

3745-81-51

Revised total coliform rule - routine monitoring requirements.

(A) Subject to the provisions of paragraph (A) of rule 3745-81-50 of the Administrative Code, all public water systems shall conduct routine total coliform monitoring in accordance with this rule beginning April 1, 2016.

(1) Following any total coliform-positive sample collected in accordance with paragraph (B), (C), (D) or (E) of this rule, public water systems shall comply with the repeat monitoring requirements and Escherichia coli (E. coli) analytical requirements in rule 3745-81-52 of the Administrative Code.

(2) Once all monitoring required by paragraph (B), (C), (D) or (E) of this rule and rule 3745-81-52 of the Administrative Code for a calendar month has been completed, public water systems shall determine whether any coliform treatment technique triggers have been exceeded in accordance with rule 3745-81-53 of the Administrative Code. If any triggers have been exceeded, public water systems shall complete the assessments as required in rule 3745-81-53 of the Administrative Code.

(B) Noncommunity public water systems using only source water designated as ground water in accordance with rule 3745-81-76 of the Administrative Code and serving not more than one thousand persons shall conduct routine total coliform monitoring as follows:

(1) Monitoring for total coliforms shall be conducted at a minimum frequency of one sample each calendar quarter that the system provides water to the public, except as required by paragraphs (B)(3) to (B)(6) of this rule.

(2) Beginning April 1, 2016, the director shall perform a detailed monitoring evaluation during each sanitary survey to determine whether the system is on an appropriate routine total coliform monitoring schedule. The director shall consider system factors such as pertinent water quality and compliance history, the establishment and maintenance of contamination barriers, and other appropriate protections. Based on the findings of each monitoring evaluation, the director may modify the public water system's routine total coliform monitoring schedule.

(3) Triggered increased routine monitoring. A public water system on quarterly monitoring that experiences any of the events identified in this paragraph shall begin monthly monitoring during the month following the event. The system shall continue monthly monitoring until the director reduces the monitoring frequency after the requirements of paragraph (B)(4) of this rule are met. A system on monthly monitoring for reasons other than those identified as follows, including seasonal systems, is not considered to be on increased monitoring for the purposes of paragraph (B)(4) of this rule.

(a) The system triggers a level two assessment or two level one assessments

- in a consecutive twelve-month period in accordance with rule 3745-81-53 of the Administrative Code.
- (b) The system has an E. coli maximum contaminant level violation in accordance with paragraph (A) of rule 3745-81-54 of the Administrative Code.
 - (c) The system has a coliform treatment technique violation in accordance with paragraph (B) of rule 3745-81-54 of the Administrative Code.
 - (d) The system has two monitoring violations in accordance with paragraph (C) of rule 3745-81-54 of the Administrative Code, or has one monitoring violation in accordance with paragraph (C) of rule 3745-81-54 of the Administrative Code and one level one assessment in a consecutive twelve-month period.
- (4) The director may reduce the monitoring frequency for a public water system on monthly monitoring triggered under paragraph (B)(3) of this rule to quarterly monitoring if the system meets all of the following:
- (a) Had a sanitary survey, site visit or level two assessment conducted by a person approved by the director within the previous twelve months.
 - (b) Had a clean compliance history for a minimum of the previous twelve months.
 - (c) Is free of significant deficiencies.
 - (d) Has a protected water source.
 - (e) Holds a valid license to operate, unless the system is exempt from being required to obtain a license to operate under section 6109.21 of the Revised Code.
 - (f) Has no outstanding violations of any of the following:
 - (i) Nitrate or nitrite MCL or monitoring requirements under rule 3745-81-11 or rule 3745-81-23 of the Administrative Code, respectively.
 - (ii) Source water monitoring requirements under rule 3745-81-42 of the Administrative Code.
 - (iii) Treatment technique requirements under rule 3745-81-44 of the Administrative Code.
 - (iv) Operational requirements under 3745-83-01 of the Administrative

Code with respect to disinfection and monthly operating reports.

(5) Seasonal system requirements.

(a) Beginning April 1, 2016, all seasonal public water systems, except as provided by paragraph (B)(5)(d) of this rule, shall demonstrate completion of the start-up procedure in the appendix to this rule, which shall include start-up total coliform sampling prior to serving water to the public.

(b) A seasonal system shall monitor for total coliforms with a minimum of one sample per month during the system's operating season if, after the director performs a detailed monitoring evaluation during a sanitary survey or limited scope site visit, it is determined the system does not meet any of the exceptions as provided in paragraph (B)(5)(c) or (B)(5)(d) of this rule.

(c) A seasonal system that operates a portion of the system for maintenance or caretaker staff on a year round basis shall monitor for total coliforms with a minimum of one sample per month during the system's operating season and a minimum of one sample per quarter during the system's closed season.

(d) A seasonal system that maintains a fully pressurized system throughout the year, other than depressurizations resulting from maintenance or line breaks, shall monitor for total coliforms with a minimum of one sample per calendar quarter. These systems shall adjust the monitoring frequency or complete elements of the start-up procedure in the appendix to this rule as required in writing by the director based on the findings of a sanitary survey or detailed monitoring evaluation. A simplified start-up procedure may be appropriate for these systems due to the potential for deteriorated water quality during extended periods of non-use.

(6) Public water systems collecting samples on a quarterly frequency shall monitor with at least three routine samples during the month following one or more total coliform-positive samples (with or without a level one treatment technique trigger). Systems may either collect samples at regular time intervals throughout the month or may collect all required routine samples on a single day if samples are taken from different sites. Systems shall use the results of additional routine samples in coliform treatment technique trigger calculations under paragraph (A) of rule 3745-81-53 of the Administrative Code.

(7) The director may postpone the requirement in paragraph (B)(6) of this rule for a system to monitor with at least three routine samples during the month

following one or more total coliform positive samples if all of the following criteria are met:

- (a) The system collected all required repeat samples.
- (b) The director conducts a site visit of the system and has determined the source of the bacterial contamination within two weeks of receiving notification that the routine total coliform positive sample was collected.
- (c) The system has submitted an approvable plan to eliminate the cause of the bacterial contamination, including all of the following:
 - (i) Details on how the source of bacterial contamination will be eliminated.
 - (ii) Who will perform the work.
 - (iii) A schedule for completing the work no later than ninety days from the date of the total coliform routine sample.
- (d) An approvable plan for corrective action required by rule 3745-81-61 of the Administrative Code may also fulfill the requirements of paragraph (B)(7)(c) of this rule for a plan to eliminate the cause of the bacterial contamination.

(8) If the director approves a postponement of the requirements of paragraph (B)(6) of this rule, the public water system shall collect at least three routine total coliform samples during the month after the work to eliminate the source of the bacterial contamination has been completed.

(C) Routine monitoring requirements for community water systems using only source water designated as ground water in accordance with rule 3745-81-76 of the Administrative Code and serving not more than one thousand persons.

(1) Monitoring for total coliforms shall be conducted at a minimum frequency of one sample each month that the system provides water to the public.

(2) Transition from the requirements of rule 3745-81-21 of the Administrative Code:

(a) All systems subject to this paragraph shall continue to monitor according to the total coliform monitoring schedules established under rule 3745-81-21 of the Administrative Code that were in effect on March 31, 2016, unless otherwise specified by the director.

(b) Beginning April 1, 2016, the director shall perform a detailed monitoring

evaluation during each sanitary survey to determine whether the system is on an appropriate routine total coliform monitoring schedule. The director shall consider system factors such as pertinent water quality and compliance history, the establishment and maintenance of contamination barriers, and other appropriate protections. Based on the findings of each monitoring evaluation, the director may modify the public water system's routine total coliform monitoring schedule.

(D) Routine monitoring requirements for public water systems using a surface water source, in whole or in part, and serving not more than four thousand one hundred persons.

(1) Monitoring for total coliforms shall be conducted at a minimum frequency of four samples, taken at regular intervals, during each month the system provides water to the public. Consecutive surface water systems serving not more than one thousand persons shall monitor at a minimum frequency of one sample per month that the system serves water to the public.

(2) Seasonal system start-up requirements.

(a) Beginning April 1, 2016, seasonal public water systems subject to this paragraph, except those that maintain a fully pressurized system throughout the year, shall demonstrate completion of the start-up procedure in the appendix to this rule, which shall include start-up total coliform sampling prior to serving water to the public.

(b) A seasonal system that maintains a fully pressurized system throughout the year shall complete elements of the start-up procedure in the appendix to this rule as required in writing by the director based on the findings of a sanitary survey.

(E) Routine monitoring requirements for all other public water systems serving more than one thousand persons.

(1) Seasonal system start-up requirements.

(a) Beginning April 1, 2016, seasonal public water systems subject to this paragraph, except those that maintain a fully pressurized system throughout the year, shall demonstrate completion of the start-up procedure in the appendix to this rule, which shall include start-up total coliform sampling prior to serving water to the public.

(b) A seasonal system that maintains a fully pressurized system throughout the year shall complete elements of the start-up procedure in the appendix to this rule as required in writing by the director based on the findings of a sanitary survey.

(2) The monitoring frequency for total coliforms for ground water systems and consecutive surface water systems serving more than one thousand persons and surface water systems serving more than four thousand one hundred persons is based on the population served by the system, as follows:

| <u>Population served</u> | <u>Minimum number of samples per month</u> |
|--|--|
| <u>1,001 to 2,500 (ground water systems and consecutive surface water systems)</u> | <u>2</u> |
| <u>2,501 to 3,300 (ground water systems and consecutive surface water systems)</u> | <u>3</u> |
| <u>3,301 to 4,100 (ground water systems and consecutive surface water systems)</u> | <u>4</u> |
| <u>4,101 to 4,900</u> | <u>5</u> |
| <u>4,901 to 5,800</u> | <u>6</u> |
| <u>5,801 to 6,700</u> | <u>7</u> |
| <u>6,701 to 7,600</u> | <u>8</u> |
| <u>7,601 to 8,500</u> | <u>9</u> |
| <u>8,501 to 12,900</u> | <u>10</u> |
| <u>12,901 to 17,200</u> | <u>15</u> |
| <u>17,201 to 21,500</u> | <u>20</u> |
| <u>21,501 to 25,000</u> | <u>25</u> |
| <u>25,001 to 33,000</u> | <u>30</u> |
| <u>33,001 to 41,000</u> | <u>40</u> |
| <u>41,001 to 50,000</u> | <u>50</u> |
| <u>50,001 to 59,000</u> | <u>60</u> |
| <u>59,001 to 70,000</u> | <u>70</u> |
| <u>70,001 to 83,000</u> | <u>80</u> |
| <u>83,001 to 96,000</u> | <u>90</u> |

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|-------------------------------|------------|
| <u>96,001 to 130,000</u> | <u>100</u> |
| <u>130,001 to 220,000</u> | <u>120</u> |
| <u>220,001 to 320,000</u> | <u>150</u> |
| <u>320,001 to 450,000</u> | <u>180</u> |
| <u>450,001 to 600,000</u> | <u>210</u> |
| <u>600,001 to 780,000</u> | <u>240</u> |
| <u>780,001 to 970,000</u> | <u>270</u> |
| <u>970,001 to 1,230,000</u> | <u>300</u> |
| <u>1,230,001 to 1,520,000</u> | <u>330</u> |
| <u>1,520,001 to 1,850,000</u> | <u>360</u> |
| <u>1,850,001 to 2,270,000</u> | <u>390</u> |
| <u>2,270,001 to 3,020,000</u> | <u>420</u> |
| <u>3,020,001 to 3,960,000</u> | <u>450</u> |
| <u>3,960,001 or more</u> | <u>480</u> |

(3) Public water systems may not reduce monitoring, except for noncommunity public water systems using only ground water (and not ground water under the direct influence of surface water) and serving more than one thousand persons in any month. In months when more than one thousand persons are served, the systems shall monitor at the frequency specified in paragraph (E) of this rule. In months when no more than one thousand persons are served, the director may reduce the monitoring frequency, in writing, to a frequency allowed under paragraph (B) of this rule.

Effective:

Five Year Review (FYR) Dates:

Certification

Date

Promulgated Under: 119.03
Statutory Authority: 6109.04
Rule Amplifies: 6109.03, 6109.04

Appendix to rule 3745-81-51

Start-up Procedure Requirements for Seasonal Public Water Systems

Instructions: Beginning April 1, 2016, seasonal noncommunity public water systems are required to complete the start-up requirements specified by Ohio Administrative Code (OAC) rule 3745-81-51. Those requirements are listed in this appendix. Prior to serving water to the public each season, complete the following:

1. All seasonal systems must complete and keep a copy of the Seasonal Public Water System Start-up Requirements and Checklist on site for at least 5 years.
2. Complete an annual start-up certification and submit the form to the appropriate Ohio EPA District Office.

Most of the requirements listed below apply to all seasonal systems. Each applicable element shall be completed.

The director shall provide an appropriate Seasonal Public Water System Start-up Requirements and Checklist form and annual start-up certification form to each seasonal system.

1. Pre-Inspection Activities.
 - 1.1 Review Ohio EPA Sampling Schedule. Update Sample Siting Plan as necessary.
 - 1.2 Make arrangements for sample analysis by a certified laboratory.
 - 1.3 Establish an account for electronic reporting with Ohio EPA if the system is required to submit monthly operating reports.
2. Initial Inspection.
 - 2.1 Well and pumphouse.
 - 2.1.1 Well cap is tight and secure.
 - 2.1.2 Pump house, if present, is locked and secure.
 - 2.1.3 Well casing is structurally sound.
 - 2.1.4 The well vent is turned downward and the screen is intact.
 - 2.1.5 Chemicals (e.g., pesticides, fuels, solvents) are stored outside of isolation radius or at least 100 feet from the well.
 - 2.1.6 Backup generator and fuel are stored to capture any leaks in a secondary (backup) containment area.
 - 2.1.7 The sample tap does not leak and flows freely when opened.
 - 2.2 Storage tanks.
 - 2.2.1 Tanks were visually inspected for corrosion and physical damage.
 - 2.2.2 The water level controls are functioning properly.
 - 2.2.3 The access hatches are locked and the hatch areas and lids are protected from insects.
 - 2.2.4 The tank overflow pipes are screened, the screens are intact and the discharge is at least 12 inches above grade.

- 2.2.5 The tank vents are turned downward and properly screened.
 - 2.2.6 Necessary repairs were completed.
 - 2.3 Pressure tanks.
 - 2.3.1 Tanks were visually inspected for corrosion and physical damage.
 - 2.3.2 All valves, gauges and controls are functioning properly.
 - 2.3.3 Necessary repairs were completed.
 - 2.4 Distribution lines and valves.
 - 2.4.1 All accessible lines and equipment were visually inspected for signs of damage or corrosion.
 - 2.4.2 All valves were opened and closed.
 - 2.4.3 All outdoor hose bibs have vacuum breakers.
 - 2.4.4 All yard hydrants are of an acceptable design and do not have weep holes.
 - 2.4.5 All backflow prevention devices have had thorough inspections and operational tests performed by a certified Ohio Department of Commerce tester within the past 12 months.
 - 2.4.6 All RV dump stations have an approved backflow prevention device provided in accordance with Ohio Department of Health regulations.
 - 2.4.7 Necessary repairs were completed.
 - 2.5 Treatment systems.
 - 2.5.1 All components have been visually inspected for damage.
 - 2.5.2 Chemical injection points have been cleaned.
 - 2.5.3 Associated pumps and valves are working properly.
 - 2.5.4 Necessary NSF-approved chemicals are on-site and not expired.
 - 2.5.5 Necessary repairs were completed.
 - 3. Activate and pressurize.
 - 3.1 Well pumps operate properly.
 - 3.2 System is fully pressurized.
 - 3.3 System is not leaking.
 - 3.4 Chlorinator and any other treatment systems are operating properly.
 - 4. Disinfect and flush.
 - 4.1 Fresh chlorine was added and pumped throughout all tanks and distribution lines with sufficient concentration and retention time to disinfect the system. 10 mg/L free chlorine held in lines overnight is recommended. Additional guidance may be found in the Seasonal Public Water System Start-up Requirements and Checklist.
 - 4.2 Entire system was flushed. Non-chlorinating systems must remove free chlorine to nondetectable level. Chlorinated water that is being flushed from the system must be dechlorinated prior to discharge. The chlorinated water must not be discharged into any water body, wetland or drainage ditch.
 - 5. Collect total coliform (TC) samples.
 - 5.1 Check chlorine levels before sampling.

5.1.1 In nonchlorinated systems (do not have continuous chlorine treatment) – chlorine is nondetectable.

5.1.2 In chlorinated systems (do provide continuous chlorination treatment) – chlorine is at least 0.2 mg/L free chlorine or 1.0 mg/L total chlorine and less than 4.0 mg/L total chlorine.

5.2 Collect special purpose total coliform samples.

5.2.1 Collect at least one special purpose sample at the service connection considered to be most susceptible to contamination for total coliform analysis. The service connection farthest from the entry point is often the appropriate location. If the special purpose sample is TC-negative, you may proceed to Step 6. If the special purpose sample is TC-positive, the disinfection and flushing procedure must be repeated. Following thorough flushing, at least two special purpose samples collected at least 24 hours apart must be TC-negative prior to proceeding to Step 6.

6. Complete Annual Start-up Certification Form.

6.1 Submit the completed Annual Start-up Certification Form to the appropriate Ohio EPA District Office a minimum of five days before serving water to the public in accordance with OAC rule 3745-81-55.

6.2 Keep a copy of the completed Seasonal Public Water System Start-up Requirements and Checklist with your water system records and have it available for review by Ohio EPA.