



City of Muskego, Wisconsin

Cross Connection Control Policy Manual

For the control of CROSS CONNECTIONS and BACKFLOW PREVENTION

1. General Policy

Purpose The purpose of this manual is:

To supplement Municipal Code 28.04(17), "PURITY OF SUPPLY NOT TO BE IMPAIRED BY CROSS CONNECTIONS". These regulations are in place to protect the health and welfare of users of the public potable water supply of the City of Muskego.

To promote for the control and/or elimination of existing cross connections (actual or potential) between the customer's potable water system(s) and other environment(s) containing substance(s) which may contaminate or pollute the water supply.

To provide for the maintenance of a continuing Comprehensive Program of Cross Connection Control which will systematically and effectively prevent the contamination or pollution of all potable water system(s) under the direct authority of the City Water Utility.

Definitions

- a. **Backflow**: The undesirable flow of water or mixtures of water and other liquids, solids, gases or other substances under positive or reduced pressure into the City of Muskego Water System potable supply of water from any source.
- b. **Backflow Prevention**: A means designed to prevent backflow caused by backpressure or backsiphonage; most commonly categorized as air gap, reduced pressure principle backflow assembly, double check valve assembly, pressure vacuum breaker assembly, backsiphonage backflow vacuum breaker (spill resistant pressure vacuum breaker) assembly, pipe applied atmospheric vacuum breaker, flush tank ballcock, laboratory faucet backflow preventer, backflow preventer for carbonated beverage machine, vacuum breaker wall hydrants, (freeze resistant automatic draining type), chemical dispensing machine, hose connection vacuum breaker, hose connection backflow preventer, backflow preventer with intermediate atmospheric vent, barometric loop, or similar.
- c. **Backpressure**: An elevation of pressure in the downstream piping system (i.e. Pump, elevation of piping, or steam and/or air pressure) above the Utility supply pressure, which would cause or tend a reversal of the normal direction of flow.
- d. **Backsiphonage**: The flow of water or other liquids, mixtures or substances into the utility's potable water system from any source caused by the sudden reduction of pressure in the utility's potable water supply system.
- e. **Cross Connection**: Any physical connection or arrangement between two otherwise separate systems, one of which contains potable water from the utility, and the other containing water from a private source, water of unknown or questionable safety, or steam, gases or chemicals, whereby there may be a

flow from one system to the other, the direction of flow depending on the pressure differential between the two systems.

- f. Cross Connection Control Ordinance: An Ordinance written to give the Utility legal authority for enforcement of state and local regulations related to water system protection for all water customers
- g. Cross Connection Control Manual: Policies and procedures for cross connection control and backflow prevention for the City of Muskego, Wisconsin. More specific measures and procedures, day-to-day operations, cost, surveys, regulations, etc are included.
- h. "Degree of Hazard" Determinations:
 - 1) High Hazard: Health Hazard – May cause illness or death if ingested...toxic or contaminant
 - 2) Low Hazard: Non-Health Hazard – May cause unpleasant appearance, taste, or odor of water...non-toxic and considered as a pollutant

2. Cross Connection Prohibited: No person shall establish or permit to be established or maintain or permit to be maintained any cross connection. No interconnection shall be established whereby potable water from a private, auxiliary or emergency water supply, other than the public water supply of the utility, unless such private, auxiliary or emergency water supply and the method of connection and use of such supply have been approved by the Utility and the Wisconsin Department of Natural Resources.

3. City Responsibility: The City of Muskego Water Utility shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to backflow of contaminants or pollutants.

4. Owner Responsibility: The property owner shall be responsible for the protection of the customer's potable water system. The responsibilities include the elimination of or protection from all cross connections on their premises. The owner shall, at their own expense, install, maintain, test, and submit proof of compliance for any and all backflow preventers on their premises in compliance with the Department of Safety and Professional Services (DSPS) Chapter SPS 382 requirements and the Utility's Municipal Code and the Utility's "*Cross Connection Control Policy Manual*". The property owner shall have corrected any malfunction revealed by periodic testing of any backflow preventer on their premises. Annual test results shall be filed with the DSPS for all testable assemblies other than Double Check Assemblies (DC) and Double Check Detector Assemblies (DCDA) which test results shall remain on the assembly and copies shall be forwarded to the Utility upon request. The property owner shall inform the Utility of any proposed or modified cross connections and also any existing cross connections that are not protected by an approved backflow prevention means.

The property owner shall not install a by-pass around any backflow preventer unless there is a backflow preventer of the same type in the by-pass. Property owners who cannot shut down operation for testing of the backflow prevention assembly must supply additional assemblies necessary to allow testing and maintenance to take place. In the event the property owner installs potable water using fixtures, equipment or appurtenances upstream of a backflow preventer, such must have its own approved backflow prevention means.

The property owner is required to follow the protection practices described in (but not exclusive to) the American Water Works Association publication AWWA M-14 titled "*Recommended Backflow Prevention and Cross Connection Control*", United States Environmental Protection Agency publication titled "*Cross Connection Control Policy Manual*", Wisconsin DSPS Plumbing Code, SPS 382-384, the Utility's "*Program for protecting public water system*", and the Utility's "*Cross Connection Control Policy Manual*" unless the Utility

requires or authorizes other means of protecting the potable water supply system. These requirements or authorizations will be at the discretion of the Utility.

- 5. Inspections:** It shall be the duty of the Utility to cause surveys to be made of all properties serviced by the Utility where cross connections with the public water system is deemed possible. An initial 2-year inspection phase will determine high and low hazard sites. Residential and low hazard non-residential properties serviced by the Utility shall be inspected during routine water meter change-outs, on average every 10-20 years. All high hazard properties serviced by the utility shall be inspected on an interval not exceeding 2 years. The frequency of required inspections and reinspections, based upon the potential health hazards, may be shortened by the Utility. All sites will receive a copy of the inspection results after the inspection. Non-compliant sites will receive a notification to comply and must do so within the time frame shown on the notification. The Utility may, but is not required to, perform the cross connection inspection of the customer's property. Responsibility and cost for the inspection will fall upon the water customer. If, in the opinion of the Utility, the Utility is not able to perform the inspection, the property owner must, at their own expense, have the water system piping inspected for cross connections by a person who has been properly trained in accordance with the American Society of Sanitary Engineers (ASSE) Standard number 5120, been educated by the University of Wisconsin School of Engineering, USC certified, University of Florida TREEO certified, or similar, as a Cross Connection Control Surveyor or Inspector.
- 6. Right of Entry:** Upon presentation of credentials, a representative of the water utility shall have the right to request entry, at any reasonable time, to a property served by a connection to the public water system for the purpose of inspecting the property for cross connections. Refusing entry to such utility representative shall be sufficient cause for the water utility to discontinue water service to the property, as provided under 28.04(17)(f) of this ordinance. If entry is refused, a special inspection warrant under Section 66.0119 of the Wisconsin Statutes, may be obtained.
- 7. Authority to Discontinue Service:** The water utility may discontinue water service to any property wherein any unprotected connection in violation of this ordinance exists, and take other precautionary measures deemed necessary to eliminate any danger of contamination of the public water system. Water service may be discontinued, however, only after reasonable notice and opportunity for hearing under Chapter 68, Wisconsin Statutes, except as provided in 28.04(17)(g) of this ordinance. Water service to such property shall not be restored until the unprotected cross connection has been eliminated.
- 8. Reconnection of Service:** Water service to any property disconnected under provisions of this policy shall not be restored until the cross connection(s) has been eliminated or a backflow prevention means approved by the Utility has been installed in compliance with the provisions of this section. A re-connection fee per the Utility's rate schedule will be charged.
- 9. Emergency Discontinuance of Service:** If it is determined by the water utility that an unprotected cross connection or emergency endangers public health, safety, or welfare, and requires immediate action, and if a written finding to that effect is filed with the City Clerk and delivered to the customer's premises, water service may be immediately discontinued. The customer shall have an opportunity for hearing under Chapter 68, Wisconsin Statutes, within 10 days of such emergency discontinuance. Water service to such property shall not be restored until the unprotected cross connection has been eliminated.

10. Additional Protection: In the case of premises having (a) cross connections that cannot be permanently corrected or controlled, or (b) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for surveying purposes, making it impractical or impossible to ascertain whether or not dangerous cross connections exist, the public water supply system shall be protected in the service line. In the case of any premises where there is any material dangerous to health that is handled in such a manner that, in the opinion of the Utility, could create an actual or potential hazard to the public water supply system, an approved air gap separation or an approved reduced pressure principle backflow assembly shall protect the public water supply system. In the case of any presence of toxic substances, the utility may require an approved air gap or reduced pressure principle backflow assembly at the service connection to protect the public water supply system. This requirement will be at the discretion of the Utility.