

3745-83-01 Operational requirements.

- (A) Except as otherwise noted, the definitions in rule 3745-81-01 of the Administrative Code shall apply to this chapter.
- (B) Except as otherwise noted, analyses required by this rule shall be conducted in accordance with rule 3745-81-27 of the Administrative Code.
- (C) Disinfection.

- (1) Except as prescribed in rule 3745-81-72 of the Administrative Code, noncommunity public water systems serving a population of at least one thousand people and all community public water systems shall maintain a minimum chlorine residual of at least two-tenths milligram per liter free chlorine, or one milligram per liter combined chlorine measured at representative points throughout the distribution system. The director may require higher residuals as necessary to compensate for pH, temperature, or other characteristics of the delivered water.

[Comment: Rule 3745-81-72 of the Administrative Code establishes similar but separate requirements for disinfection of systems using a surface water source. These two requirements are not inconsistent and failure to comply with either is considered a separate violation with different consequences. Contact your district office representative if you have questions or require clarification.]

- (2) Each water system subject to paragraph (C)(1) of this rule shall install and place in operation equipment capable of meeting disinfection requirements of this rule.
 - (3) A system is exempt from paragraphs (C)(1) and (C)(2) of this rule if, with written approval of the director, it uses chlorine dioxide as a primary or supplementary disinfectant in accordance with the terms of the approval.
 - (4) At times of actual or threatened outbreak of waterborne disease as defined in rule 3745-81-01 of the Administrative Code, or water supply emergency as determined by the director in accordance with section 6109.05 of the Revised Code, the director may require a public water system subject to paragraph (C)(1) of this rule to maintain a minimum chlorine residual of at least one milligram per liter free chlorine, or six milligrams per liter combined chlorine measured at representative points throughout the distribution system, despite possible resulting tastes or odors in the delivered water.
 - (5) Finished water storage facilities, as defined in paragraph (F)(1) of this rule, serving noncommunity water systems serving a population of at least one thousand people and all community water systems, prior to being placed into

service or being returned to service after repairs, inspections, painting, cleaning, or other activities that might lead to contamination, shall:

(a) Meet the requirements of "American Water Works Association Standard C652-02 Disinfection of Water-Storage Facilities" (2002); and

(b) Be monitored for chlorine residual and comply with the minimum chlorine residual established in paragraph (C)(1) of this rule and the MRDL established in paragraph (C) of rule 3745-81-10 of the Administrative Code.

(6) Water mains serving noncommunity water systems serving a population of at least one thousand people and all community water systems, prior to being placed into service or being returned to service after repairs, inspections, or other activities that might lead to contamination, unless a minimum pressure of twenty pounds per square inch gauge at ground level is maintained at all points in the distribution system, shall:

(a) Meet the requirements of "American Water Works Association Standard C651-05 Disinfecting Water Mains" (2005); and

(b) Be monitored for chlorine residual and comply with the minimum chlorine residual established in paragraph (C)(1) of this rule and the MRDL established in paragraph (C) of rule 3745-81-10 of the Administrative Code.

(D) Approval of chemicals. All chemicals, substances, and materials added to or brought in contact with water in or intended to be used in a public water system or used for the purpose of treating, conditioning, altering, or modifying the characteristics of such water shall be shown by either the manufacturer, distributor, or purveyor to be non-toxic and harmless to humans when used in accordance with the formulation and concentration as specified by the manufacturer, and shall conform with the "American National Standards Institute/National Sanitation Foundation" (ANSI/NSF) standard 60 Drinking Water Treatment Chemicals - Health Effects (2005 and previous), or standard 61 Drinking Water System Components - Health Effects (2005 and previous). Any organization certified by the "American National Standards Institute" may certify in writing that a product conforms with these standards.

(E) Minimum pressure. Community water systems shall maintain a minimum pressure of twenty pounds per square inch gauge at ground level at all points in the distribution system under all conditions of flow other than conditions caused by line breaks, extreme fire flows, or other extraordinary circumstances.

(F) Finished water storage facilities.

(1) "Finished water storage facility" means a tank, reservoir, or other facility used to store water that will undergo no further treatment except residual disinfection.

- (2) A public water system shall provide a cover on all finished storage facilities in accordance with the "Recommended Standards for Water Works" (2003), Great Lakes-Upper Mississippi Board of State and Provincial Public Health and Environmental Managers.
- (G) Operational analyses. The following operational analyses are required for transient noncommunity public water systems that serve at least one thousand people, all nontransient noncommunity public water systems, and all community public water systems.
- (1) Free chlorine residual. A public water system that provides water treated with chlorine shall monitor for free chlorine at least once every day that water is available to the public at each entry point to the distribution system and a representative point in the distribution system. A public water system that uses a surface water source, in whole or in part, shall also conduct disinfection monitoring in accordance with rule 3745-81-74 of the Administrative Code.
 - (2) Combined chlorine residual. A public water system that provides water treated with chlorine shall monitor for combined chlorine at least once every day that water is available to the public at each entry point to distribution system and a representative point in the distribution system. A public water system that uses a surface water source, in whole or in part, shall also conduct disinfection monitoring in accordance with rule 3745-81-74 of the Administrative Code.
 - (3) Fluoride. A public water system that adds fluoride to the water supply shall monitor for fluoride at least once every day that water is available to the public at each entry point to the distribution system. A public water system that adds fluoride shall monitor prior to fluoridation at least once per month. Samples shall be analyzed as soon as possible, but in no case later than forty-eight hours after the time of collection.
 - (4) Total phosphate. A public water system that adds phosphate to the water supply shall monitor for total phosphate at least monthly at each entry point to the distribution system.
 - (5) Orthophosphate. A public water system that adds phosphate to the water supply for optimization of corrosion control pursuant to the lead and copper requirements of rules 3745-81-81 and 3745-81-82 of the Administrative Code shall monitor for orthophosphate once every two weeks at regular intervals at each entry point to the distribution system.
 - (6) pH.
 - (a) A public water system that adjusts the pH of the water supply for corrosion control pursuant to rules 3745-81-81 and 3745-81-82 of the Administrative

Code shall monitor for pH once every two weeks at regular intervals at each entry point to the distribution system.

- (b) A public water system that adjusts the pH of the water supply for stabilization shall monitor for pH at least once every day that water is available to the public at each entry point to the distribution system.
- (c) A public water system that employs precipitative softening as defined in rule 3745-7-01 of the Administrative Code shall monitor for pH at least once every day that water is available to the public at each entry point to the distribution system.
- (d) A public water system that uses a surface water source, in whole or in part, shall also conduct pH monitoring in accordance with rule 3745-81-74 of the Administrative Code.

(7) Alkalinity.

- (a) Total alkalinity. A public water system that adjusts the alkalinity of the water supply for corrosion control pursuant to rules 3745-81-81 and 3745-81-82 of the Administrative Code shall monitor for alkalinity at least once every two weeks at each entry point to the distribution system.
- (b) Stability. A public water system that provides precipitative softening as defined in rule 3745-7-01 of the Administrative Code shall monitor for stability at least weekly at each entry point to the distribution system using a state certified laboratory.

(8) Hardness.

- (a) A public water system serving fewer than two hundred and fifty persons that provide ion exchange treatment or membrane technology to reduce hardness shall monitor for hardness at least monthly at each entry point to the distribution system using a state certified laboratory.
- (b) A public water system serving two hundred and fifty or more persons that provide ion exchange treatment or membrane technology to reduce hardness shall monitor for hardness at least weekly at each entry point to the distribution system using a state certified laboratory.
- (c) A public water system that provides precipitative softening treatment as defined in rule 3745-7-01 of the Administrative Code shall monitor for hardness at least daily at each entry point to the distribution system using a state certified laboratory.

(9) Iron.

- (a) A public water system serving fewer than two hundred and fifty persons that provides treatment to reduce iron shall monitor for iron at least monthly at each entry point into the distribution system using state certified laboratory.
- (b) A public water system serving two hundred and fifty or more persons that provides treatment to reduce iron shall monitor for iron at least weekly at each entry point into the distribution system using a state certified laboratory. A public water system serving two hundred and fifty or more persons may reduce the frequency of certified laboratory analyses for iron to no less than once each month provided the following conditions are met:
 - (i) The public water system monitors once every day that water is available to the public for iron using an in-house test kit at each entry point into the distribution system. The test kit shall have a minimum detection level of 0.2 milligrams per liter for iron; and
 - (ii) The public water system has one split sample analyzed monthly by an in-house test kit and by a certified laboratory. The deviation between results shall be no greater than 0.2 milligrams per liter for iron. If the split sample results for iron vary by more than 0.2 milligrams per liter, the public water system shall resume weekly monitoring using a certified laboratory. A public water system may return to a reduced frequency of certified laboratory analyses for iron once the deviation of split sample results is within the accepted limits specified in this paragraph.

(10) Manganese.

- (a) A public water system serving fewer than two hundred and fifty persons that provides treatment to reduce manganese shall monitor for manganese at least monthly at each entry point into the distribution system using a state certified laboratory.
- (b) A public water system serving two hundred and fifty or more persons that provides treatment to reduce manganese shall monitor for manganese at least weekly at each entry point into the distribution system using a state certified laboratory. A public water system may reduce the frequency of certified laboratory analyses for manganese to no less than once each month provided the following conditions are met:
 - (i) The public water system monitors once every day that water is available to the public for manganese using an in-house test kit at each entry point into the distribution system. The test kit must have minimum detection level of 0.02 milligram per liter for manganese; and

- (ii) The public water system has one split sample analyzed monthly by an in-house test kit and by a certified lab. The deviation between results shall be no greater than 0.04 milligram per liter for manganese. If the split sample results for manganese vary by more than 0.04 milligrams per liter, the public water system shall resume weekly monitoring using a certified laboratory. A public water system may return to a reduced frequency of certified laboratory analyses for manganese once the deviation between split sample results is within the accepted limits specified in this paragraph.

(11) Copper. A public water system that applies a copper compound to the water supply shall monitor for copper at least weekly for at least one month after the compound has been applied at each entry point into the distribution system.

(H) The director may require additional monitoring as needed to assess operational performance than otherwise specified in this rule. The director shall notify the public water system of additional monitoring required under this paragraph in writing or via plan approval issued in accordance with Chapter 3745-91 of the Administrative Code.

(I) Reports.

(1) In addition to any other reporting requirement of Chapter 3745-81 of the Administrative Code, the owner or operator of a public water system required to monitor under paragraphs (G) and (H) of this rule shall prepare an operation report for each month of operation on forms acceptable to the director. The director may require that the report include the following:

- (a) General operation data, including but not limited to, identification of the operating source at a given time, number of hours of operation, filter run times, backwash duration, filter backwash recycle percentages, head loss, interruptions in treatment, equipment inspection/maintenance dates, minimum system pressure, pre and intermediate tap sampling results, and deviations from normal day-to-day operations;
- (b) A summary of samples analyzed, including distribution system sampling and chlorine residual sampling;
- (c) Information on daily water treatment and system pumpage;
- (d) Information on chemical application, including but not limited to, chemical feed pump ranges, chemical dosages, chemical feed rates, pre, intermediate or post treatment application changes in chemical type, location, and dosage due to emergencies, and seasonal variations;

- (e) Analysis of general parameters relating to the quality of the treated drinking water;
 - (f) Source water levels, including but not limited to, low and high levels in flowing in streams, lakes and reservoirs, static and drawdown levels in production and monitoring wells under any conditions including flooding and drought periods;
 - (g) Such other information as may be necessary or desirable for the director to carry out his duties under Chapter 6109. of the Revised Code.
- (2) The operation report shall be signed by the operator in responsible charge designated in accordance with rule 3745-7-02 of the Administrative Code and submitted to the district office no later than the tenth of the month following the month for which the report was prepared.
- (3) The owner or operator shall report to the district office as soon as possible, but within twenty-four hours, the discovery of any serious plant breakdown or condition causing or likely to cause:
- (a) Any discharge of water not in accordance with section 6109. of the Revised Code or the rules adopted thereunder;
 - (b) Any major interruption in service or disinfection; or
 - (c) Any hazard for employees, consumers, the public, or the environment.

[Comment: This rule incorporates the "American Water Works" standards C651-05 and C652-02 by reference. Copies may be obtained from the "AWWA Bookstore, 6666 West Quincy Avenue, Denver, Co, 80235, 1-800-926-7337, www.awwa.org." These standards are available for review at "Ohio EPA, Lazarus Government Center, 122 South Front Street, Columbus, OH, 43215-3425."]

[Comment: This rule incorporates the ANSI/NSF standards 60 and 61 by reference. Copies may be obtained from "NSF International, 789 Dixboro Road, P.O. Box 130140, Ann Arbor, MI, 48113-0140, (734) 769-8010, www.nsf.org." These standards are available for review at "Ohio EPA, Lazarus Government Center, 122 South Front Street, Columbus, OH, 43215-3425."]

[Comment: This rule incorporates the "Recommended Standards for Water Works" 2003 edition by reference. Copies are available from "Health Education Services, P.O. Box 7126, Albany, NY 1224, (518) 439-7286, www.hes.org" or "Ohio EPA, Lazarus Government Center, 122 South Front Street, Columbus, OH 43215-3425, (614) 644-2752."]

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