

Riviera Beach

DIVISION 2. CROSS CONNECTION CONTROL

Sec. 20-231. Definitions.

The following words, terms and phrases, when used in this division, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Air-gap separation means a physical break between a supply pipe and a receiving vessel. The air-gap shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, in no case less than one inch.

Approved check valve means a check valve that seats readily and completely. It must be carefully machined to have free-moving parts and assured watertightness. The face of the closure element and valve seat must be bronze, composition or other noncorrosible material which will seat tightly under all prevailing conditions of field use. Pins and bushings shall be of bronze, composition or other noncorrosible, nonsticking material machined for easy, dependable operation. The closure element (e.g., clapper) shall be internally weighted or otherwise internally equipped to promote rapid and positive closure in all sizes where this feature is obtainable.

Approved double-check valve assembly means an assembly of at least two independently acting approved check valves, including tightly closing shutoff valves on each side of the check valve assembly and suitable leak detector drains plus connections available for testing the watertightness of each check valve.

Approved reduced-pressure-principle backflow prevention device means a device incorporating two or more check valves and an automatically operating differential relief located between the two checks, two shutoff valves and equipped with necessary appurtenances for testing. The device shall operate to maintain the pressure in the zone and two check valves, less than the pressure on the public water supply side of the device. At cessation of normal flow, the pressure between the check valves shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve shall operate to maintain this reduced pressure by discharging to the atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall be open to the atmosphere thereby providing an air gap in the device. To be approved, these devices must be readily accessible for maintenance and testing and installed in a location where no part of the valve will be submerged.

Approved water supply means any water supply approved by, or under the public health supervision of, a public health agency of the state or its political subdivisions. In determining what constitutes an approved water supply, the state department of public health reserves final judgment as to its safety and potability.

Auxiliary supply means any water supply on or available to the premises other than the public water supply.

Cross-connection means any unprotected connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substance that is not or cannot be approved as safe, wholesome and potable for human consumption.

(Code 1957, § 22-74)

Cross references: Definitions and rules of construction generally, § 1-2.

Sec. 20-232. Derivation.

This division is a modified version of the California Administrative Code, Title 17, Public Health; Chapter 5, Sanitation (Environmental); Subchapter 1, Engineering (Sanitary); Group 4, Drinking Water Supplies.
(Code 1957, § 22-74)

Sec. 20-233. Purpose of regulations to safeguard drinking water supplies.

(a) The purpose of this division is to:

(1) Protect the public water supply against actual or potential cross-connections by isolating within the premises contamination or pollution that may occur because of some undiscovered or unauthorized cross-connection on the premises.

(2) Eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption.

(3) Eliminate cross connections between drinking water systems and other sources of water or process water used for any purpose whatsoever which jeopardize the safety of the drinking water supply.

(4) Prevent the making of cross connections in the future.

(5) Encourage the exclusive use of public sources of water supply.

(6) Protect the drinking water supply within the premises where plumbing defects or cross connections may endanger the drinking water supply available on the premises.

(b) The regulations are to be reasonably interpreted. It is the intent of these regulations to recognize that there are varying degrees of hazard and to apply the principle that the degree of protection should commensurate with the degree of hazard.

(c) These regulations are not to be construed as prohibiting other governmental authorities from establishing requirements regarding protection of water supply more rigid than herein indicated, where circumstances warrant.

(d) It is recognized that the control of cross connections requires cooperation between water purveyors and health agencies. The water purveyor has a primary responsibility to prevent water from unapproved sources, or any other substance, entering the public water supply system. The health agency has the overall responsibility for preventing water from unapproved sources from entering either the potable water systems within water consumers' premises or the public water supply directly.

(Code 1957, § 22-74)

Sec. 20-234. Protection of public water system at service connection.

(a) All commercial and industrial classifications that are served by the city water and sewer department are required to install and maintain an appropriate backflow prevention device. The type and size of the device will be determined by the water and sewer department.

(b) All multistory buildings regardless of intended use shall install and maintain all required backflow prevention devices. The type and size will be determined by the water and sewer department. All single-family units will be exempt from this requirement unless it is determined that a special health hazard exists.

(c) Backflow prevention devices shall be installed on the service connection to any premises that have internal cross connections unless such cross connections are abated to the satisfaction of the water purveyor and approved by the state or local health department.

(d) It shall be the responsibility of the water user to provide protective devices as required.

(Code 1957, § 22-74; Ord. No. 2255, § 1(22-74), 11-7-84)

Sec. 20-235. Type of protection.

The protective device required shall depend on the degree of hazard as tabulated below:

(1) At the service connection to any premises where there is an auxiliary water supply handled in a separate piping system with no known cross connection, the public water supply shall be protected by an approved double-check valve assembly.

(2) At the service connection to any premises on which a substance that would be objectionable but not necessarily hazardous to health, if introduced into the public water supply, is handled so as to constitute a cross connection, the public water supply shall be protected by an approved doublecheck valve assembly.

(3) At the service connection on any premises on which there is an auxiliary water supply where cross connections are known to exist which cannot be presently eliminated, the public water supply system shall be protected by an approved reduced-pressure-principle backflow prevention device. A double-check valve assembly may be used in lieu of such device if local experience indicates that double-check valves are reliably operated and if approved by the water purveyor and local health agency.

(4) At the service connection to any premises on which any material dangerous to health or toxic substance in toxic concentration is or may be handled under pressure, the public water supply shall be protected by an air-gap separation. The air-gap shall be located as close as practicable to the service cock and all piping between the service cock and receiving tank shall be entirely visible. If these conditions cannot reasonably be met, the public water supply shall be protected with either an approved reduced-pressure-principle backflow prevention device, or an approved double-check valve assembly, providing the alternative is acceptable to both the water purveyor and the local health department.

(5) At the service connection to any sewage treatment plant or sewage pumping station, the public water supply shall be protected by an air-gap separation. The air-gap shall be located as close as practicable to the service cock and all piping between the service cock and receiving tank shall be entirely visible. If these conditions cannot be reasonably met, the public water supply shall be protected with an approved reduced-pressure-principle backflow prevention device, providing this alternative is acceptable to both the water purveyor and local health department. Final decision in this matter shall rest with the state department of public health.

(Code 1957, § 22-74)

Sec. 20-236. Frequency of inspection of protective devices.

It shall be the duty of the water user on any premises on account of which backflow protective devices are installed to have competent inspections made at least once a year or more often in those instances where successive inspections indicate repeated failure. These devices shall be repaired, overhauled or replaced at the expense of the water user whenever they are found to be defective. It shall be the duty of the water purveyor and the health department to see that these tests are made in accordance with the responsibility designated. Records of such tests, repairs, and overhaul shall be kept and made available to the water purveyor and the local health department.

(Code 1957, § 22-74)

Sec. 20-237. Protection of potable water system within premises.

(a) *Separate drinking water systems.* Whenever the health agency determines that it is not practical to protect drinking water systems on premises against entry of water from a source of piping system or equipment that cannot be approved as safe or potable for human use, an entirely separate drinking water system shall be installed to supply water at points convenient for consumers.

(b) *Fire system.* Water systems for fighting fire derived from a supply that cannot be approved as safe or potable for human use shall, wherever practicable, be kept wholly separate from drinking water pipelines and equipment. In cases in which the domestic water system is used for both drinking and firefighting purposes, approved backflow prevention devices shall be installed to protect such individual drinking water lines as are not used for firefighting purposes. It is hereby declared that it is the responsibility of the person causing the introduction of the unapproved or unsafe water into the pipelines to see that a procedure is developed and carried out to notify and protect users of this piping system during the emergency that special precautions are taken to disinfect thoroughly and flush out all pipelines which may have become contaminated before they are again used to furnish drinking water. If the means of protection of water consumers is by disinfection of the auxiliary firefighting supply, the installation and its use shall be thoroughly reliable. When disinfection of the auxiliary supply itself is depended upon to render the water safe, the means of applying the disinfectant under this regulation shall be automatic with operation of the pump or pumps employed with the dangerous water in question. Adequate supplies of chlorine or its compound must be kept on hand at all times. Chlorine dosing equipment shall be tested daily and kept in good operating condition. The public water supply must be protected against backflow from such dual domestic fire systems as detailed under type of protection section 20-235.

(c) *Process waters.* Potable water pipelines connected to equipment for industrial processes or operations shall be disconnected therefrom if practicable. Where disconnection is not practicable, a suitable backflow prevention device located beyond the last point from which drinking water may be taken shall be provided on the feed line to process piping or equipment. If the particular process liquid is especially corrosive or apt to prevent reliable action of the backflow prevention device, air-gap separation shall be provided. These devices shall be tested by the water user at least once a year or more often in these instances where successive inspections indicate repeated failure. The devices shall be repaired, overhauled or replaced whenever they are found to be defective. Records of tests, repairs and replacement shall be kept and made available to the local health department.

(d) *Sewage treatment plants and pumping stations.* Sewage pumps shall not have priming connections directly off any drinking water systems. No connections shall exist between the drinking water system and any other piping, equipment or tank in any sewage plant or sewage pumping station.

(e) *Plumbing connections.* Where the circumstances are such that there is special danger to health by the backflow of sewage as from sewers, toilets, hospital bedpans and the like into a drinking water system, a dependable device shall be installed to prevent such backflow. The purpose of these regulations is not to transcend local plumbing regulations but only to deal with those extraordinary situations in which sewage may be forced or drawn into the drinking water piping. These regulations do not attempt to eliminate at this time the hazards of backsiphonage through flushometer valves on all toilets but deal with those situations where the likelihood of vacuum conditions in the drinking water is definite and there is a special danger to health. Devices suited to the purpose of avoiding backsiphonage from plumbing fixtures are roof

tanks or separate pressure systems separately piped to supply such fixtures, recognized approved vacuum or siphon breakers and other backflow protective devices which have been proved by appropriate tests to be dependable for destroying the vacuum. Inasmuch as many of the serious hazards of this kind are due to water supply piping which is too small, thereby causing vacuum conditions when fixtures are flushed or water is drawn from the system in other ways, it is recommended that the water supply piping that is too small be enlarged whenever possible.

(f) *Pier and dock hydrants.* Backflow protection by a suitable backflow prevention device shall be provided on each drinking water pier head outlet used for supply vessels at piers or waterfronts. These assemblies must be located where they will prevent the return of any water from the vessel into the drinking water pipeline or into another adjacent vessel. This will prevent such practices as connecting the ship fire pumping or sanitary pumping system with a dock hydrant and thereby pumping contaminated water into the drinking water system and thence to adjacent vessels or back into the public mains.

(g) *Marking safe and unsafe water lines.* Where the premises contain dual or multiple water systems and piping, the exposed portions of pipelines shall be painted, banded or marked at sufficient intervals to distinguish clearly which water is safe and which is not safe. All outlets from secondary or other potentially contaminated systems shall be posted as being contaminated and unsafe for drinking purposes. All outlets intended for drinking purposes shall be plainly marked to indicate that fact.

(Code 1957, § 22-74)

Sec. 20-238. Water supervisor.

(a) The health department and the water purveyor shall be kept informed of the identity of the person responsible for the water piping on all premises concerned with these regulations. At each premises where it is necessary in the opinion of the health department, a water supervisor shall be designated. This water supervisor shall be responsible for the installation and use of pipelines and equipment and for the avoidance of cross connections.

(b) In the event of contamination or pollution of the drinking water system due to a cross connection on the premises, the local health officer and water purveyor shall be promptly advised by the person responsible for the water system so that appropriate measures may be taken to overcome the contamination.

(Code 1957, § 22-74)

Sec. 20-239. Sanctions for noncompliance.

Failure of the consumer to install, maintain or permit the testing and inspection of backflow prevention devices by the city as required in this article shall be grounds for termination of the water service to the premises by the city as provided in this section. In the case of an immediate hazard to the public health, the water service may be terminated without notice to the consumer immediately, although a hearing before the director of utilities shall be immediately scheduled upon request of the consumer to determine the justness and fairness of the water service termination. Termination of water service will be done within 30 days of second notice of violation.

(Ord. No. 2255, § 1(22-75), 11-7-84)