



WATER DISTRICT No. 7

JOHNSON COUNTY, KANSAS

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CROSS CONNECTION CONTROL POLICY REVISED JANUARY 1, 2021

WHEREAS, it is conformity with Kansas Administrative Regulations 28-15-18(f), as amended, and in the public interest to protect the quality of water to the consumers of Johnson County Rural Water District No. 7, hereinafter referred to as “the District”, and,

WHEREAS, this public water supply system is operated by the District in compliance with the policies and regulations of the Kansas Department of Health & Environment, hereafter referred to as “KDHE”; and,

WHEREAS, restrictions are necessary to prevent contamination of the water provided to the consumers from cross connections with the public water supply system; and,

NOW THEREFORE, be it ordained by the Governing Body of the District that the following policy be adopted:

**The Governing Body of
Johnson County Rural Water District No. 7
Hereby Establishes the Following:**

SECTION I. Definitions

The following definitions shall apply in the interpretation and enforcement of this policy:

1. “*Air gap separation*” means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the overflow level rim of the receptacle, and shall be at least double the diameter of the supply pipe measured vertically above the flood level rim of the vessel, but in no case less than one inch.
2. “*Approved tester*” means a person qualified to make inspections; to test and repair backflow prevention/cross connection control devices; and who is approved by the District.
3. “*Authorized representative*” means any person designated by the District to administer this cross connection policy.
4. “*Auxiliary water supply*” means any water source or system, other than the District, that may be available in the building or premises. This does not include other KDHE permitted public water supply systems.

5. “*Backflow*” means the flow, other than the intended direction of flow, of any foreign liquids, gases, used water, untreated water or substances into the distribution system of a public water supply system.
6. “*Backflow prevention device*” means any device, method, or type of construction intended to prevent backflow into the public water supply system.
7. “*Consumer*” means any individual, firm, partnership, corporation, or agency, or their authorized agent receiving water from the District.
8. “*Contamination*” means an introduction of any sewage, process fluids, chemicals, wastes, or any other substance that would be objectionable. Contamination may be a threat to life or health, or may cause an aesthetic concerns, such as a change in the color, taste or odor of District water.
9. “*Cross connection*” means any physical connection or arrangement between two (2) otherwise separate piping systems; one of which contains potable water of the District’s public water supply system, and the second, water of unknown or questionable safety, or steam, gases, chemicals, or substances, whereby there may be the backflow of the second system to the District’s public water supply system. No physical cross connection shall be permitted between the District’s public water supply system and an auxiliary or separate water supply system.
10. “*Degree of hazard*” means an evaluation of the potential risk to public health and the adverse effect of the hazard upon anyone using the water.
11. “*Health hazard*” means any condition, device, or practice in the public water supply system which could create or may create a danger to the health and well-being of anyone using the water, or allow a contamination of the water.
12. “*Public water system*” means the water supply source, distribution system and appurtenances to the service meter operated as a public utility, which supplies potable water to the consumers’ water systems.
13. “*Public water supply system*” means the water supply source, and the consumers’ water systems.
14. “*Consumer’s water system*” means all service pipe, all distribution piping and all appurtenances beyond the service meter of the public water system.
15. “*Service connection*” means the terminal end of the service line from the public water system. If a meter is installed at the end of the service line, then the service connection means the downstream end of the meter.

SECTION II. Cross Connection Control General Policy

A. Purpose. The purpose of this policy is:

1. To protect the public water supply system from contamination.

2. to promote the elimination, containment, isolation, or control of cross connection between the public water supply system and non-potable water systems, plumbing fixtures, and industrial process systems, or other systems, which introduce or may introduce contaminants into the public water system or the consumer's water system.
 3. To provide for the maintenance of a continuing program of cross connection control which will prevent the contamination of the public water supply system.
- B. Application. This policy shall apply to all consumers' water systems. The District may also require cross connection control devices at the service connections of other KDHE permitted public water supply systems served by the District.
- C. Intent. This policy will be reasonably interpreted by the District so as to recognize varying degrees of hazard and to apply the principle that the degree of protection shall be commensurate with the degree of hazard.

SECTION III. Cross Connections Prohibited

- A. No water service connection shall be installed or maintained to any premises where actual or potential cross connections to the public water supply system may exist, unless such actual or potential cross connections are abated or controlled to the satisfaction of the District or its authorized representative, as required by and in accordance with the regulations of KDHE.
- B. No connection shall be installed or maintained whereby an auxiliary water supply may enter the District's public water supply system.

SECTION IV. Survey and Investigations

- A. The consumer's premises shall be open at all reasonable times to the District or its authorized representative, to allow surveys and investigations of water use practices within the consumer's premises to determine whether there are actual or potential cross connections in the consumer's water system.
- B. On request by the District or its authorized representative, the consumer shall conduct periodic surveys of water use practices on the premises of the consumer's water system to determine whether there are actual or potential cross connections. The consumer shall provide the survey results to the District or its authorized representative.

SECTION V. Where Protection is Required

- A. An approved backflow prevention device will be installed on each service line to a consumer's water system serving premises where, in the judgment of the District or KDHE, actual or potential cross connections exist. The type and degree of protection required shall be commensurate with the degree of hazard and/or type of contamination that may enter the public water supply system.
- B. An approved air gap separation or reduced pressure principle backflow prevention device may be installed at the service connection or within any premises where, in the judgment of the District or KDHE, the nature and extent of activities on the premises, or the materials used in connection with the activities, or materials stored on the premises, would present a health

hazard or danger of contamination of the public water supply system from a cross connection. This includes, but is not limited to, the following situations:

1. Premises having an auxiliary water supply, unless the auxiliary supply is from a separate public water supply system regulated by KDHE.
2. Premises having internal plumbing arrangements which make it impractical to ascertain whether or not cross connections exist.
3. Premises where entry is restricted so that inspection for cross connections cannot be made with sufficient frequency or at sufficiently short notice to assure the cross connections do not exist.
4. Premises having a repeated history of cross connections being established or re-established.
5. Premises, which due to the nature of the enterprise therein, are subject to recurring modification or expansion.
6. Premises on which any substance is handled under pressure so as to permit entry into the public water supply system, or where a cross connection could be reasonably be expected to occur. This shall include the handling of process waters and cooling waters.
7. Premises where toxic or hazardous materials are handled.

B. The following types of facilities fall into one or more of the categories of premises where an approved air gap separation or reduced pressure principle backflow prevention device may be required by the District or other authorities. This listing is not meant to be inclusive of all facilities where cross connection is required, but these locations will be presumed to require protection unless all hazardous or potentially hazardous conditions have been eliminated or corrected by other methods to the satisfaction of the District or where the use is approved by KDHE:

1. Agricultural chemical facilities
2. Auxiliary water systems and/or private wells
3. Beverage bottling plants
4. Boilers
5. Bulk water loading facilities
6. Car washing facilities
7. Chemical manufacturing, processing, compounding or treatment plants
8. Chill water systems
9. Cooling towers
10. Feedlots
11. Film Laboratories
12. Fire protection systems
13. Hazardous waste storage and disposal sites
14. Hospitals, mortuaries, or clinics
15. Irrigation and sprinkler systems
16. Laundries and dry cleaning
17. Meat processing facilities

18. Metal manufacturing, cleaning, processing and fabricating plants
19. Oil and gas production, refining, storage or transmission properties
20. Plating plants
21. Power plants
22. Printing and publishing facilities
23. Radioactive material processing plants or nuclear reactors
24. Research and analytical laboratories
25. Rubber plants, natural or synthetic
26. Sewage and storm drainage facilities – pumping stations and treatment plants
27. Veterinary clinics and kennels
28. Waterfront facilities and industries

SECTION VI. Notice by District and Duty of Consumer

If, in the judgment of the District or its authorized representative, cross connection protection is required through either piping modification, or installation of an approved backflow prevention device, the District shall attempt to give reasonable notice to the consumer. The consumer shall immediately comply by providing the required protection at their own expense. Failure or refusal or inability on the part of the consumer to provide such protection shall constitute grounds for the discontinuation of water service to the premises until such protection has been provided, or the potential cross connection has been removed.

SECTION VII. Backflow Prevention Devices

- A. Any backflow prevention device required by this policy shall be of a model or construction approved by the District or KDHE. In addition, the following will be required:
1. Air gap separation 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.
 2. Double check valve assemblies or reduced pressure principle backflow prevention devices shall appear on the current list of approved backflow prevention devices established by KDHE, unless the device was installed at the time this policy was passed and complies with required inspection and maintenance.

Pre-existing backflow prevention devices approved by the District at the time of installation and properly maintained shall, except for the inspection and maintenance requirements listed in SECTION IX, be excluded from the requirements of this policy so long as the District is assured that devices will satisfactorily protect the District's water system. Whenever the pre-existing device is moved from its present location, or requires more than minimum maintenance, when it requires replacement, or when the District finds that the device constitutes a hazard to health, the unit shall be replaced by a backflow prevention device meeting the requirements of this policy.

SECTION VIII. Installation

- A. Backflow prevention devices required by this policy shall be installed at a location and in a manner approved by the District or its authorized agents. All devices shall be installed at the expense of the water consumer, unless the District agrees otherwise.

- B. Backflow prevention devices installed at the service connection 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.
- C. Backflow prevention devices shall be conveniently accessible for maintenance and testing, protected from freezing, and where no part of the device will be submerged or subject to flooding by any fluid. All devices shall be installed according to manufacturer's recommendations.

SECTION IX. Inspection and Maintenance

- A. The consumer is required by this policy to inspect, test, and overhaul backflow prevention devices in accordance with the following schedule or more often as determined by the District.
 - 1. Air gap separations shall be inspected at the time of installation and on a monthly basis.
 - 2. Double check valve assemblies shall be inspected and tested for tightness at the time of installation and at least every twelve months thereafter. They shall be dismantled, inspected internally, cleaned, and repaired whenever needed and at least every five years.
 - 3. Reduced pressure principle backflow prevention devices shall be inspected and tested for tightness at the time of installation and at least every twelve months thereafter. They shall be dismantled, inspected internally, cleaned, and repaired whenever needed and at least every five years.
- B. Inspections, tests, and overhauls of backflow prevention devices shall be made at the expense of the consumer and shall be performed by an approved professional.
- C. Whenever backflow prevention devices required by this policy are found to be defective, they shall be repaired or replaced without delay at the expense of the consumer.
- D. The 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. All records of inspections, tests, repairs, and overhauls shall be provided within 30 days to the District upon request.
- E. All backflow prevention devices shall have a tag showing the date of the last inspection, test, or overhaul or other maintenance.
- F. Backflow prevention devices shall not be bypassed, made inoperative, removed or otherwise made ineffective without specific authorization by the District.

SECTION X. Violations and Penalties

- A. The District shall deny or discontinue the water service to any premises or any consumer wherein any backflow prevention device required by this policy is not installed, tested, and maintained in a manner acceptable to the District, or if it is found that the backflow prevention device has been removed or bypassed, or if an unprotected cross connection exists.

- B. Water service to such premises shall not be restored until the consumer is in compliance with this policy to the satisfaction of the District. Repeated violations of this policy may serve as a violation of the consumer's duty as a participating member with a Benefit Unit, entitling the District to forfeit the Benefit Unit after notice and a hearing as required by District By-Laws and Rules.

LIST OF DEVICES

DEVICES

The following devices are recognized for cross connection control and backflow prevention by the Kansas Department of Health & Environment.

AIR GAP

Gap must be two pipe diameters (in no instance less than one inch). Must be inspected annually. Satisfactory for any material. Whenever practical, the control method of choice.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

Contains two specifically designed, soft seated, independently acting check valves with a reduced pressure zone (with relief valve) between the two checks. Shut off valves before and after the device. Satisfactory for most toxic materials. Significant pressure loss. (10 psi or more). Must be tested and inspected annually. Repaired as necessary.

DOUBLE CHECK VALVE ASSEMBLY

Contains two soft seated independently acting check valves in series. Shut off valves before and after device. Adequate for non-toxic applications only. Minor pressure loss. Must be inspected and tested annually. Repaired as necessary.

PRESSURE VACUUM BREAKER

Must be installed a minimum of 12 inches above highest point of usage. No back pressure, only back siphonage. Can operate under constant pressure. Shut off valve can be located beyond the vacuum breaker. Must be inspected and tested annually. Repaired as necessary.

ATMOSPHERIC VACUUM BREAKER

Must be installed a minimum of 6 inches above highest point of usage. No back pressure, only back siphonage. Not for use under constant pressure. Shut off valve must be located ahead of vacuum breaker. Must be inspected annually and repaired as necessary.

Cross connection control devices must be inspected, tested, and repaired by a trained technician. All devices should be installed such that they will be accessible for regular inspection and testing.