies;

ASSE/ANSI 1013 Standard for Reduced Pressure Principle Backflow Prevention Assemblies;

8.2 Existing backflow prevention devices approved by the Authority at the time of installation and properly maintained shall, except for inspection and maintenance requirements, be excluded from the requirement of Section 8.1 of this regulation provided the Authority is assured that they will satisfactorily protect the Authority water supply system. If the existing device is moved from the present location or requires more than minimum maintenance or when the Authority finds that the maintenance of the device constitutes a hazard to the public health, the device shall be replaced by a backflow prevention device meeting the requirements of these regulations.

Section 9 - Installation:

9.1 Backflow prevention devices required by this policy shall be installed at a location and in a manner approved by the Authority and shall be installed. by a person properly qualified and at the expense of the water consumer.

9.2 Backflow prevention devices installed on the service line to a consumer's water system shall be located on the consumer's side of the water meter, as close to the meter as is reasonably practical, and prior to any other connection.

9.3 Pits or vaults shall be of water-tight construction and be so located and constructed as to prevent flooding and shall be maintained free from standing water by means of either a sump or pump or a suitable drain. Such sump pump or drain shall not connect to a sanitary sewer nor permit flooding of the pit or vault by reverse flow from its point of discharge. An access ladder and adequate natural or artificial lighting shall be provided to permit maintenance inspection and testing of the backflow prevention device.

9.4 When installing a backflow prevention device, the installer must comply and be aware of all safety considerations when installations are performed. Major safety considerations are thermal expansion and device discharge damage. Thermal expansion can cause hot water tanks and other storage vessels to explode when there are no provisions made for thermal expansion. The Authority (strongly recommends) the installation of a thermal expansion tank on hot water heaters to prevent the hot water heaters relief valve from discharging or, more importantly, from exploding. Many backflow prevention devices discharge large amounts of water for various reasons. This discharge of water could obviously pose a hazard when the valves are discharging onto or around electrical equipment. Equipment damage or electrocution could occur. The installer must ensure that valve discharge will not cause safety hazards or property damage. Thermal expansion is a concern anytime substances are confined (in a closed system) and are heated.

Section 10-Inspection and Maintenance:

10.1 It shall be the duty of the consumer at any premises on which backflow prevention devices are required by this policy, to have inspections, tests, and overhaul made in accordance with the following schedule, or more often where inspections indicate a need.

a) Air separation shall be inspected at the time of installation, and at least every 12 months thereafter.

b) Double check valve assemblies shall be inspected and tested for tightness at the time of installation, and at least every 12 months thereafter. These devices shall be dismantled, inspected internally, cleaned, and repaired whenever needed, and at least every 30 months.

c) Reduced pressure zone devices shall be inspected and tested for tightness at the time of installation, and at least every 12 months thereafter. These devices shall be dismantled, inspected internally, cleaned, and repaired whenever needed and at least every five years.

10.2 Inspections, tests, and overhaul of backflow prevention devices shall be made at the expense of the water consumer and shall be performed by a person actively certified by the American Society of Engineers ASSE/ANSI Series 5000. The water consumer shall also be responsible to pay the costs and expenses imposed by the cross-connection control administrative service provider hired by the Authority.

10.3 Whenever backflow prevention devices required by these regulations are found to be defective, they shall be repaired or replaced according to manufacturer's recommendation at the expense of the consumer within 45 days of notice from the Authority.

10.4 The water consumer must maintain a complete record of each backflow prevention device from purchase to retirement. This shall include a comprehensive listing that includes a record of all tests, inspections and repairs. Records of inspections, tests, repairs and overhaul shall be submitted to the Authority or its cross-connection control administrative service provider.

10.5 Backflow prevention devices shall not be bypassed, made inoperative, removed, modified, or otherwise made ineffective without specific authorization by the water purveyor. Bypasses are only permitted when matched protection is provided, meaning that the bypass must contain the same level of protection as the primary service line. On a parallel service connection backflow prevention devices must be of the same size and type.

Section 11 - Booster Pumps:

11.1 Where a booster pump has been installed on the service line to or within any premises, such a pump shall be equipped with a low pressure cut-off device designed to shut-off the booster pump when the pressure in the service line on the suction side of the pump drops to ten pounds per square inch gauge pressure, or less, for a period of 30 seconds or longer.

11.2 It shall be the duty of the water consumer to maintain the low-pressure cut-off device in proper working order and to certify to the Authority at least once a year, that the device is operating properly.

Section 12 - Geothermal Heating Systems:

12.1 All geothermal heating equipment must be physically disconnected from the potable water system. No water may be taken for geothermal uses (or any other use) and reinjected into the potable water supply.

Section 13 - Violations:

13.1 The Authority shall deny or discontinue, after reasonable notice, in writing, the water service to any premises wherein any backflow prevention device required by this policy is not installed, tested, and maintained in a manner acceptable to the Authority, or if it is found that the backflow prevention device has been removed or by-passed, or if an unprotected cross-connection exists on the premises, or if a low pressure cut-off device required by this resolution is not installed and maintained in proper working order.

13.2 Water service to such premises shall not be restored until the consumer has corrected or eliminated such conditions or defects in conformance with this policy and to the satisfaction of the Authority.

Section 14 - Fire Hydrant Use Restriction:

14.1 Only authorized persons shall be permitted to use hydrants. Tampering with the hydrants by unauthorized persons is prohibited. Any person wishing to use the hydrants (other than the Authority and fire companies) must be permitted. This especially pertains to exterminator, lawn and paving companies.

Section 15 - Priority System:

15.1 All facilities will be listed under one of the following priority levels based on Degree of Hazard as defined in ASSE/ANSI Series 5000:

1. High Hazard
2. Low Hazard
3. Non-Hazardous Facilities (typically only residential connections)

After all connections are placed into one of three priority levels listed above a review of the distribution system records will be done to identify areas of chronic low pressures, leakage and breaks.

Section 16-Effective Date:

16.1 The provisions of this policy shall take effect as stipulated in Resolution Number 16-03-22B. The resolution was executed on March 22, 2016.