

Environmental Protection Agency

§ 141.851

(e) The air carrier must maintain aircraft water system operations and maintenance plans in accordance with FAA requirements, and make such plans available for review by the Administrator upon request, including during compliance audits.

(f) The air carrier must keep copies of public notices to passengers and crew issued as required by this subpart for at least 3 years after issuance.

§ 141.808 Audits and inspections.

(a) The Administrator may conduct routine compliance audits as deemed necessary in providing regulatory oversight to ensure proper implementation of the requirements in this subpart. Compliance audits may include, but are not limited to:

(1) Bacteriological sampling of aircraft water system;

(2) Reviews and audits of records as they pertain to water system operations and maintenance such as log entries, disinfection and flushing procedures, and sampling results; and

(3) Observation of procedures involving the handling of finished water, watering point selection, boarding of water operation, disinfection and flushing, and general maintenance and self-inspections of aircraft water system.

(b) Air carriers or their representatives must perform a self-inspection of all water system components for each aircraft water system no less frequently than once every 5 years.

(c) The air carrier must address any deficiency identified during compliance audits or routine self-inspections within 90 days of identification of the deficiency, or where such deficiency is identified during extended or heavy maintenance, before the aircraft is put back into service. This includes any deficiency in the water system's design, construction, operation, maintenance, or administration, as well as any failure or malfunction of any system component that has the potential to cause an unacceptable risk to health or that could affect the reliable delivery of safe drinking water.

§ 141.809 Supplemental treatment.

(a) Any supplemental drinking water treatment units installed onboard ex-

isting or new aircraft must be acceptable to FAA and FDA; and must be installed, operated, and maintained in accordance with the manufacturer's plans and specifications and FAA requirements.

(b) Water supplemental treatment and production equipment must produce water that meets the standards prescribed in this part.

§ 141.810 Violations.

An air carrier is in violation of this subpart when, for any aircraft water system it owns or operates, any of the following occur:

(a) It fails to perform any of the requirements in accordance with § 141.803 or § 141.804.

(b) It has an *E. coli*-positive sample in any monitoring period (routine and repeat samples are used in this determination).

(c) It fails to provide notification to passengers and crew in accordance with § 141.805.

(d) It fails to comply with the reporting and recordkeeping requirements of this subpart.

(e) It fails to conduct a self-inspection or address a deficiency in accordance with § 141.808.

(f) It fails to develop a coliform sampling plan in accordance with § 141.802, or fails to have and follow an operations and maintenance plan, which is included in a FAA accepted program in accordance with § 141.804.

Subpart Y—Revised Total Coliform Rule

SOURCE: 78 FR 10354, Feb. 13, 2013, unless otherwise noted.

§ 141.851 General.

(a) *General.* The provisions of this subpart include both maximum contaminant level and treatment technique requirements.

(b) *Applicability.* The provisions of this subpart apply to all public water systems.

(c) *Compliance date.* Systems must comply with the provisions of this subpart beginning April 1, 2016, unless otherwise specified in this subpart.

(d) *Implementation with EPA as State.* Systems falling under direct oversight

§ 141.852

40 CFR Ch. I (7-1-14 Edition)

of EPA, where EPA acts as the State, must comply with decisions made by EPA for implementation of subpart Y. EPA has authority to establish such procedures and criteria as are necessary to implement subpart Y.

(e) *Violations of national primary drinking water regulations.* Failure to comply with the applicable requirements of §§141.851 through 141.861, including requirements established by the State pursuant to these provisions, is a violation of the national primary drinking water regulations under subpart Y.

§ 141.852 Analytical methods and laboratory certification.

(a) *Analytical methodology.* (1) The standard sample volume required for analysis, regardless of analytical method used, is 100 ml.

(2) Systems need only determine the presence or absence of total coliforms

and *E. coli*; a determination of density is not required.

(3) The time from sample collection to initiation of test medium incubation may not exceed 30 hours. Systems are encouraged but not required to hold samples below 10 deg. C during transit.

(4) If water having residual chlorine (measured as free, combined, or total chlorine) is to be analyzed, sufficient sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$) must be added to the sample bottle before sterilization to neutralize any residual chlorine in the water sample. Dechlorination procedures are addressed in Section 9060A.2 of *Standard Methods for the Examination of Water and Wastewater* (20th and 21st editions).

(5) Systems must conduct total coliform and *E. coli* analyses in accordance with one of the analytical methods in the following table or one of the alternative methods listed in Appendix A to subpart C of part 141.

Organism	Methodology category	Method ¹	Citation ¹
Total Coliforms	Lactose Fermentation Methods	Standard Total Coliform Fermentation Technique.	Standard Methods 9221 B.1, B.2 (20th ed.; 21st ed.) ^{2,3}
	Presence-Absence (P-A) Coliform Test	Standard Methods Online 9221 B.1, B.2-99, ^{2,3} 9221 D.1, D.2 (20th ed.; 21st ed.) ^{2,7}	Standard Methods Online 9221 B.1, B.2-99, ^{2,3} 9221 D.1, D.2 (20th ed.; 21st ed.) ^{2,7}
	Membrane Filtration Methods	Standard Total Coliform Membrane Filter Procedure.	Standard Methods Online 9221 B, C (20th ed.; 21st ed.) ^{2,4}
	Membrane Filtration using MI medium	Membrane Filtration using MI medium	Standard Methods Online 9222 B-97 ^{2,4} , 9222 C-97 ^{2,4} , EPA Method 1604. ²
	Enzyme Substrate Methods	m-ColiBlue24 [®] Test ^{2,4} , Chromocult [®] 24, Colifert [®]	Standard Methods 9223 B (20th ed.; 21st ed.) ^{2,5}
	Enzyme Substrate Methods	Colisure [®]	Standard Methods Online 9223 B-97 ^{2,5}
	Enzyme Substrate Methods	E*Colite [®] Test ² , ReadyCult [®] Test ² , modified Colitag [®] Test ² .	Standard Methods 9223 B (20th ed.; 21st ed.) ^{2,5,6}
	Enzyme Substrate Methods	EC-MUG medium	Standard Methods Online 9223 B-97 ^{2,5,6}
	Enzyme Substrate Methods	EC broth with MUG (EC-MUG)	Standard Methods 9221 F.1 (20th ed.; 21st ed.) ²
	Enzyme Substrate Methods	NA-MUG medium	Standard Methods 9222 G.1c(2) (20th ed.; 21st ed.) ^{2,8}
<i>Escherichia coli</i>	Membrane Filtration Methods	Membrane Filtration using MI medium	Standard Methods 9222 G.1c(1) (20th ed.; 21st ed.) ²
	Enzyme Substrate Methods	m-ColiBlue24 [®] Test ^{2,4} , Chromocult [®] 24, Colifert [®]	EPA Method 1604. ²
	Enzyme Substrate Methods	Colisure [®]	Standard Methods 9223 B (20th ed.; 21st ed.) ^{2,5}
	Enzyme Substrate Methods	E*Colite [®] Test ² , ReadyCult [®] Test ² , modified Colitag [®] Test ² .	Standard Methods Online 9223 B-97 ^{2,5,6}
	Enzyme Substrate Methods	EC-MUG medium	Standard Methods Online 9223 B-97 ^{2,5,6}
	Enzyme Substrate Methods	EC broth with MUG (EC-MUG)	Standard Methods 9223 B (20th ed.; 21st ed.) ^{2,5}
	Enzyme Substrate Methods	NA-MUG medium	Standard Methods 9223 B (20th ed.; 21st ed.) ^{2,5,6}
	Enzyme Substrate Methods	E*Colite [®] Test ² , ReadyCult [®] Test ² , modified Colitag [®] Test ² .	Standard Methods Online 9223 B-97 ^{2,5,6}
	Enzyme Substrate Methods	EC-MUG medium	Standard Methods Online 9223 B-97 ^{2,5,6}
	Enzyme Substrate Methods	EC broth with MUG (EC-MUG)	Standard Methods 9223 B (20th ed.; 21st ed.) ^{2,5,6}

¹ The procedures must be done in accordance with the documents listed in paragraph (c) of this section. For Standard Methods, either editions, 20th (1998) or 21st (2005), may be used. For the Standard Methods Online, the year in which each method was approved by the Standard Methods Committee is designated by the last two digits following the hyphen in the method number. The methods listed are the only online versions that may be used. For vendor methods, the date of the method listed in paragraph (c) of this section is the date/version of the approved method. The methods listed are the only versions that may be used for compliance with this rule. Laboratories should be careful to use only the approved versions of the methods, as product package inserts may not be the same as the approved versions of the methods.

- ² Incorporated by reference. See paragraph (c) of this section.
- ³ Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth, if the system conducts at least 25 parallel tests between lactose broth and lauryl tryptose broth using the water normally tested, and if the findings from this comparison demonstrate that the false-positive rate and false-negative rate for total coliforms, using lactose broth, is less than 10 percent.
- ⁴ All filtration series must begin with membrane filtration equipment that has been sterilized by autoclaving. Exposure of filtration equipment to UV light is not adequate to ensure sterilization. Subsequent to the initial autoclaving, exposure of the filtration equipment to UV light may be used to sanitize the funnels between filtrations within a filtration series. Alternatively, membrane filtration equipment that is pre-sterilized by the manufacturer (i.e., disposable funnel units) may be used.
- ⁵ Multiple-tube and multi-well enumerative formats for this method are approved for use in presence-absence determination under this regulation.
- ⁶ Colisure[®] results may be read after an incubation time of 24 hours.
- ⁷ A multiple tube enumerative format, as described in *Standard Methods for the Examination of Water and Wastewater* 9221, is approved for this method for use in presence-absence determination under this regulation.
- ⁸ The following changes must be made to the EC broth with MUG (EC-MUG) formulation: Potassium dihydrogen phosphate, KH₂PO₄, must be 1.5g, and 4-methylumbelliferyl-Beta-D-glucuronide must be 0.05 g.

(b) *Laboratory certification.* Systems must have all compliance samples required under this subpart analyzed by a laboratory certified by the EPA or a primacy State to analyze drinking water samples. The laboratory used by the system must be certified for each method (and associated contaminant(s)) used for compliance monitoring analyses under this rule.

(c) *Incorporation by reference.* The standards required in this section are incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, EPA must publish notice of change in the FEDERAL REGISTER and the material must be available to the public. All approved material is available for inspection either electronically at www.regulations.gov, in hard copy at the Water Docket, or from the sources indicated below. The Docket ID is EPA-HQ-OW-2008-0878. Hard copies of these documents may be viewed at the Water Docket in the EPA Docket Center, (EPA/DC) EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is 1-202-566-1744, and the telephone number for the Water Docket is 1-202-566-2426. Copyrighted materials are only available for viewing in hard copy. These documents are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 1-202-741-6030 or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(1) American Public Health Association, 800 I Street, NW., Washington, DC 20001.

(i) "Standard Methods for the Examination of Water and Wastewater," 20th edition (1998):

(A) Standard Methods 9221, "Multiple-Tube Fermentation Technique for Members of the Coliform Group," B.1, B.2, "Standard Total Coliform Fermentation Technique."

(B) Standard Methods 9221, "Multiple-Tube Fermentation Technique for Members of the Coliform Group," D.1, D.2, "Presence-Absence (P-A) Coliform Test."

(C) Standard Methods 9222, "Membrane Filter Technique for Members of the Coliform Group," B, "Standard Total Coliform Membrane Filter Procedure."

(D) Standard Methods 9222, "Membrane Filter Technique for Members of the Coliform Group," C, "Delayed-Incubation Total Coliform Procedure."

(E) Standard Methods 9223, "Enzyme Substrate Coliform Test," B, "Enzyme Substrate Test," Colilert[®] and Colisure[®].

(F) Standard Methods 9221, "Multiple Tube Fermentation Technique for Members of the Coliform Group," F.1, "Escherichia coli Procedure: EC-MUG medium."

(G) Standard Methods 9222, "Membrane Filter Technique for Members of the Coliform Group," G.1.c(2), "Escherichia coli Partition Method: EC broth with MUG (EC-MUG)."

(H) Standard Methods 9222, "Membrane Filter Technique for Members of the Coliform Group," G.1.c(1), "Escherichia coli Partition Method: NA-MUG medium."

(ii) "Standard Methods for the Examination of Water and Wastewater," 21st edition (2005):

(A) Standard Methods 9221, "Multiple-Tube Fermentation Technique for Members of the Coliform Group," B.1, B.2, "Standard Total Coliform Fermentation Technique."

(B) Standard Methods 9221, "Multiple-Tube Fermentation Technique for Members of the Coliform Group," D.1, D.2, "Presence-Absence (P-A) Coliform Test."

(C) Standard Methods 9222, "Membrane Filter Technique for Members of the Coliform Group," B, "Standard Total Coliform Membrane Filter Procedure."

(D) Standard Methods 9222, "Membrane Filter Technique for Members of the Coliform Group," C, "Delayed-Incubation Total Coliform Procedure."

(E) Standard Methods 9223, "Enzyme Substrate Coliform Test," B, "Enzyme Substrate Test," Colilert[®] and Colisure[®].

(F) Standard Methods 9221, “Multiple Tube Fermentation Technique for Members of the Coliform Group,” F.1, “*Escherichia coli* Procedure: EC–MUG medium.”

(G) Standard Methods 9222, “Membrane Filter Technique for Members of the Coliform Group,” G.1.c(2), “*Escherichia coli* Partition Method: EC broth with MUG (EC–MUG).”

(H) Standard Methods 9222, “Membrane Filter Technique for Members of the Coliform Group,” G.1.c(1), “*Escherichia coli* Partition Method: NA–MUG medium.”

(iii) “Standard Methods Online” available at <http://www.standardmethods.org>:

(A) Standard Methods Online 9221, “Multiple-Tube Fermentation Technique for Members of the Coliform Group” (1999), B.1, B.2–99, “Standard Total Coliform Fermentation Technique.”

(B) Standard Methods Online 9221, “Multiple-Tube Fermentation Technique for Members of the Coliform Group” (1999), D.1, D.2–99, “Presence-Absence (P–A) Coliform Test.”

(C) Standard Methods Online 9222, “Membrane Filter Technique for Members of the Coliform Group” (1997), B–97, “Standard Total Coliform Membrane Filter Procedure.”

(D) Standard Methods Online 9222, “Membrane Filter Technique for Members of the Coliform Group” (1997), C–97, “Delayed-Incubation Total Coliform Procedure.”

(E) Standard Methods Online 9223, “Enzyme Substrate Coliform Test” (1997), B–97, “Enzyme Substrate Test”, Colilert® and Colisure®.

(2) Charm Sciences, Inc., 659 Andover Street, Lawrence, MA 01843–1032, telephone 1–800–343–2170:

(i) E*Colite®—“Charm E*Colite™ Presence/Absence Test for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Drinking Water,” January 9, 1998.

(ii) [Reserved]

(3) CPI International, Inc., 5580 Skylane Blvd., Santa Rosa, CA, 95403, telephone 1–800–878–7654:

(i) modified Colitag®, ATP D05–0035—“Modified Colitag™ Test Method for the Simultaneous Detection of *E. coli*

and other Total Coliforms in Water,” August 28, 2009.

(ii) [Reserved]

(4) EMD Millipore (a division of Merck KGaA, Darmstadt Germany), 290 Concord Road, Billerica, MA 01821, telephone 1–800–645–5476:

(i) Chromocult®—“Chromocult® Coliform Agar Presence/Absence Membrane Filter Test Method for Detection and Identification of Coliform Bacteria and *Escherichia coli* for Finished Waters,” November 2000, Version 1.0.

(ii) ReadyCult®—“ReadyCult® Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters,” January 2007, Version 1.1.

(5) EPA’s Water Resource Center (MC–4100T), 1200 Pennsylvania Avenue NW., Washington, DC 20460, telephone 1–202–566–1729:

(i) EPA Method 1604, EPA 821–R–02–024—“EPA Method 1604: Total Coliforms and *Escherichia coli* in Water by Membrane Filtration Using a Simultaneous Detection Technique (MI Medium),” September 2002, <http://www.epa.gov/nerlcwww/1604sp02.pdf>.

(ii) [Reserved]

(6) Hach Company, P.O. Box 389, Loveland, CO 80539, telephone 1–800–604–3493:

(i) m-ColiBlue24®—“Membrane Filtration Method m-ColiBlue24® Broth,” Revision 2, August 17, 1999.

(ii) [Reserved]

[78 FR 10354, Feb. 13, 2013, as amended at 79 FR 10669, Feb. 26, 2014]

§ 141.853 General monitoring requirements for all public water systems.

(a) *Sample siting plans.* (1) Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. These plans are subject to State review and revision. Systems must collect total coliform samples according to the written sample siting plan. Monitoring required by §§141.854 through 141.858 may take place at a customer’s premise, dedicated sampling station, or other designated compliance sampling location. Routine and repeat sample sites and any sampling

points necessary to meet the requirements of subpart S must be reflected in the sampling plan.

(2) Systems must collect samples at regular time intervals throughout the month, except that systems that use only ground water and serve 4,900 or fewer people may collect all required samples on a single day if they are taken from different sites.

(3) Systems must take at least the minimum number of required samples even if the system has had an *E. coli* MCL violation or has exceeded the coliform treatment technique triggers in §141.859(a).

(4) A system may conduct more compliance monitoring than is required by this subpart 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 must include the results in calculating whether the coliform treatment technique trigger in §141.859(a)(1)(i) and (ii) has been exceeded only if the samples are taken in accordance with the existing sample siting plan and are representative of water throughout the distribution system.

(5) Systems must identify repeat monitoring locations in the sample siting plan. Unless the provisions of paragraphs (a)(5)(i) or (a)(5)(ii) of this section are met, the system must collect 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 must still take all required repeat samples. However, the State may allow an alternative sampling location in lieu of the requirement to collect at least one repeat sample upstream or downstream of the original sampling site. Except as provided for in paragraph (a)(5)(ii) of this section, systems required to conduct triggered source water monitoring

under §141.402(a) must take ground water source sample(s) in addition to repeat samples required under this subpart.

(i) Systems may propose repeat monitoring locations to the State that the system believes 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 its sample siting plan. The system must design its 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 State may modify the SOP or require alternative monitoring locations as needed.

(ii) Ground water systems serving 1,000 or fewer people may propose repeat sampling locations to the State that differentiate potential source water and distribution system contamination (e.g., by sampling at entry points to the distribution system). A ground water system with a single well required to conduct triggered source water monitoring may, with written State approval, take one of its repeat samples at the monitoring location required for triggered source water monitoring under §141.402(a) if the system demonstrates to the State's satisfaction that the sample siting plan remains representative of water quality in the distribution system. If approved by the State, the system may use that sample result to meet the monitoring requirements in both §141.402(a) and this section.

(A) If a repeat sample taken at the monitoring location required for triggered source water monitoring is *E. coli*-positive, the system has violated the *E. coli* MCL and must also comply with §141.402(a)(3). If a 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 under §141.402(a)(3) by the number of repeat samples taken at that location that were not *E. coli*-positive.

(B) If a system takes more than one repeat sample at the monitoring location required for triggered source water monitoring under § 141.402(a), and more than one repeat sample is *E. coli*-positive, the system has violated the *E. coli* MCL and must also comply with § 141.403(a)(1).

(C) 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 *E. coli* MCL, but is not required to comply with § 141.402(a)(3).

(6) States may review, revise, and approve, as appropriate, repeat sampling proposed by systems under paragraphs (a)(5)(i) and (ii) of this section. The system must demonstrate that the sample siting plan remains representative of the water quality in the distribution system. The State may determine that monitoring at the entry point to the distribution system (especially for undisinfected ground water systems) is effective to differentiate between potential source water and distribution system problems.

(b) *Special purpose samples.* Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, must not be used to determine whether the coliform treatment technique trigger has been exceeded. Repeat samples taken pursuant to § 141.858 are not considered special purpose samples, and must be used to determine whether the coliform treatment technique trigger has been exceeded.

(c) *Invalidation of total coliform samples.* A total coliform-positive sample invalidated under this paragraph (c) of this section does not count toward meeting the minimum monitoring requirements of this subpart.

(1) The State may invalidate a total coliform-positive sample only if the conditions of paragraph (c)(1)(i), (ii), or (iii) of this section are met.

(i) The laboratory establishes that improper sample analysis caused the total coliform-positive result.

(ii) The State, on the basis of the results of repeat samples collected as required under § 141.858(a), determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The State cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected at a location other than the original tap are total coliform-negative (e.g., a State cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the system has only one service connection).

(iii) The State has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition that does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under § 141.858(a), and use them to determine whether a coliform treatment technique trigger in § 141.859 has been exceeded. To invalidate a total coliform-positive sample under this paragraph, the decision and supporting rationale must be documented in writing, and approved and signed by the supervisor of the State official who recommended the decision. The State must make this document available to EPA and the public. The written documentation must state the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem. The State may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

(2) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P-A) Coliform Test, or exhibits confluent

growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The State may waive the 24-hour time limit on a case-by-case basis. Alternatively, the State may implement criteria for waiving the 24-hour sampling time limit to use in lieu of case-by-case extensions.

§ 141.854 Routine monitoring requirements for non-community water systems serving 1,000 or fewer people using only ground water.

(a) *General.* (1) The provisions of this section apply to non-community water systems using only ground water (except ground water under the direct influence of surface water, as defined in § 141.2) and serving 1,000 or fewer people.

(2) Following any total coliform-positive sample taken under the provisions of this section, systems must comply with the repeat monitoring requirements and *E. coli* analytical requirements in § 141.858.

(3) Once all monitoring required by this section and § 141.858 for a calendar month has been completed, systems must determine whether any coliform treatment technique triggers specified in § 141.859 have been exceeded. If any trigger has been exceeded, systems must complete assessments as required by § 141.859.

(4) For the purpose of determining eligibility for remaining on or qualifying for quarterly monitoring under the provisions of paragraphs (f)(4) and (g)(2), respectively, of this section for transient non-community water systems, the State may elect to not count monitoring violations under § 141.860(c)(1) of this part if the missed sample is collected no later than the end of the monitoring period following the monitoring period in which the

sample was missed. The system must collect the make-up sample in a different week than the routine sample for that monitoring period and should collect the sample as soon as possible during the monitoring period. The State may not use this provision under paragraph (h) of this section. This authority does not affect the provisions of §§ 141.860(c)(1) and 141.861(a)(4) of this part.

(b) *Monitoring frequency for total coliforms.* Systems must monitor each calendar quarter that the system provides water to the public, except for seasonal systems or as provided under paragraphs (c) through (h) and (j) of this section. Seasonal systems must meet the monitoring requirements of paragraph (i) of this section.

(c) *Transition to subpart Y.* (1) Systems, including seasonal systems, must continue to monitor according to the total coliform monitoring schedules under § 141.21 that were in effect on March 31, 2016, unless any of the conditions for increased monitoring in paragraph (f) of this section are triggered on or after April 1, 2016, or unless otherwise directed by the State.

(2) Beginning April 1, 2016, the State must perform a special monitoring evaluation during each sanitary survey to review the status of the system, including the distribution system, to determine whether the system is on an appropriate monitoring schedule. After the State has performed the special monitoring evaluation during each sanitary survey, the State may modify the system's monitoring schedule, as necessary, or it may allow the system to stay on its existing monitoring schedule, consistent with the provisions of this section. The State may not allow systems to begin less frequent monitoring under the special monitoring evaluation unless the system has already met the applicable criteria for less frequent monitoring in this section. For seasonal systems on quarterly or annual monitoring, this evaluation must include review of the approved sample siting plan, which must designate the time period(s) for monitoring based on site-specific considerations (e.g., during periods of highest demand or highest vulnerability to contamination). The seasonal system

must collect compliance samples during these time periods.

(d) *Annual site visits.* Beginning no later than calendar year 2017, systems on annual monitoring, including seasonal systems, must have an initial and recurring annual site visit by the State that is equivalent to a Level 2 assessment or an annual voluntary Level 2 assessment that meets the criteria in §141.859(b) to remain on annual monitoring. The periodic required sanitary survey may be used to meet the requirement for an annual site visit for the year in which the sanitary survey was completed.

(e) *Criteria for annual monitoring.* Beginning April 1, 2016, the State may reduce the monitoring frequency for a well-operated ground water system from quarterly routine monitoring to no less than annual monitoring, if the system demonstrates that it meets the criteria for reduced monitoring in paragraphs (e)(1) through (e)(3) of this section, except for a system that has been on increased monitoring under the provisions of paragraph (f) of this section. A system on increased monitoring under paragraph (f) of this section must meet the provisions of paragraph (g) of this section to go to quarterly monitoring and must meet the provisions of paragraph (h) of this section to go to annual monitoring.

(1) The system has a clean compliance history for a minimum of 12 months;

(2) The most recent sanitary survey shows that the system is free of sanitary defects or has corrected all identified sanitary defects, has a protected water source, and meets approved construction standards; and

(3) The State has conducted an annual site visit within the last 12 months and the system has corrected all identified sanitary defects. The system may substitute a Level 2 assessment that meets the criteria in §141.859(b) for the State annual site visit.

(f) *Increased monitoring requirements for systems on quarterly or annual monitoring.* A system on quarterly or annual monitoring that experiences any of the events identified in paragraphs (f)(1) through (f)(4) of this section must begin monthly monitoring the month

following the event. A system on annual monitoring that experiences the event identified in paragraphs (f)(5) of this section must begin quarterly monitoring the quarter following the event. The system must continue monthly or quarterly monitoring until the requirements in paragraph (g) of this section for quarterly monitoring or paragraph (h) of this section for annual monitoring are met. A system on monthly monitoring for reasons other than those identified in paragraphs (f)(1) through (f)(4) of this section is not considered to be on increased monitoring for the purposes of paragraphs (g) and (h) of this section.

(1) The system triggers a Level 2 assessment or two Level 1 assessments under the provisions of §141.859 in a rolling 12-month period.

(2) The system has an *E. coli* MCL violation.

(3) The system has a coliform treatment technique violation.

(4) The system has two subpart Y monitoring violations or one subpart Y monitoring violation and one Level 1 assessment under the provisions of §141.859 in a rolling 12-month period for a system on quarterly monitoring.

(5) The system has one subpart Y monitoring violation for a system on annual monitoring.

(g) *Requirements for returning to quarterly monitoring.* The State may reduce the monitoring frequency for a system on monthly monitoring triggered under paragraph (f) of this section to quarterly monitoring if the system meets the criteria in paragraphs (g)(1) and (g)(2) of this section.

(1) Within the last 12 months, the system must have a completed sanitary survey or a site visit by the State or a voluntary Level 2 assessment by a party approved by the State, be free of sanitary defects, and have a protected water source; and

(2) The system must have a clean compliance history for a minimum of 12 months.

(h) *Requirements for systems on increased monitoring to qualify for annual monitoring.* The State may reduce the monitoring frequency for a system on increased monitoring under paragraph (f) of this section if the system meets