

3745-81-50

Revised total coliform rule - general monitoring requirements.

(A) Transition from total coliform monitoring under rule 3745-81-21 of the Administrative Code. Public water systems, except for systems subject to paragraph (B)(5)(b) or (B)(5)(c) of rule 3745-81-51 of the Administrative Code, shall continue to conduct routine monitoring according to the total coliform monitoring schedules issued under rule 3745-81-21 of the Administrative Code that were in effect on March 31, 2016, unless increased monitoring is triggered in accordance with paragraph (B)(3) of this rule or the director orders otherwise. Beginning April 1, 2016, systems subject to paragraph (B)(5)(b) or (B)(5)(c) of rule 3745-81-51 of the Administrative Code shall monitor for total coliforms with a minimum of one sample per month during the system's operating season.

(B) Sample siting plans:

(1) Each public water system shall develop a written sample siting plan by March 31, 2016 that identifies a sample collection schedule and sampling sites that are representative of water throughout the distribution system. Such plans are subject to review and revision by the director. A public water system shall collect total coliform samples according to the written sample siting plan. Monitoring required in rules 3745-81-51 and 3745-81-52 of the Administrative Code shall take place at a designated compliance sampling location. Routine and repeat sample sites and any sampling points necessary to meet rules 3745-81-41 to 3745-81-45 of the Administrative Code shall be included in the sample siting plan.

(2) Each public water system shall monitor with routine samples taken at regular time intervals throughout the month in accordance with the system's sample siting plan, except that systems using only ground water and serving four thousand nine hundred or fewer people may collect all required samples on a single day if taken from different sites.

(3) Every public water system shall take at least the minimum number of required samples even if the system has had an Escherichia coli (E. coli) maximum contaminant level violation as set forth in rule 3745-81-54 of the Administrative Code or has exceeded the coliform treatment technique triggers as set forth in rule 3745-81-53 of the Administrative Code.

(4) A public water system may conduct more compliance monitoring than is required by this rule and rules 3745-81-51 to 3745-81-53 of the Administrative Code to investigate potential problems in the distribution system and use monitoring as a tool to assist in uncovering problems. A system may take more than the minimum number of required routine samples and shall only include the results in calculating whether the coliform treatment technique trigger in paragraph (A)(1)(a) or (A)(1)(b) of rule 3745-81-53 of the Administrative Code has been exceeded if the samples are taken in accordance with the existing sample siting plan and are

representative of water throughout the distribution system.

(5) Each public water system shall identify repeat monitoring locations in the sample siting plan. Unless the provisions of the following paragraphs are met, the system shall monitor with at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one service connection away from the end of the distribution system, the system shall still take all required repeat samples. However, the director may allow an alternative sampling location in lieu of the requirement to monitor with at least one repeat sample upstream or downstream of the original sampling site. Except as provided for in paragraph (B)(5)(b) of this rule, each public water system required to conduct triggered source water monitoring as set forth in paragraph (A) of rule 3745-81-42 shall take a ground water source sample in addition to repeat samples required in this rule and rules 3745-81-51 to 3745-81-53 of the Administrative Code.

(a) A system may propose repeat monitoring locations to the director that the system considers to be representative of a pathway for contamination of the distribution system. A system may elect to specify either alternative fixed locations or criteria for selecting repeat sampling sites on a situational basis in a standard operating procedure (SOP) in the system's sample siting plan. The system shall design the SOP to focus the repeat samples at locations that best verify and determine the extent of potential contamination of the distribution system area based on specific situations. The director may modify the SOP or require alternative monitoring locations as needed.

(b) Ground water systems serving one thousand people or fewer may propose repeat sampling locations to the director that differentiate potential source water and distribution system contamination (e.g., by sampling at entry points to the distribution system). If acceptable to the director, a ground water system with a single well required to conduct triggered source water monitoring may take one of the repeat samples at the monitoring location required for triggered source water monitoring as set forth in paragraph (A) of rule 3745-81-42 of the Administrative Code if the system demonstrates to the director that the sample siting plan remains representative of water quality in the distribution system.

(i) If a repeat sample taken at the monitoring location required for triggered source water monitoring is E. coli-positive, the public water system is in violation of the maximum contaminant level for E. coli and shall conduct additional source water monitoring in accordance with paragraph (A)(3) of rule 3745-81-42 of the

Administrative Code. If the system takes more than one repeat sample at the monitoring location required for triggered source water monitoring, the system may reduce the number of additional source water samples required in paragraph (A)(3) of rule 3745-81-42 of the Administrative Code by the number of repeat samples taken at that location that were not E. coli-positive.

(ii) If the system takes more than one repeat sample at the monitoring location for triggered source water monitoring in paragraph (A) of rule 3745-81-42 of the Administrative Code, and more than one repeat sample is E. coli-positive, the system has violated the maximum contaminant level for E. coli and shall comply with rule 3745-81-61 of the Administrative Code.

(iii) If all repeat samples taken at the monitoring location required for triggered source water monitoring are E. coli-negative and a repeat sample taken at a monitoring location other than the one required for triggered source water monitoring is E. coli-positive, the system has violated the maximum contaminant level for E. coli, but is not required to conduct additional source water monitoring in accordance with paragraph (A)(3) of rule 3745-81-42 of the Administrative Code.

(6) The director may review, revise, and accept, as appropriate, repeat sampling proposed by public water systems under paragraphs (B)(5)(a) and (B)(5)(b) of this rule. The system shall demonstrate that the sample siting plan remains representative of the water quality in the distribution system. The director may determine that monitoring at the entry point to the distribution system (especially for ground water systems having minimal treatment as defined in rule 3745-81-01 of the Administrative Code) is effective to differentiate between potential source water and distribution system problems.

(C) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, shall not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken in accordance with rule 3745-81-52 of the Administrative Code are not considered special purpose samples, and shall be used to determine whether the coliform treatment technique trigger has been exceeded.

(D) When a routine or repeat total coliform sample is analyzed by a membrane filter technique and produces a high background count (HBC) or confluent growth, the HBC or confluent growth culture shall be further analyzed for total coliforms in accordance with a method included in the membrane filter techniques referred to in paragraph (D) of rule 3745-81-27 of the Administrative Code. Gas production of any amount in the inner fermentation tube of brilliant green lactose bile broth

indicates a positive coliform test. When an HBC or confluent growth culture is analyzed for total coliforms and none are found, the sample shall be considered invalid and the public water system shall monitor with a replacement sample within twenty-four hours of being notified of the invalid sample. Upon a request from a public water system, the director may extend the twenty-four-hour limit on a case-by-case basis when the public water system has a logistical problem collecting the repeat samples within twenty-four hours which is beyond the control of the public water system. When an extension is granted by the director, the director shall specify how much time the public water system has to monitor with repeat samples.