401 KAR 8:150

Administrative Regulations and Emergency Administrative Regulations Currently in Effect as of May 2015

Kentucky Administrative Regulations > ***TITLE 401. ENERGY AND ENVIRONMENT CABINET DEPARTMENT FOR ENVIRONMENTAL PROTECTION*** > ***CHAPTER 8. PUBLIC WATER SUPPLY***

401 KAR 8:150. Disinfection, filtration, and recycling.

Section 1. Disinfection. A public and semipublic water system shall provide disinfection, except as provided in this section. A semipublic water system shall comply with the requirements of this section for public water systems or meet the requirements of Section 2(2) of this administrative regulation.

(1) A public water system using groundwater or surface water as a source.

(a) A public water system that uses chlorine shall:

1. Use continuous automatic disinfection by chlorination;

2. Provide a minimum free chlorine residual of two-tenths (0.2) milligrams per liter, or ppm, throughout the distribution system measured as described in subsection (2) of this section;

3. Check free chlorine residuals daily at representative points throughout the system; and

4. Report the free chlorine residuals monthly pursuant to *401 KAR 8:020*, Section 2(7)(a)2.

(b)1. Disinfecting agents other than chlorine may be used pursuant to *40 C.F.R. 141.172(c)*.

2. If chloramination is used, a minimum combined residual of five-tenths (0.5) milligrams per liter, or ppm, shall be provided throughout the distribution system.

(2) A public water system using surface water as a source or groundwater under the direct influence of surface water shall provide disinfection treatment as established in *40 C.F.R. 141.72(b)*.

(3) If a disinfection residual fails to comply with Section 1(1) of this administrative regulation, the public shall be notified in accordance with *401 KAR 8:020*, Section 2(9).

(4) Variances or exemptions shall not be granted for subsection (2) of this section.

Section 2. Filtration.

(1) A public water system using a surface water source or a groundwater system with wells with variable or high turbidity due to characteristics of the raw water that may cause an adverse health effect shall establish a filtration system. The design for the system shall be submitted to the cabinet in accordance with *401 KAR 8:100* and shall comply with *40 C.F.R. 141.73*.

(2)

(a) A semipublic water system shall provide a contact period of at least thirty (30) minutes between the chorine and the water to allow adequate time for disinfection, or may enter into a protocol with the cabinet whereby the filtration and disinfection requirements of this administrative regulation shall be achieved using filtration technology, disinfection technology, or a combination of both, if the technology shall achieve a ninety-nine and nine-tenths (99.9) percent (3-log) removal or inactivation of Giardia lamblia cysts and 99.99 percent (4-log) removal or inactivation of viruses.

(b) The protocol shall contain a schedule for maintenance and testing of the filtration and disinfection equipment to assure that the requirements of this subsection are met.

(c) Intensive bacteriological testing shall be included in the protocol.

(d) If surface water is a source of water, filtration shall be an element of the protocol.

(e) If groundwater not under the direct influence of surface water is the only source of water, a semipublic water system eligible under this subsection may enter into a protocol with the cabinet to demonstrate through a regular schedule of bacteriological testing that filtration or disinfection is not needed.

Section 3. Analytical and Monitoring Requirements.

(1) Analytical requirements. Analyses required by this administrative regulation shall be conducted in accordance with the requirements of *40 C.F.R. 141.74(a)*.

(2) Monitoring requirements. A public water system that uses a surface water source or a groundwater source under the influence of surface water shall monitor in accordance with *40 C.F.R. 141.74(c)*.

Section 4. Disinfection of Treatment and Distribution System Facilities, New and Repaired Water Lines. (1) New construction projects and line extensions.

(a) Disinfection. A water treatment plant or distribution system, including storage distribution tanks, or extensions to existing systems, shall be thoroughly disinfected before being placed in service.

(b) A water distribution system shall disinfect with chlorine or chlorine compounds in amounts that shall produce a concentration of at least fifty (50) ppm and a residual of at least twenty-five (25) ppm at the end of twenty-four (24) hours, and the disinfection shall be followed by a thorough flushing.

(c) Other methods and testing procedures that provide an equivalent level of protection may be used if the cabinet grants prior written approval in accordance with *40 C.F.R. 141.21*.

(d) A new water distribution line shall not be placed into service until bacteriological samples taken at the points specified in paragraph (f) of this subsection are examined and are shown to be negative following disinfection.

(e) A water treatment plant or distribution system shall submit to the cabinet results of bacteriological samples for each new construction project, replacement, or extension to existing systems, after the disinfection and flushing.

(f) A sample shall be taken in the newly constructed line at each of the following points:

1. Within 1,200 feet downstream of each connection point between the existing and new lines;

2. One (1) mile intervals; and

3. Each dead end, without omitting any branch.

(g) A new or routine replacement line shall not be placed in service until negative laboratory results are obtained on the bacteriological analyses.

(h) Sample bottles shall be clearly identified as "special" construction tests, and the results submitted to the cabinet shall be clearly marked as "special" samples.

(i)1. Notification of analytical results shall be submitted to the cabinet with the routine monthly compliance bacteriological samples, unless the bacteriological samples are to be used to lift a boil water advisory.

2. Samples used to lift a boil water advisory shall be submitted to the cabinet as soon as results are known.

(2) Line repairs due to breaks or ruptures.

(a) The system shall thoroughly flush the break area and maintain at least a minimum disinfectant residual, pursuant to Section 1(1) of this administrative regulation.

(b) The system may leave the line in service or return the line to service before receiving bacteriological results and may forego a boil water advisory if:

1. Pressure is maintained;

2. The break area is thoroughly flushed; and

3. At least the minimum disinfectant residual is maintained, pursuant to Section 1(1) of this administrative regulation.

(c)1. The system shall take at least two (2) bacteriological tests, one (1) located before, or just upstream of, the break or rupture, and one (1) located behind, or just downstream of, the break or rupture, as close to the break or rupture as practical pursuant to *40 C.F.R. 141.21*. Additional samples may be required, if necessary to be representative of the area affected by the break.

2. Sample bottles shall be clearly identified as "special" tests, and the results submitted to the cabinet shall be clearly marked as "special" samples

(d)1. Records of results shall be submitted to the cabinet with routine monthly compliance samples, unless the samples are required to lift a boil water advisory, and shall be maintained for one (1) year. 2. Samples needed to remove a boil water advisory shall be submitted to the cabinet as soon as the results are known.

(e) A water system shall notify the cabinet immediately if:

1. The pressure drops below twenty (20) pounds per square inch in the distribution system surrounding the break; or

2. A break or rupture occurs that requires more than eight (8) hours to repair, with the eight (8) hours beginning when the water system becomes aware of the break.

(f) Boil Water Advisories shall be issued in accordance with *401 KAR 8:020*, Section 2(9).

(g) Reports pursuant to *401 KAR 8:020*, Section 2(7)(c) shall not be required for a loss of pressure, break, or rupture occurring in service lines serving only one (1) single family residence.

(h)1. A community or nontransient noncommunity public water system shall maintain a log of all breaks or ruptures, which shall include the:

a. Date and location of the break or rupture;

b. Time it was discovered;

c. Population affected;

d. Length of time required to repair the break or rupture;

e. Date and time disinfectant residuals are detected; and

f. Date and time bacteriological samples are taken.

2. The log shall be available for inspection by the cabinet.

Section 5. Uncovered Facility. A public or semipublic water system subject to this administrative regulation shall not begin construction of an uncovered finished water storage facility.

Section 6. Recycling. A public water system shall comply with the requirements established in *40 C.F.R. 141.76*.

Section 7. In addition to the other requirements of this administrative regulation, for disinfection and filtration, a public water system that uses surface water as a source and that serves 10,000 or more persons, shall meet the requirements established in *40 C.F.R. 141.170* and *141.172* through *141.175*.

Section 8. In addition to the other requirements of this administrative regulation for disinfection and filtration, a public water system that uses surface water as a source and that serves less than 10,000 persons shall meet the requirements established in *40 C.F.R. 141.500* through *141.571*.

Section 9. In addition to the other requirements of this administrative regulation for disinfection and filtration, a public water system that uses surface water as a source shall meet the requirements for enhanced treatment for Cryptosporidium as established in *40 C.F.R. 141* Subpart W, 141.700 through 141.723.

Section 10. In addition to the other requirements of this administrative regulation for disinfection and filtration, a public water system that uses groundwater as a source shall comply with the requirements established in *40 C.F.R. 141.400* through *141.405*.

Statutory Authority

STATUTORY AUTHORITY:

KRS 224.10-100(28), *224.10-110(2)*, *40 C.F.R., 141.21*, *141.65*, *141.70*-*141.76*, *141.130(d)*, *141.400*-*141.405*, *141.500*-*141.605*, *141.700*-*141.723*, *142.16*, *42 U.S.C. 300f*-300j-26, EO 2009-538

History

17 Ky.R. 612; Am. 1439; 1717; eff. 11-15-1990; 18 Ky.R. 1180; 1853; eff. 11-26-1991; 20 Ky.R. 3041; 21 Ky.R. 318; eff. 8-24-1994; 23 Ky.R. 2563; eff. 5-14-1997; 27 Ky.R. 1568; 2755; eff. 4-9-2001; 31 Ky.R. 189; 775; 1121; eff. 1-4-05; 33 Ky.R. 1662; 3625; eff. 6-13-2007; 35 Ky.R. 1541; 2013; eff. 4-3-2009; TAm eff. 10-20-2009; 36 Ky.R. 2094-A; 37 Ky.R. 50; eff. 8-5-2010.

Annotations

Notes

NECESSITY, FUNCTION, AND CONFORMITY:

KRS 224.10-100(28) and *224.10-110(2)* require the cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. EO 2009-538, effective June 12, 2009, establishes the new Energy and Environment Cabinet. This administrative regulation establishes requirements for the disinfection, filtration, recycling, and testing of drinking water in a public or semipublic water system using surface water or groundwater not under the direct influence of surface water. This administrative regulation differs from the federal regulation by requiring filtration of water supplies that have surface water sources and disinfection of water supplies whose source is groundwater.

Research References & Practice Aids

RELATES TO:

KRS 224.10-100, *224.10-110*, *40 C.F.R. 141.70*-*141.76*, EO 2009-538

KENTUCKY ADMINISTRATIVE REGULATIONS