NOTE: These slides may not match the recorded presentation. To identify revised or new slides, on the slide is noted "Updated Final" (revised) or "Clarification Slide" (new) .

EPA
United States Environmental Protection Agency

Revised Total Coliform Rule for Surface Water Systems



September, 2013

Disclaimer

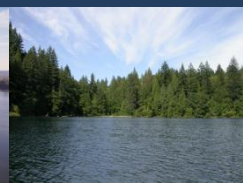
This presentation supplements the recorded webinar training conducted by US Environmental Protection Agency (EPA) on the Revised Total Coliform Rule (RTCR). The training provided guidance to States, Tribes, and EPA Regions that will have RTCR primacy. These materials are not regulation s, nor do they change or substitute for those provisions and regulations under the RTCR. Thus, they do not impose legally binding requirements. Further, the RTCR training materials do not confer legal rights or impose legal obligations upon any member of the public.

EPA made every effort to ensure the accuracy of the discussions presented in the webinar and presentation slides, but in the event of a conflict between the discussions in these materials and any statute or regulation, these webinars would not be controlling.

RTCR Training Overview

- Introduction
- Sample Siting Plans
- Compliance Sampling
- Seasonal Systems
- Analyzing Samples
- Determining *E. coli* MCL Compliance
- Assessments & Corrective Actions
- Reporting and Recordkeeping
- Categories of RTCR Violations
- Public Notice (PN) & Consumer Confidence Report (CCR) Requirements
- Other Rule Aspects
- Summary
  - Reference: TCR vs. RTCR Comparison
  - Technical Corrections

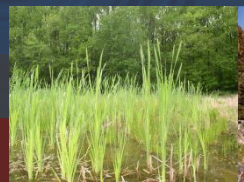




About This Training Module

- While this training module specifically references "surface water systems," this module applies to all public water systems (PWSs) that use:
  - Surface water (SW)
  - Ground water under the direct influence (GWUDI) of SW
  - SW or GWUDI blended sources that are required by the federal regulations to monitor monthly for total coliform.
- This set of systems is known as Subpart H systems.

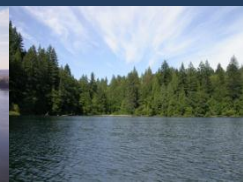
Introduction



Contents of Introduction

- Training Goals
- Training Overview
- Available Resources
- Acronyms & Definitions
- Applicability
- RTCR Basics
- RTCR Purpose
- What Changed (& What Didn't) From The TCR?

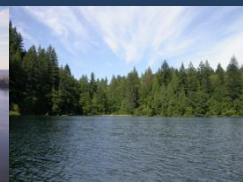




Training Goals

- Understand RTCR concepts & requirements
- Understand how RTCR keeps some aspects of the TCR & replaces other portions
- Reinforce learning with polling questions and quizzes





Training Overview

- SW training module includes:
  - SW training slides
  - Supplemental Reference Materials: workshop/field examples; RTCR Quick Reference Guide (QRG)
- "Train-the-trainers" design
- Modify as appropriate
- Slides only cover federal requirements
- NOTE: Total of 4 RTCR training modules
  - Surface Water; Ground Water; Expanding Upon Level 1 And Level 2 Assessments And Corrective Actions; & State Primacy

RTCR Training Series

RTCR

EPA

U.S. EPA Training Webinar Series

[For Region and State Staff only]

Revised Total Coliform Rule – Requirements for Surface Water Systems
September 24 - 26, 2013*
To register for the webinar, please go to:
https://www2.gotomeeting.com/register/469370954.

Revised Total Coliform Rule – Requirements for Ground Water Systems
October 22 - 24, 2013*
To register for the webinar, please go to:
https://www2.gotomeeting.com/register/690350122.

Revised Total Coliform Rule – Expanding Upon Level 1 and Level 2 Assessments and Corrective Actions
January 28 - 30, 2014*
To register for the webinar, please go to:
https://www2.gotomeeting.com/register/876771714.

Revised Total Coliform Rule – State Primacy Requirements
February 25 - 27, 2014*
To register for the webinar, please go to:
https://www2.gotomeeting.com/register/583327890.

Revised Total Coliform Rule – Requirements for Ground Water Systems
March 18 - 20, 2014*
To register for the webinar, please go to:
https://www2.gotomeeting.com/register/676922314.

*Trainings on the last day of the series occur only as needed.

REVISED TOTAL COLIFORM RULE

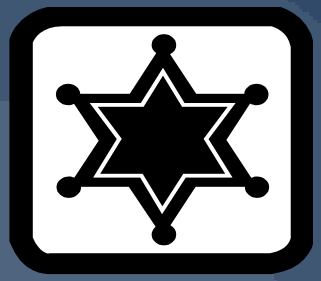
RTCR

All trainings take place from 12:30PM - 4:30PM EST

RTCR Surface Water

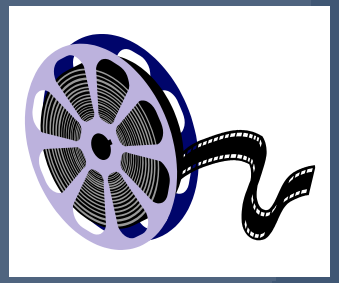
Training Icons

Customize



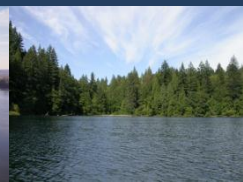
Regulators Only

Important Speaker Note



Animation

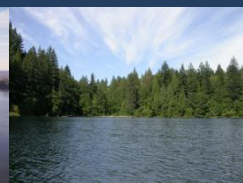
Same as TCR Rule



Guidance Documents and Available Resources

- <u>Planned for Release in 2013</u>
  - RTCR QRG (September)
  - RTCR Assessments & Corrective Actions Guidance Manual (November/December)
  - RTCR State Implementation Guidance – Interim Final (November/December)





Guidance Documents and Available Resources (cont.)

- <u>Guidance Materials Planned for Release in 2014</u>
  - Draft Small Systems Guidance (Systems ≤ 1,000) (Spring/Summer)
  - Guide/Tool for Small NCWS Serving 1,000 or Less People (Fall/Winter)
  - Factsheets (e.g., Seasonal Systems, Repeat Monitoring, L1 & L2 Assessments and Corrective Actions)
  - Laboratory QRG/Factsheet
  - Sampling Guide
  - SDWIS Prime (formerly NextGen): Data Entry Instructions (DEI)
  - Transition Memo
  - Placards

Guidance Documents and Available Resources (cont.)

- <u>Planned for Release in 2015-2016</u>
  - RTCR Articles
  - Guide: Sanitary Surveys
  - Update PN Handbook: Templates for TNCWS and Other Systems' Handbook
  - Update PN I-Writer for Small Systems
  - Update PN Matrix Tool
  - Update CCR State Implementation Guide Manual for NPDWRs
  - Update Guidance for Preparing CCR
  - Update CCR I-Writer

Acronyms

CWS	Community Water System
EC+	*E. coli*-Positive
GW	Ground Water
GWR	Ground Water Rule
MCL	Maximum Contaminant Level
NCWS	Non-Community Water System
PN	Public Notification
PWS	Public Water System
RTCR	Revised Total Coliform Rule
SW	Surface Water
TC	Total Coliform
TC+	Total Coliform-Positive
TCR	Total Coliform Rule
TT	Treatment Technique

Definitions

Public Water System (PWS)	Any entity that provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year.
Community Water System (CWS)	A PWS which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.
Subpart H System	A PWS using SW or GW under direct influence of SW as a source.

40 CFR 141.2

Definitions (cont.)

Non-community Water System (NCWS)	A PWS that is not a CWS. A NCWS is either a "transient non-community water system (TNCWS)" or a "non-transient non-community water system (NTNCWS)."
Non-transient Non-community Water System (NTNCWS)	A PWS that is not a CWS and that regularly serves at least 25 of the same persons over 6 months per year.
Transient Non-Community Water System (TNCWS)	A NCWS that does not regularly serve at least 25 of the same persons over 6 months per year.

40 CFR 141.2

Definitions (cont.)

Consecutive System	A PWS that buys or otherwise receives some or all of its finished water from one or more wholesale systems.
Routine Monitoring	Normal TC sampling that must be conducted.
Repeat Monitoring	Follow-up sampling required when a compliance sample is TC+ (beyond routine monitoring).

40 CFR 141.2

New Definitions

Clean Compliance History	A record of no TCR or RTCR MCL violations, no TCR or RTCR monitoring violations, & no coliform TT trigger exceedances or TT violations.
Level 1 Assessment	An evaluation conducted by the system (can be either operator or owner) to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, & (when possible) the likely reason that the system triggered the assessment.
Level 2 Assessment	A more detailed evaluation of a system conducted by an individual approved by the state with the same goals as a Level 1 assessment.

40 CFR 141.2

New Definitions (cont.)

Sanitary Defect	A defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.
Seasonal System	A NCWS that is not operated as a PWS on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

40 CFR 141.2

MCL vs. TT

- Maximum Contaminant Level (MCL) = highest allowable concentration of a contaminant
  - Compliance based on sampling results
- Treatment Technique (TT) = required process intended to reduce the level of a contaminant in drinking water
  - Compliance based on performing activities

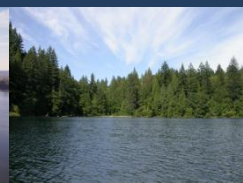
40 CFR 141.2; 141.52(a)(6) & 141.63(c)

RTCR Applicability

- Like 1989 TCR, RTCR applies to all PWSs
  - Only microbial drinking water regulation that applies to all PWSs
    - SW & GW systems
    - One of the few rules that applies to TNCWSs
    - Any size PWS population

40 CFR 141.851(b)



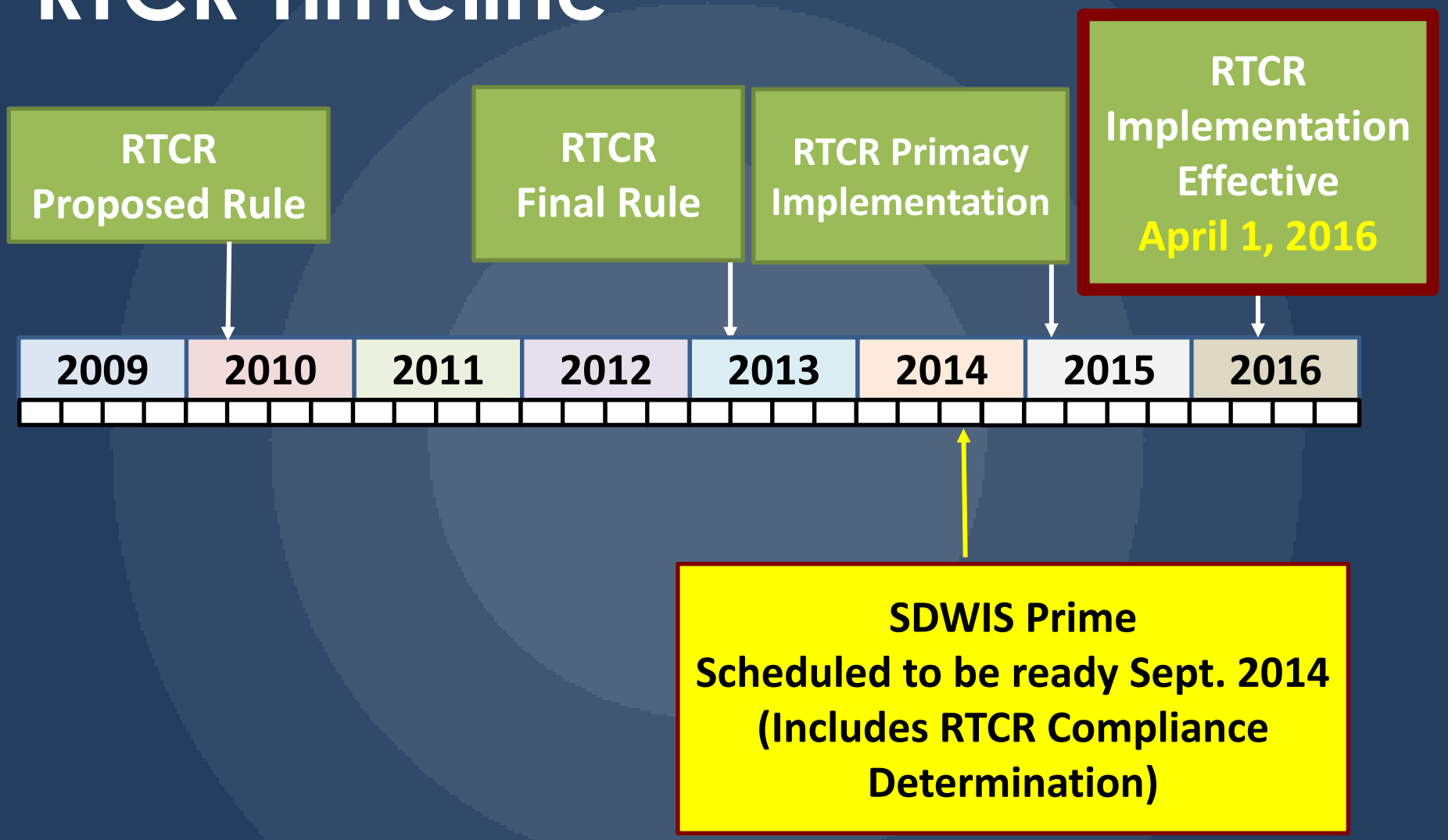


General Description of RTCR

- Applies to all PWSs
- Replaces TCR's TC MCL with TT requirements
- Replaces TCR's acute TC MCL with an *E. coli* MCL
- New requirements for seasonal systems
- TT requirements for PWSs vulnerable to microbial contamination

40 CFR 141.851(b)-(c); 141.63(c), (d) & (e); 141.854(i)(1); 141.856(a)(4)(i); 141.859; 141.857(b); 141.854(c)(1); & 141.855(c)(1)

RTCR Timeline

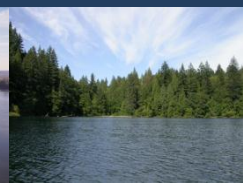


Updated Final

RTCR Purpose

- Improve public health protection by reducing fecal pathogens to minimal levels by controlling TC bacteria, especially *E. coli*
- TCR & RTCR objectives:
  - Evaluate effectiveness of treatment
  - Determine integrity of distribution system
  - Signal possible presence of microbial contamination
- Cost-effective way to enhance multi-barrier approach to public health protection





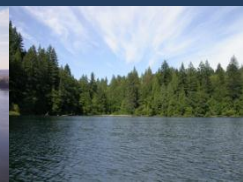
Why Total Coliform & *E. coli*?

- RTCR uses TC & *E. coli* as indicators of potential risk
  - TC are a group of closely related bacteria that, with a few exceptions, are not harmful to humans
  - *E. coli* bacteria are a more accurate indicator of fecal contamination than TC, though not a measure of waterborne pathogen occurrence
- The presence of TC is a good indicator of a potential pathway of microbial contamination into the distribution system
- These contaminants could include:
  - Bacteria
  - Viruses
  - Parasitic protozoa

Types of RTCR Compliance Samples

- Routine samples:
  - Required each monitoring period
- Repeat samples:
  - Required for when a routine or repeat sample is TC+



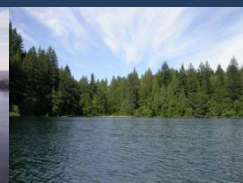


Special Purpose Samples

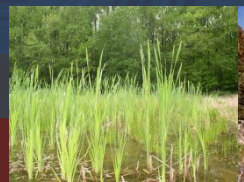
- Special purpose samples are operations-focused investigative samples that cannot be classified as routine or repeat compliance samples
  - Example: Samples used to determine if disinfection, flushing, storage tank cleaning, etc. is working properly
- Samples required for repeat monitoring requirements are not special purpose samples & must be used to determine if a TT trigger exceedance or *E. coli* MCL violation occurred
- Extra routine samples taken per the sample siting plan are not special purpose & must be used to determine if a TT trigger exceedance or *E. coli* MCL violation occurred

40 CFR 141.853(a)(4) & (b)





Sample Siting Plans

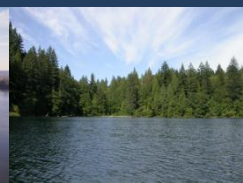


Sample Siting Plan Basics

- Systems must develop and adhere to a sample siting plan and a system-specific schedule
  - Must develop plans no later than March 31, 2016
- Sample siting plans are subject to state review & revision
  - States should review and determine whether plans prepared by PWSs meet requirements of the RTCR

40 CFR 141.853(a)



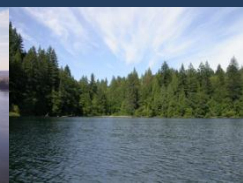


Sample Siting Plan Components

- Sampling locations
  - Must be representative of the water in the distribution system
  - Routine and repeat monitoring locations must be shown
  - If applicable to GWR, must also show GWR sampling locations
- Sample collection schedule
  - Samples must be collected at regular time intervals throughout the month

40 CFR 141.853(a)



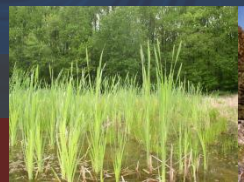


Sampling Locations

- For SW systems, the sample siting plan must include locations for:
  - Routine samples
  - Repeat samples
  - If applicable to GWR, must also show triggered source water sample locations
- Monitoring may take place at:
  - Customer's premises, OR
  - Dedicated sampling station, OR
  - Other designated compliance sampling location

40 CFR 141.853(a)(1) & (5)

Routine Monitoring



Number of Routine Samples

- Systems must collect at least the required number of routine samples
  - Even if the system has had an *E. coli* MCL violation or has incurred a TT trigger
- Systems may take extra routine samples for public health protection and increased coverage of the distribution system
  - Must be taken in accordance with the sample siting plan
  - Must be representative of the distribution system
  - Must be used in determining whether the TT trigger has occurred

40 CFR 141.853(a)(3) & 141.853(a)(4)

Monthly Routine Sample Table

- Number of routine monitoring samples does not change from TCR

TC MONTHLY MONITORING FREQUENCY FOR SW AND GWUDI SYSTEMS	
Population Served	**Min # of Samples/Mo**
Up to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9

40 CFR 141.856(b) & 141.857(b)

Monthly Routine Sample Table

TC MONTHLY MONITORING FREQUENCY FOR SW AND GWUDI SYSTEMS	
Population Served	Min # of Samples/Mo
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80

Updated Final

40 CFR 141.856(b) & 141.857(b)

Monthly Routine Sample Table

TC MONTHLY MONITORING FREQUENCY FOR SW AND GWUDI SYSTEMS	
Population Served	**Min # of Samples/Mo**
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300

40 CFR 141.856(b) & 141.857(b)

Monthly Routine Sample Table

TC MONTHLY MONITORING FREQUENCY FOR SW AND GWUDI SYSTEMS	
Population served	**Min # of Samples/Mo**
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

40 CFR 141.856(b) & 141.857(b)

Small Systems Taking < 5 Routine Samples per Month

- The month following a TC+, systems serving 4,900 or fewer persons must sample at their normal routine monitoring frequency:

TC MONTHLY MONITORING FREQUENCY FOR SW AND GWUDI SYSTEMS	
Population served	**Min # of Samples/Mo**
Up to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5

40 CFR 141.21(b)(5); 141.856(b) & 141.857(b)

Small Systems Taking < 5 Routine Samples per Month (cont.)

- **Monitoring requirements for systems serving 4,900 or fewer persons:**

TCR	RTCR
Must take at least 5 routine samples in the month after a TC+ sample.	Systems must only take their usual number of samples the month following a TC+.

40 CFR 141.21(b)(5); 141.856(b) & 141.857(b)

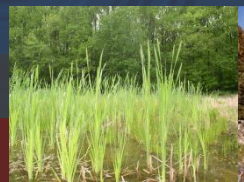
Clarification Slide

TC MONTHLY MONITORING FREQUENCY FOR SYSTEMS WITH SW, GWUDI, or SW/GWUDI BLENDED SOURCES

Population Served	Min # of Samples/Mo	Population Served	Min # of Samples/Mo
Up to 1,000	1	59,001 to 70,000	70
1,001 to 2,500	2	70,001 to 83,000	80
2,501 to 3,300	3	83,001 to 96,000	90
3,301 to 4,100	4	96,001 to 130,000	100
4,101 to 4,900	5	130,001 to 220,000	120
4,901 to 5,800	6	220,001 to 320,000	150
5,801 to 6,700	7	320,001 to 450,000	180
6,701 to 7,600	8	450,001 to 600,000	210
7,601 to 8,500	9	600,001 to 780,000	240
8,501 to 12,900	10	780,001 to 970,000	270
12,901 to 17,200	15	970,001 to 1,230,000	300
17,201 to 21,500	20	1,230,001 to 1,520,000	330
21,501 to 25,000	25	1,520,001 to 1,850,000	360
25,001 to 33,000	30	1,850,001 to 2,270,000	390
33,001 to 41,000	40	2,270,001 to 3,020,000	420
41,001 to 50,000	50	3,020,001 to 3,960,000	450
50,001 to 59,000	60	3,960,001 or more	480

Polling Question #1

Surface Water

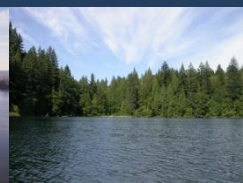


Polling Question #1

***TRUE OR FALSE*: Under the RTCR: PWSs that use SW, GWUDI, and SW or GWUDI blended sources and have a TC+ result must collect additional routine samples the following month.**

A. True
B. False





Polling Question #1: Answer

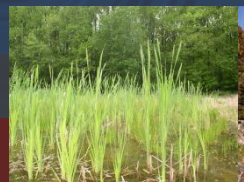
TRUE OR FALSE: Under the RTCR: PWSs that use SW, GWUDI, and SW or GWUDI blended sources and have a TC+ result must collect additional routine samples the following month.

A. True

B. False

EXPLANATION: Subpart H systems maintain the same # of routine samples each month. Only eligible GW systems that monitor quarterly or annually are required to conduct 3 routine samples the month following a TC+ result.

Repeat Monitoring



Follow-up Monitoring for TC+ ROUTINE Sample(s)

Within 24 hours

Site A
TC+

➢ ROUTINE SAMPLE(S)

Site C
TC-

Site A
TC-

Site B
TC-

➢ REPEAT SET

- For every routine sample that is TC+:
  - Collect 3 repeat samples
- All TC+ samples must be tested for *E. coli*

All routine TC+ samples must have 3 associated repeat samples

Clarification Slide 40 CFR 141.858(a)(3) & 141.858(b)(1)

Follow-up Monitoring for TC+ REPEAT Sample(s)

Within 24 hours

Site A TC+

Site C	Site A	Site B	
TC+	TC-	TC+	➢ Repeat Set 1
Site C	Site A	Site B	
TC-	TC+	TC+	➢ Repeat Set 2
Site C	Site A	Site B	
TC-	TC-	TC-	➢ Repeat Set 3

- For each routine TC+ sample, when there are multiple TC+ repeat samples in a set:
  - Collect one set of 3 repeat samples until either:
    - TC are not detected in one complete set of repeats; OR,
    - System determines that a TT trigger has occurred

In this example, there are a total of 9 repeat samples.

Clarification Slide

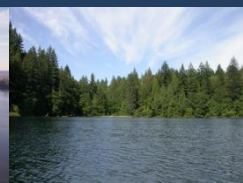
40 CFR 141.858(a)(3)

Follow-up Monitoring for PWS Taking < 40 Total Compliance Samples/Month

- If there is a TC+ routine sample, where the Round 1 repeat samples …
  - Has one or more missing repeat samples, then an assessment is triggered and additional repeat samples are not required
  - Has one or more TC+ or EC+ repeat samples, then an assessment is triggered and additional repeat samples are not required

40 CFR 141.859(a)(1)(ii)





Number of Repeat Samples for Small Systems

- Small SW systems (serving ≤ 1,000 people) only take 3 repeat samples
  - 4 samples had been required under TCR

TCR	RTCR
4 samples	3 samples

40 CFR 141.858(a)(1)

No Dual Purpose Samples: GWR and RTCR Repeat Samples

- Subpart H systems that are required to conduct triggered GWR source water monitoring:
  - Can no longer use repeat RTCR sample for both GWR triggered source water monitoring and repeat TC sampling
- Dual purpose samples are only available to GW systems with a single well serving < 1,000
  - With sample siting plan representative of water quality in the distribution system, AND
  - With written state approval

40 CFR 141.858(a)(1)

Repeat Sample Locations

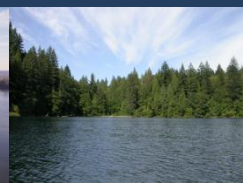
- PWS can collect repeat samples using the same procedure as in the TCR
  - 1 at original location
  - 1 within 5 service connections upstream
  - 1 within 5 service connects downstream

OR

- PWS can specify in their sample siting plan either fixed alternative locations or criteria for selecting sites on a situational basis via a standard operating procedure

40 CFR 141.853(a)(5)



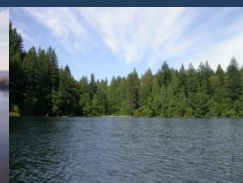


Repeat Sample Locations (cont.)

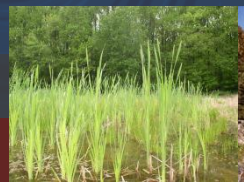
- Systems can propose different repeat monitoring locations to the state as long as they are representative of a pathway for contamination of the distribution system

40 CFR 141.853(a)(5)(i) & (a)(6)





Polling Question #2



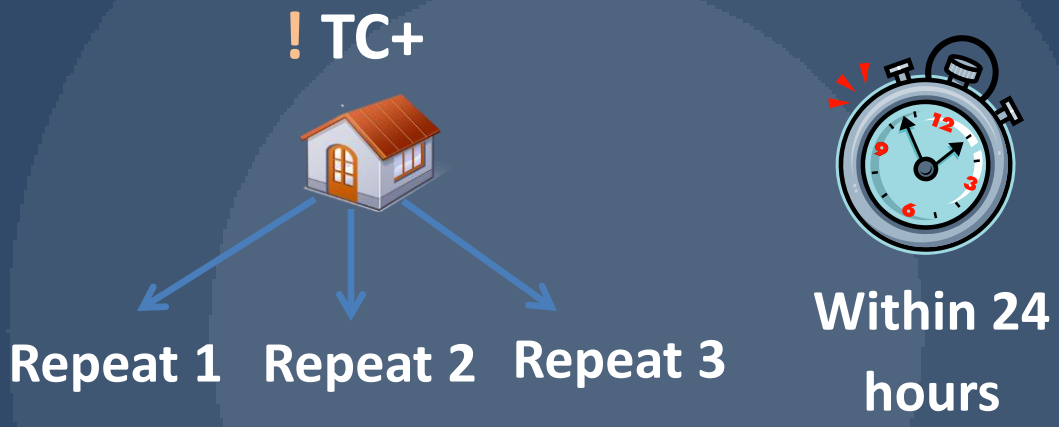
Polling Question #2

At which of the following locations will your state require PWSs to conduct repeat monitoring?

A. 1 at the original location,1 within 5 service locations upstream, and 1 within 5 service locations downstream
B. Alternative locations identified by the system on a situational basis based on specific criteria
C. Allow both of the above options

States have discretion to allow both options A and B

Repeat Monitoring Deadline



- System has 24 hours after learning about TC+ routine sample to take repeat samples
- State may extend the 24-hour deadline (new deadline must be specified)

40 CFR 141.858(a)(1)

Repeat Monitoring Timing

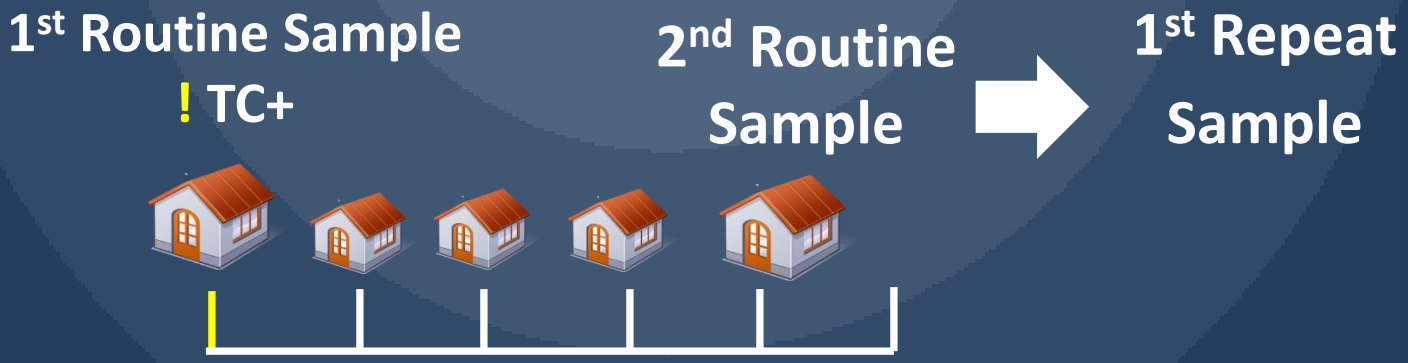
- Must collect all repeats on same day
  - 3 repeat samples are needed for each TC+ routine sample
- State may allow systems with single service connection to:
  - Collect over a 3-day period
  - Collect a larger volume container(s) of any size as long as the total volume collected is at least 300mL

Updated Final

40 CFR 141.858(a)(1) & (2)

Repeat Monitoring Scenario

- A routine sample is collected and before that first sample is analyzed, another routine sample is taken within 5 service connections
- The first sample is TC+
- The second routine sample can be counted as a repeat (instead of being counted as a routine sample)
- System needs to take another routine sample



Updated Final

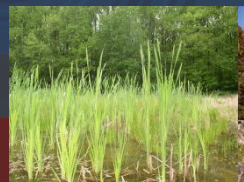
40 CFR 141.858(a)(4)

Disinfectant Residual Samples

- Under the Disinfection Byproduct Rules (DBPRs) and Surface Water Treatment Rule (SWTR):
  - Must monitor disinfectant residuals at same time and place as RTCR routine and repeat samples
- Monitoring necessary to demonstrate compliance with chlorine/chloramine MRDLs and with SWTR requirement to maintain detectable residual

40 CFR 141.132(c)(1)(i) & 141.74(b)(6)(i)

Seasonal System Requirements

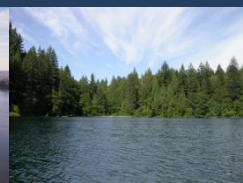


Seasonal Systems

- A seasonal system is a NCWS not operated as a PWS on a year-round basis that starts up/shuts down at the beginning & end of each operating season
- State may exempt seasonal systems from requirements for seasonal systems if the distribution system remains pressurized during the entire period that the system is not operating
  - Systems are still required to meet monitoring requirements, as designated by the state

40 CFR 141.2





Requirements for Seasonal Systems with SW/GWUDI Sources

- Must monitor <u>monthly</u> for all months they are in operation (No exemption from monthly monitoring)
  - No quarterly or annual monitoring allowed for systems using SW/GWUDI or SW/GWUDI blended sources.
- Must follow a state-approved start-up plan
  - State may exempt system from <u>start-up requirements only</u> if the distribution system remains pressurized during the <u>entire</u> period that the system is not operating

40 CFR 141.856(a)(4) & 141.857(a)(4)

Clarification Slide

Routine Sampling Exercise

- Complete the table:

Routine Sampling for Magnificent Park Water System *NTNCWS, GWUDI, Shutdown Period: Oct - Feb*		
Month	**Population Served**	**# of Routine RTCR Samples Required**
March	40	
April	40	
May	40	
June	3375	
July	3375	
August	40	
September	40	

Routine Sampling Exercise: Answer

Routine Sampling for Magnificent Park Water System NTNCWS, GWUDI, Shutdown Period: Oct - Feb		
Month	**Population Served**	**# of Routine RTCR Samples Required**
March	40	**1**
April	40	**1**
May	40	**1**
June	3375	**4**
July	3375	**4**
August	40	**1**
September	40	**1**

Updated Final

Start-up Procedures

- States have the flexibility to determine what start-up procedures are appropriate for a particular system based on site-specific considerations
- States may require one or more TC samples as part of the required start-up procedures

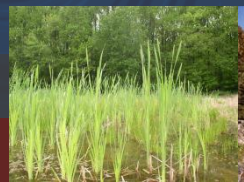
40 CFR 142.16(q)(2)(vii); 141.856(a)(4)(i) & 141.857(a)(4)

Seasonal System Violations

- TT violations
  - Failure to complete state-approved start-up procedures prior to serving water to the public
- Reporting violations
  - Failure to submit certification of completion of start-up procedures

40 CFR 141.860(b)(2) & (d)(3)

Polling Question #3



Polling Question #3

TRUE OR FALSE: Failure by a non-community seasonal system to complete state-approved start-up procedures prior to serving water to the public is a TT violation.

A. True
B. False

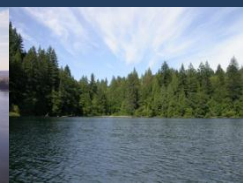
Polling Question #3: Answer

TRUE OR FALSE: Failure by a non-community seasonal system to complete state-approved start-up procedures prior to serving water to the public is a TT violation.

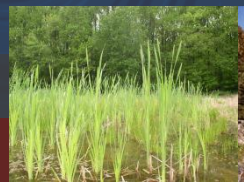
A. True

B. False





Polling Question #4



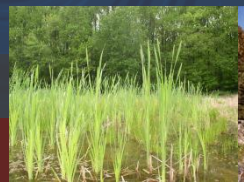
Polling Question #4

Which of the following is your state considering as requirements for seasonal systems' start-up procedures? (Select all that apply):

A. Disinfection and flushing
B. Sampling for total coliform/*E. coli*
C. Minimum disinfectant residual in distribution system
D. Site visit by state or state-approved third party
E. Verification that any current or historical sanitary defects from previous operational period have been corrected

States have discretion to allow any combination of these procedures or additional procedures not listed here.

Polling Question #5



Polling Question #5

What is the RTCR monitoring frequency for seasonal systems that use SW/GWUDI, or year-round SW blended sources?

A. Monthly
B. Quarterly
C. Annually

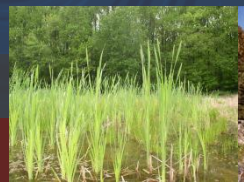
Polling Question #5: Answer

What is the RTCR monitoring frequency for seasonal systems that use SW/GWUDI, or year-round SW blended sources?

A. Monthly
B. Quarterly
C. Annually

EXPLANATION: All Subpart H systems, including seasonal systems are required to monitor monthly when in operation under the RTCR.

Analyzing Samples

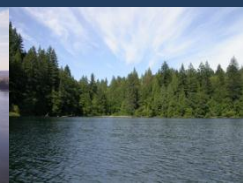


Analyzing for TC vs. *E. coli*

- All TC+ routine or repeat samples must be tested for *E. coli*
- State can allow a system to forgo *E. coli* testing on a TC+ sample if the system assumes the sample is EC+
  - Case-by-case basis
  - EC+ assumption must still be reported the same day or next day to the state
  - System incurs an *E. coli* MCL violation, is required to conduct a Level 2 assessment, and comply with PN/CCR requirements

40 CFR 141.858(b)



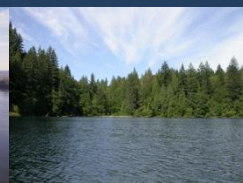


Certified Laboratories

- Samples must be analyzed by an EPA- or state-certified drinking water lab
- Labs must be certified for each method used for analysis & each contaminant analyzed

40 CFR 141.852(b)





Analytical Requirements

- Standard sample volume required for analysis = 100 mL
  - Regardless of analytical method
- Only determining presence or absence of total coliform & *E. coli* is required
- The time from sample collection to initiation of test medium incubation may not exceed 30 hours
- If residual chlorine present, sodium thiosulfate must be added

40 CFR 141.852(a)(1)-(3)

Total Coliform Analytical Methods

Methodology Category	Methods
Lactose Fermentation Methods	• Standard Methods 9221B - Standard Total Coliform Fermentation Technique • Standard Methods 9221D - Presence-Absence (P–A) Coliform Test
Membrane Filtration Methods	• Standard Methods 9222B – Standard Total Coliform Membrane Filter Procedure • MI medium • m-ColiBlue24® Test • Chromocult
Enzyme Substrate Methods	• Colilert® • Colisure® • E*Colite® Test • Readycult® Test • Modified Colitag® Test

40 CFR 141.852(a)(5)

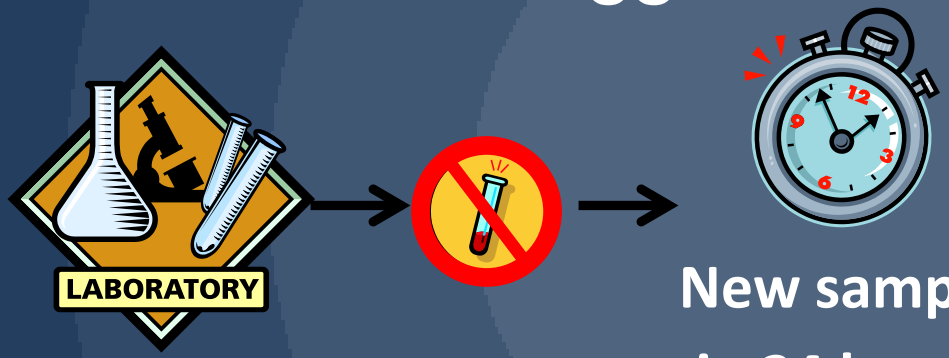
E. coli Analytical Methods

Methodology Category	Methods
***Escherichia coli* Procedure (following Lactose Fermentation Methods)**	• Standard Methods 9221 F - EC–MUG medium
***Escherichia coli* Partition Method**	• Standard Methods 9222G - EC broth with MUG (EC–MUG) • Standard Methods 9222G - NA–MUG medium
Membrane Filtration Methods	• MI medium • m-ColiBlue24® Test • Chromocult
Enzyme Substrate Methods	• Colilert® • Colisure® • E*Colite® Test • Readycult® Test • Modified Colitag® Test

40 CFR 141.852(a)(5)

Invalidation of Samples

- Invalidated samples cannot be used to determine if the system had an *E. coli* MCL violation or TT trigger



- Re-samples must be taken <u>at same locations</u> and used for compliance calculations

Documentation of Sample Invalidation

- ✓ Rationale for invalidation
- ✓ Cause of TC+
- ✓ Action to correct problem

State Signature

Updated Final

40 CFR 141.853(c)

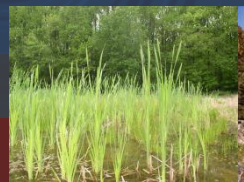
Invalidation of Samples (cont.)

- State may invalidate a sample if:
  - Lab establishes that improper sample analysis caused the TC+
  - State determines from repeat sample results that the TC+ was caused by domestic or other non-distribution system plumbing problem
  - State finds that the TC+ is a result of something that does not reflect water quality in the distribution system

Systems must collect replacement samples for all invalidated samples!

40 CFR 141.853(c)(1)

Polling Question #6

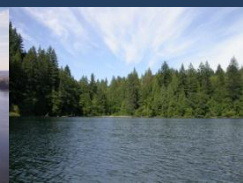


Polling Question #6

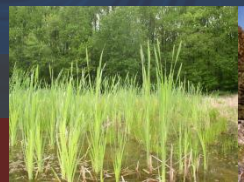
Does your state have an after-hours phone line or alternative notification procedure for systems to use if they become aware of an *E. coli* MCL violation or EC+ sample after the state office is closed?

A. Yes
B. No





Assessments



Purpose of Assessments

- All systems required to conduct an assessment when monitoring results show that the system may be vulnerable to contamination
- An assessment is an evaluation to identify sanitary defects & TT triggers
- More proactive approach to public health protection compared to TCR
  - Conditions that defined a non-acute MCL violation under TCR are now used to trigger assessment

40 CFR 141.859(a)-(b)

Sanitary Defects

- Sanitary defect: a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place, e.g.,
  - Holes in storage tanks
  - Breaks in pipes
  - Cracks in well seals or casings

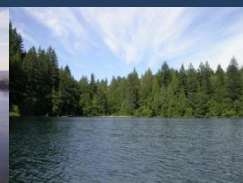
40 CFR 141.2

Elements of Assessments

- At a minimum, assessment must include review & identification of the following elements:
  - Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired
  - Changes in distribution system maintenance & operation that may affect distributed water quality, including water storage
  - Source & treatment considerations that bear on distributed water quality
  - Existing water quality monitoring data
  - Inadequacies in sample sites, sampling protocol, & sample processing

40 CFR 141.859(b)(2)



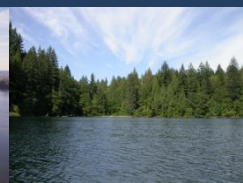


Conducting Assessments

- Must be conducted:
  - Consistent with state directives
  - As soon as practical after the system learns it has triggered an assessment
- Assessment form must be submitted to state within 30 days after system learned it triggered assessment
- Assessment form must include:
  - Assessments conducted
  - All sanitary defects found (if any)
  - Corrective action(s) completed and/or proposed timetable for correction actions not yet complete
- Failure to conduct an assessment or correct sanitary defects is a TT violation and requires Tier 2 PN

40 CFR 141.859(b)(3)-(4) & 141.860(b)(1)

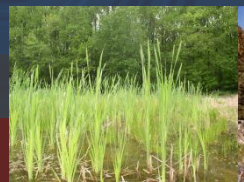




Level of Effort – Level 1 vs. Level 2

- Level 1:
  - Conducted by the PWS
  - Primarily completed using existing data
  - May include limited inspections or interviews
- Level 2:
  - More comprehensive review of existing data
  - May include field investigations, additional sampling, and inspections
  - May involve consultation with additional parties
  - Assessment must be conducted by the state or party approved by the state

Level 1 Assessments



Level 1 Assessment Triggers

Must consider all samples (the total number of routine and repeat) to determine Level 1 assessment trigger

Within 1 month

≥ 40 Samples → 5.0% TC+

< 40 Samples → ≥ 2 more TC+

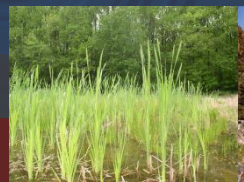
Level 1 assessment

Fail to take all required repeat samples after any TC+ → Level 1 assessment

Clarification Slide

40 CFR 141.859(a)(1)

Polling Question #7

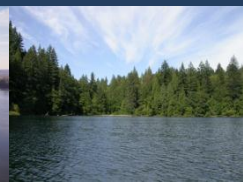


Polling Question #7

Early in the month, a water system has triggered a Level 1 assessment. Is the system allowed to skip collecting the remaining RTCR routine samples for that month?

A. Yes
B. No





Polling Question #7: Answer

Early in the month, a water system has triggered a Level 1 assessment. Is the system allowed to skip collecting the remaining RTCR routine samples for that month?

A. Yes

B. No

EXPLANATION: A system must still take the required minimum number of routine samples even if it has had an *E. coli* MCL violation or has exceeded the coliform treatment triggers before the end of the monitoring compliance period.

Who Conducts Level 1 Assessments?

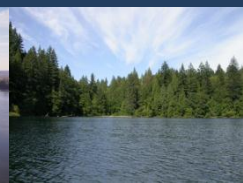
- Intended to be self-assessments
- Systems may receive assistance from states
  - PWS may conduct assessment while consulting with state via phone
  - State may fill out assessment form during phone consultation with PWS
  - Either the PWS or state can at any time consult with the other party to discuss the assessment or corrective action(s)
  - States may set up alternative methods for form submission

Completed Level 1 Assessment Form Components

- Must include:
  - Sanitary defect(s) identified
    - Assessment form may note that no sanitary defects were identified, if applicable
  - Corrective actions taken
  - Proposed timetable for corrective actions not yet completed

40 CFR 141.859(b)





Submission & Review

Within 30 days of learning that trigger has been exceeded

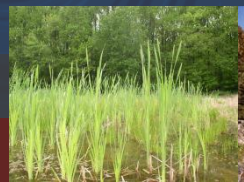
Submit completed Level 1 assessment form to state

- State will review assessment to determine if:
  - System identified likely cause of Level 1 trigger
  - System corrected the problem or has an acceptable schedule for correction

Updated Final

40 CFR 141.859(b)(3)(iii)

Level 2 Assessments



Level 2 Assessment Triggers

- Considering all compliance samples (routine and repeat) a system has:
  - A second Level 1 trigger within a rolling 12-month period
    - Unless the state has determined a likely reason that the samples that caused the first Level 1 TT trigger were TC+ and has established that the system has corrected the problem
  - An *E. coli* MCL violation

12 rolling months

Two Level 1 triggers

E. coli MCL violation

Level 2 assessment

Clarification Slide

40 CFR 141.859(a)(2)

Who Conducts Level 2 Assessments?

- Must be conducted by state-approved party
  - The state
  - A third party approved by the state, including PWS staff, if qualified
- Must follow state directives related to:
  - Size & type of system
  - Size, type, & characteristics of distribution system

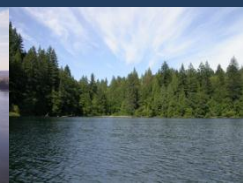
40 CFR 141.859(b)(2) & 141.859(b)(4)(i)-(ii)

Completed Level 2 Assessment Form Components

- Level 2 assessment elements contain the same elements as the Level 1, but each element is investigated in greater detail
- Must include:
  - Sanitary defect(s) identified
  - Corrective actions
  - Timetable for corrective actions

40 CFR 141.859(b)(4)(i)





Submission & Review

Submit complete Level 2 assessment form to the state

Within 30 days of learning that trigger has been exceeded

- State will review assessment to determine if:
  - System identified likely cause of Level 2 trigger
  - System corrected the problem or has an acceptable schedule for correction

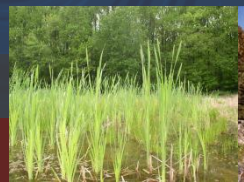
40 CFR 141.859(b)(4)(iv)

TT Violations Associated with a Level 1 and Level 2 Assessment

- PWS fails to perform assessment(s) or corrective action(s) within the required timeframe
  - TT violation: failure to perform Level 2 assessment or corrective action(s)

40 CFR 141.860(b)(1)

Polling Question #8



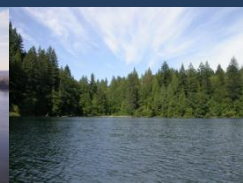
Polling Question #8

Does your state plan on approving SW systems to conduct their own Level 2 assessments?

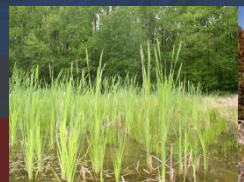
- Yes
- No
- Undecided

States have discretion to allow water systems to conduct their own Level 2 assessment.





Polling Question #9



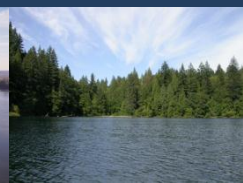
Polling Question #9

Over 5.0% of the RTCR samples at Daphne's water system are TC+. However, one routine sample TC+/EC+ and its associated repeat sample is TC+. Daphne is required to collect 100 samples/mo.

What type of assessment is required?

A. Level 1
B. Level 2





Polling Question #9: Answer

Over 5.0% of the RTCR samples at Daphne's water system are TC+. However, one routine sample TC+/EC+ and its associated repeat sample is TC+. Daphne is required to collect 100 samples/mo.

What type of assessment is required for the month?

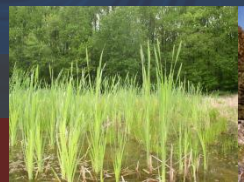
A. Level 1

B. Level 2

EXPLANATION: This system has an *E. coli* MCL violation, which triggers a Level 2 assessment.

Polling Question #10

Surface Water



Polling Question #10

Over 5.0% of the RTCR samples at Prince George's water system are TC+. However, the system only has one EC+ routine sample which is associated with a repeat TC- result. All of the other repeat samples for the month are EC-. Prince George's is required to take 210 routine samples each month.

What type of assessment is required? (Select all that apply)

A. Level 1
B. Level 2

Polling Question #10: Answer

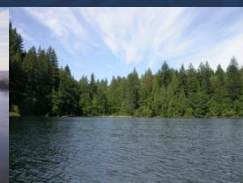
Over 5.0% of the RTCR samples at Prince George's water system are TC+. However, the system only has one EC+ routine sample which is associated with a TC- result. All of the other repeat samples for the month are EC-. Prince George's is required to take 210 routine samples each month.

What type of assessment is required?

EXPLANATION: A Level 1 assessment is triggered if this is not the second trigger for a Level 1 in the previous 12 rolling months. A Level 2 assessment is triggered if this is the second Level 1 assessment within the previous 12 rolling months, unless the state has determined the reason for the first Level 1 and that the system has corrected the problem.

Corrective Actions Associated with Level 1 and Level 2 Assessments





Timing of Corrective Action

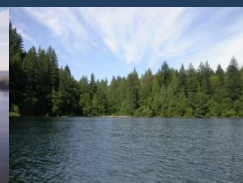
- System must complete corrective action:
  - By the time assessment form is submitted, which is within 30 days of the trigger
  - OR
  - Within state-approved timeframe
- System must notify the state when each scheduled corrective action is completed
- Either system or state can at any time request a consultation with the other party to discuss the corrective action

40 CFR 141.859(c)-(d)

Common Corrective Actions

- Disinfection
- Flushing
- Replacement/repair of distribution system or storage components
- Storage facility maintenance
- Development/implementation of operations plan
- Maintenance of adequate pressure
- Training on proper sampling technique





Common Causes of Contamination & Corrective Actions

Common Cause	Common Corrective Action(s)
Failure to disinfect (or improper disinfection) after maintenance work in the distribution system	• Disinfection
Main breaks	• Disinfection • Replacement/repair of distribution system components
Holes in storage tank, inadequate screening, etc.	• Replacement/repair of distribution system components • Maintenance of storage facility • Addition of security measures • Development & implementation of an operations plan

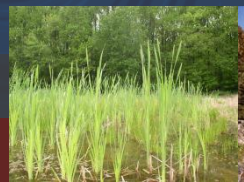
Common Causes of Contamination & Corrective Actions (cont.)

Common Cause	Common Corrective Action(s)
Loss of system pressure	• Maintenance of adequate pressure • Valve maintenance • Addition or upgrade of on-line monitoring & control
Biofilm accumulation in the distribution system	• Flushing • Maintenance of adequate pressure
Cross connections	• Maintenance of adequate pressure • Installation of backflow prevention assembly/device • Implementation/upgrade of cross connection control program

Common Causes of Contamination & Corrective Actions (cont.)

Common Cause	Common Corrective Action(s)
Inadequate disinfectant residual	• Disinfection • Flushing • Maintaining appropriate hydraulic residence time • Addition or upgrade of on-line monitoring & control
Contaminated sampling taps	• Replacement/repair of distribution system components • Sampler training
Sampling protocol errors	• Sampler training • Development & implementation of an operations plan

Categories of RTCR Violations



Violations Under the RTCR

- *E. coli* MCL violation
- TT violations
- Monitoring violations
- Reporting violations

A "Level 1 or Level 2 assessment trigger" is not a violation type. There is not a violation type for a "Level 1 or Level 2 assessment trigger".

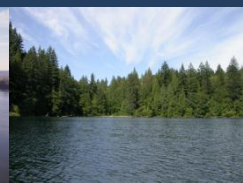
40 CFR 141.860

Compliance Possibilities

- 2 primary compliance tracks
  - *E. coli* MCL
    - More specific indicator of fecal contamination
  - TT based on assessment
    - Assessment (Level 1 or 2) identifies sanitary defect(s)
    - Corrective actions identified to address sanitary defect(s)
    - System must implement corrective actions
    - Completing these steps is the TT requirement

40 CFR 141.63 & 141.859





E. coli MCL Violation

A PWS is in violation of the *E. coli* MCL when any of these conditions occur:

E. coli MCL Violation Occurs with Any of These Sampling Result Combinations	
ROUTINE	**REPEAT**
EC+	TC+
EC+	Any missing repeat sample
TC+	EC+
TC+	TC+ (but no *E. coli* analyzed)

Clarification Slide

40 CFR 141.860(a)

Treatment Technique Violations

- A PWS is in violation of the RTCR TT when any of the following occur:
  - Failure to conduct a Level 1 or Level 2 assessment within 30 days of trigger
  - Failure to correct all sanitary defects from a Level 1 or Level 2 assessment within 30 days of trigger or in accordance with a schedule acceptable to the state
  - Failure for a seasonal system to complete state-approved start-up procedure prior to serving water to public

40 CFR 141.860(b)

Clarification Slide

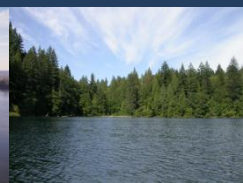
Monitoring Violations

- The following two types of monitoring failures are monitoring violations:
  - Failure to take routine total coliform sample
  - Failure to analyze for *E. coli* following a TC+ routine sample

- NOTE: Not every failure to monitor is considered a monitoring violation! Please see CFR.

40 CFR 141.860(c)





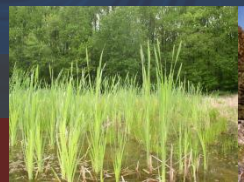
Clarification Slide

Monitoring Failures

Description	Monitoring Violation	*E. coli* MCL Violation	Triggers Level 1 or Level 2 Assessment
Failure to take routine sample	Yes		
Failure to take/analyze for *E. coli* following a TC+ routine sample	Yes		
Failure to take repeat samples following a TC+ routine sample			Triggers Level 1 assessment*
Failure to take repeat sample following an EC+ routine sample		Yes	
Failure to take/analyze for *E. coli* following a TC+ repeat sample		Yes	
** A Level 2 assessment is triggered if a second Level 1 assessment was triggered within a rolling 12-month period.*			

Clarification Slide 40 CFR 141.859(a)(1)(iii) & 141.860(c)

Polling Question #11

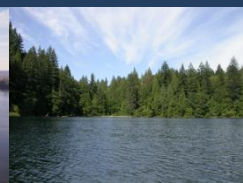


Polling Question #11

FILL IN THE BLANK: Failure to take repeat RTCR samples following a routine EC+ sample is a _____

A. Monitoring violation
B. *E. coli* MCL violation
C. Level 1 assessment trigger



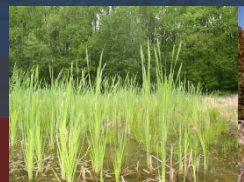


Polling Question #11: Answer

FILL IN THE BLANK: Failure to take repeat RTCR samples following a routine EC+ sample is a _____

A. Monitoring violation
B. *E. coli* MCL violation
C. Level 1 assessment trigger

Polling Question #12



Polling Question #12

Failure to take repeat samples following a routine total coliform-positive/*E. coli*-negative sample_____ (select all that apply)

A. Causes a monitoring violation
B. Triggers a Level 1 assessment
C. Triggers a Level 2 assessment

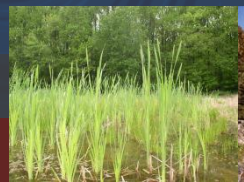
Polling Question #12: Answer

Failure to take repeat samples following a routine total coliform-positive/*E. coli*-negative sample_____(select all that apply)

A. Causes a monitoring violation
B. Triggers a Level 1 assessment
C. Triggers a Level 2 assessment

EXPLANATION: A Level 1 assessment is triggered if this is not the second trigger for a Level 1 in the previous 12 rolling months. A Level 2 assessment is triggered if this is the second Level 1 assessment within the previous 12 rolling months, unless the state has determined the reason for the first Level 1 and that the system has corrected the problem.

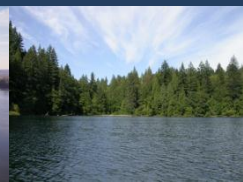
Pop Quiz



Quiz

FILL IN THE BLANK: If a PWS fails to analyze for *E. coli* following a TC+ routine sample, the PWS has incurred a ___?___ violation. If a PWS fails to analyze for *E. coli* following a TC+ repeat sample, the PWS has incurred a ___?___ violation.

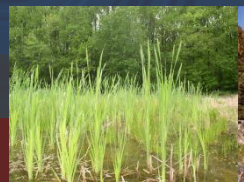




Quiz: Answer

FILL IN THE BLANK: If a PWS fails to analyze for *E. coli* following a TC+ routine sample, the PWS has incurred a MONITORING violation.
If a PWS fails to analyze for *E. coli* following a TC+ repeat sample, the PWS has incurred an *E. coli* MCL violation.

Reporting and Recordkeeping Requirements



Reporting Requirements – RTCR

Systems must report to the state:	
REQUIREMENT	**TIMING**
E. coli MCL violation, or EC+ routine sample	By end of current business day (or next business day if state office is closed)
TT violation	By end of next business day
Level 1 or 2 assessment report	Within 30 days of learning that the system has exceeded a TT trigger

40 CFR 141.861(a)(1)-(3)

Reporting Requirements (cont.)

Systems must report to the state:	
REQUIREMENT	**TIMING**
Coliform monitoring violation	Within 10 days of learning of violation
Completion of corrective action, if occurring after submittal of an assessment report	When each corrective action is completed
Seasonal system certification of compliance with state-approved start-up procedures	Prior to serving water to the public

40 CFR 141.861(a)(3)-(5)

Reporting Violations

- Failure to submit monitoring report or completed assessment form
- Failure to notify the state of a routine or repeat EC+ sample in a timely manner
- Failure to report completion of corrective action
- Seasonal systems
  - Failure to submit certification of completion of start-up procedures

40 CFR 141.861(d)

PWS Recordkeeping

PWSs must maintain records:	
REQUIREMENT	**TIMING**
Records of action taken by the system to correct violations of primary drinking water regulations	3 years
Public notices issued & certifications made	3 years
Records of microbiological analysis	5 years
Copies of monitoring plans	As long as analyses are required

40 CFR 141.33(a)-(c) & (f)

PWS Recordkeeping (cont.)

PWSs must maintain records:	
REQUIREMENT	**TIMING**
Level 1 or 2 assessment forms	5 years
Documentation of corrective actions	5 years
Other available summary documentation of sanitary defects & corrective actions	5 years
Records of any repeat samples taken that meet the state's criteria for an extension of the 24-hour period for collecting repeat samples.	5 years

40 CFR 141.861(b)

State Recordkeeping

States must maintain records:	
REQUIREMENT	**TIMING**
Microbiological analyses	1 year
Decisions to waive the 24-hour time limit for collecting repeat samples after a TC+ routine sample or sample invalidation	5 years
Decisions for unfiltered SW systems to collect a TC sample following a turbidity measurement >1 NTU	
Decisions to waive the requirement for 3 routine samples the month following a TC+ sample	
Decisions to invalidate a TC+ sample	
Completed & approved Level 1 or 2 assessments	
Reports from systems of completed corrective actions	

Updated Final

40 CFR 142.14(a)(1) & 142.14(a)(10)(i)

State Recordkeeping (cont.)

States must maintain records:	
REQUIREMENT	**TIMING**
Decisions to allow a system to forgo *E. coli* testing of a TC+ sample if that system assumes that the sample is EC+	In such a manner that each system's current status may be determined

40 CFR 142.14(a)(10)(ii)(D)

Reporting Violations

- A PWS is in violation of reporting requirements when any of the following occurs:
  - Failure to submit monitoring report
  - Failure to submit a completed Level 1 or Level 2 assessment form within 30 days of learning of the trigger
  - Failure to notify the state by the end of the next business day following an EC+ sample or *E. coli* MCL violation
  - Failure for a seasonal system to timely submit certification of completion of state-approved start-up procedure (prior to serving water to the public)

40 CFR 141.860(d)

PWS Compliance Guide

Sample Type Result			Required Assessment	Monitoring Next Steps
ROUTINE	REPEAT	*E. coli* MCL Violation		
EC+	TC+	Yes	Level 2	For every TC+ routine sample result, collect set of 3 repeat samples
TC+	EC+			
EC+	Any missed			
TC+	TC+ (no *E. coli* taken)			
*TC+	Any missed	No	Level 1**	

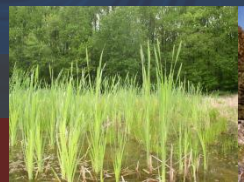
** The system must conduct a Level 2 assessment (instead of a Level 1 assessment) if Level 1 assessment already triggered within the past rolling 12-month period.

*Disclaimer: This is summary information and is not comprehensive of Level 1 assessment triggers and follow-up monitoring requirements for TC+ repeat samples. Please see CFR for additional information.

Updated Final

40 CFR 141.859(a) & 141.860(a)

Public Notification & Consumer Confidence Report Requirements



Tier 1 & 2 PN Requirements

Tier	Violation
Tier 1	Has an EC+ repeat sample following TC+ routine sample
	Has TC+ repeat sample following an EC+ routine sample
	Fails to take all required repeat samples following an EC+ routine sample
	Fails to test for *E. coli* when any repeat sample is TC+
Tier 2	TT violation resulting from failure to perform Level 2 assessment or corrective action
	TT violation resulting from failure to perform Level 1 assessment or corrective action
	Failure of non-community seasonal systems to complete state-approved start-up procedure prior to serving water to the public

40 CFR 141.63(c); 141.201; 141.860(a)-(b); & Appendix A to Subpart Q –IA.1.b; IA.2.b & IA.2.c

Tier 3 PN Requirements

Tier	Violation
Tier 3	**Monitoring Violations:**
	Failure to take every required routine or additional routine sample.
	Failure to analyze for *E. coli* following a TC+ routine sample.
	RTCR Reporting Violations:
	Failure to submit a monitoring report or completed assessment form after a system properly conducts monitoring or assessment in a timely manner.
	Failure to notify the state following an EC+ sample in a timely manner.
	Failure to submit certification of completion of state-approved start-up procedure by a seasonal system.

40 CFR 141.860(c) & (d) & Appendix A to Subpart Q – I.A.1.b & I.A.2.b

Tier 1 PN Requirement

- *E. coli* MCL violation = Tier 1 PN

Within 24 hours of violation

Issue Tier 1 PN (with modified standard health effects language)

Consult Primacy Agency

- Repeat notices: timing, form, manner, frequency, and content established by the primacy agency
- Systems must comply with any additional PN requirements

40 CFR 141.202(a)-(b)

Tier 2 PN Requirement

- No monthly *E. coli* MCL violation
- TT violations = Tier 2 PN

Within 30 days of learning of violations

→ Issue Tier 2 PN (with modified standard health effects language)

Every 3 months that problem persists

→ Repeat notice

Updated Final

40 CFR 141.203(a)-(b)

Tier 3 PN Requirement

- Monitoring violations and reporting violations

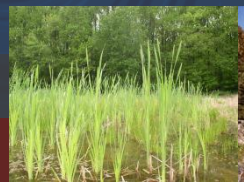
Within 1 year of violation → Issue Tier 3 PN*

Every 12 months that problem persists → Repeat notice → Can be detailed in CCR

* Tier 3 PN can be issued in the CCR if it is distributed within 12 months of the violation.

40 CFR 141.204

Polling Question #13



Polling Question #13

- Tier 3 PN is required for which of the following reporting violations? (Select all that apply)
  - Failure to submit a monitoring report or completed assessment form in a timely manner after the PWS has properly conducted monitoring or an assessment.
  - Failure to notify the state in a timely manner following an EC+ sample, as required by 40 CFR 141.858(b)(1).
  - Failure to submit certification of completion of state-approved start-up procedure by a seasonal NCWS.

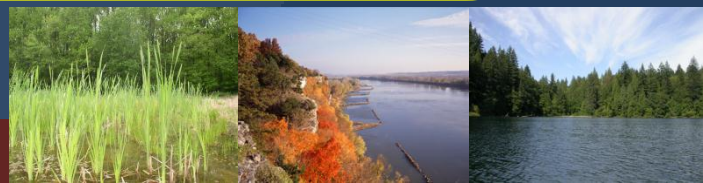
Polling Question #13: Answer

- Tier 3 public notification is required for which of the following reporting violations? (Select all that apply)

A. Failure to submit a monitoring report or completed assessment form in a timely manner after the PWS has properly conducted monitoring or an assessment.

B. Failure to notify the state in a timely manner following an EC+ sample, as required by 40 CFR 141.858(b)(1).

C. Failure to submit certification of completion of state-approved start-up procedure by a seasonal NCWS.



Health Effects Language

E. coli MCL Violation	
Tier 1	"***E. coli* are bacteria** whose presence indicates that the water may be contaminated with human or animal wastes. **Human pathogens** in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems."

40 CFR 141 Appendix B to Subpart Q –1g

Health Effects Language (cont.)

TT Violations (Assessment Triggered By Presence Of *E. coli*)	
Tier 2	"Coliforms are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We violated the standard for *E. coli*, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct a detailed assessment to identify problems and to correct any problems that are found."
	System must also include the following applicable sentences:
	"We failed to conduct the required assessment."
	"We failed to correct all identified sanitary defects that were found during the assessment that we conducted."

40 CFR 141 Appendix B to Subpart Q –1f

Health Effects Language (cont.)

TT Violations (Assessment Triggered By Presence Of Total Coliform)	
Tier 2	"Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that are found."
	System must also include the following sentences:
	"We failed to conduct the required assessment."
	"We failed to correct all identified sanitary defects that were found during the assessment that we conducted."

Health Effects Language (cont.)

TT Violations (Seasonal Systems)	
Tier 2	**Failure to monitor for total coliforms or *E. coli* prior to serving water to the public:** "We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During [compliance period], we 'did not monitor or test' or 'did not complete all monitoring or testing' for [contaminant(s)], and therefore cannot be sure of the quality of your drinking water during that time."
	Failure to complete other actions: Appropriate standard content elements in 40 CFR 141.205(a).

40 CFR 141.205(d)(2) & Appendix B to Subpart Q –1h

Consumer Confidence Reports (CCR)

- CWS must report
  - Until March 31, 2016
    - Total coliform, fecal coliform & *E. coli*: number or percentage of positive results
  - Starting April 1, 2016
    - *E. coli*: number of positive results
    - Level 1 or Level 2 assessment language

40 CFR 141.153(c)(4); & 141.153(d)(4)(vii), (viii), & (x)

CCR – Case Specific (cont.)

- CCR elements depend on the following case or violation:
  - Case 1: For systems required to comply with L1 and L2 assessment (not due to an *E. coli* MCL violation) requirements
  - Case 2: For systems required to comply with the L2 assessment requirement due to an *E. coli* MCL violation
  - Case 3: For systems that detected *E. coli* and have violated the EC MCL
  - Case 4: For systems that detected *E. coli* but did not violate the *E. Coli* MCL
- Note: Definitions for Level 1 and Level 2 assessments for cases 1 and 2 above

40 CFR 141.153(h)(7)(i), (ii), (iii), & (iv)

CCR Requirements – Case 1

Case 1: L1 & L2 Assessments NOT due to *E. coli* MCL Violation	
141.153(c)(4), 141.153(h)(7)(i)	Systems must include in CCR: 1. Definition of Level 1 and/or Level 2 assessment 2. Health effects language for total coliforms 3. Number of Level 1 assessments required, number of Level 1 assessments completed, number of corrective actions required, and number of corrective actions completed 4. Number of Level 2 assessments required, number of Level 2 assessments completed, number of corrective actions required, and number of corrective actions completed 5. For systems that fail to complete all required assessments or correct all identified sanitary defects, the cause of the TT violation

CCR Requirements – Case 1 (cont.)

Case 1: L1 Assessment and L2 Assessment not due to *E. coli* MCL Violation	
	Definitions
1	*"Level 1 assessment*: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system. *Level 2 assessment:* A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system. "

40 CFR 141.153(c)(4)(i)-(ii)

CCR Requirements – Case 1 (cont.)

Case 1: L1 Assessment and L2 Assessment not due to *E. coli* MCL Violation	
Health Effects Language	
2	"Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliform indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments."

40 CFR 141.153(h)(7)(i)(A)

CCR Requirements – Case 1 (cont.)

Case 1: L1 Assessment and L2 Assessment not due to *E. coli* MCL Violation	
Results	
3	"During the past year we were required to conduct ___ Level 1 assessment(s). ___ Level 1 assessment(s) were completed. In addition, we were required to take ___ corrective actions and we completed ___ of these actions."
4	"During the past year ___ Level 2 assessments were required to be completed for our water system. ___ Level 2 assessments were completed. In addition, we were required to take ___ corrective actions and we completed ___ of these actions."

40 CFR 141.153(h)(7)(i)(B)-(C)

CCR Requirements – Case 1 (cont.)

Case 1: L1 Assessment and L2 Assessment not due to *E. coli* MCL Violation	
Failures	
5	For systems that have a TT violation for failing to complete all the required assessments or corrective actions, include one or both of the following statements, as appropriate: •"During the past year we failed to conduct all of the required assessment(s)." •"During the past year we failed to correct all identified defects that were found during the assessment."

40 CFR 141.153(h)(7)(i)(D)

CCR Requirements – Case 2

Case 2: L2 Assessment due *E. coli* MCL Violation	
141.153(c)(4)(ii), 141.153(h)(7)(ii)	Systems must include in CCR: 1. Definition of Level 2 assessment 2. Health effects language for *E. coli* 3. Reason for conducting Level 2 assessment (i.e., because of EC MCL violation), number of corrective actions required, and number of corrective actions completed 4. For systems that fail to complete all required assessments or correct all identified sanitary defects, the cause of the TT violation

40 CFR 141.153(h)(7)(ii)

CCR Requirements – Case 2 (cont.)

Case 2: L2 Assessment due *E. coli* MCL Violation	
	Definition
1	*Level 2 assessment:* A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system.

40 CFR 141.153(c)(4)(ii)

CCR Requirements – Case 2 (cont.)

Case 2: L2 Assessment due *E. coli* MCL Violation	
Health Effects Language	
2	*"E. coli are bacteria whose presence* indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments."

40 CFR 141.153(h)(7)(ii)(A)

CCR Requirements – Case 2 (cont.)

Case 2: L2 Assessment due *E. coli* MCL Violation	
Results	
3	Reason for conducting Level 2 assessment: "We were required to complete a Level 2 assessment because we found *E. coli* in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions."

40 CFR 141.153(h)(7)(ii)(B)

CCR Requirements – Case 2 (cont.)

Case 2: L2 Assessment due *E. coli* MCL Violation	
Failures	
4	For systems that have a TT violation for failing to complete all the required assessments or corrective actions, include one or both of the following statements, as appropriate: • "We failed to conduct the required assessment." • "We failed to correct all sanitary defects that were identified during the assessment that we conducted."

40 CFR 141.153(h)(7)(ii)(C)

CCR Requirements – Case 3

Case 3: *E. coli Detected and E. coli MCL Violation*	
141.153(h)(7)(iii)	Systems must include in CCR: 1. Completed table required by 141.153(d)(4) – **MCL, MCLG + Health Effects** 2. Reason(s) for non-compliance • "We had an EC+ repeat sample following a TC+ routine sample." • "We had a TC+ repeat sample following an EC+ routine sample." • "We failed to take all required repeat samples following an EC+ routine sample." • "We failed to test for *E. coli* when any repeat sample tests positive for total coliform."

Updated Final

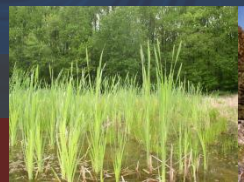
40 CFR 141.153(h)(7)(iii)

CCR Requirements – Case 4

Case 4: *E. coli* Detected but no *E. coli* MCL Violation	
141.153(h)(7)(iv)	Systems must include in CCR: 1. Must complete table required by 141.153(d)(4) 2. May include statement that explains that although the system has detected *E. coli,* they are not in violation of the *E. coli* MCL.

40 CFR 141.153(h)(7)(iv)

Polling Question #14

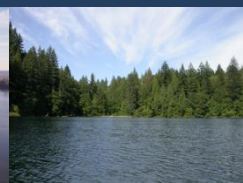


Polling Question #14

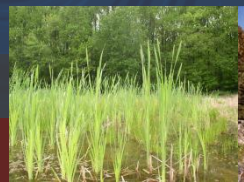
When does your state/EPA Regional Direct Implementation RTCR team intend on implementing all of the RTCR provisions?

A. Between Jan 1, 2014 – Dec 31, 2014
B. Between Jan 1, 2015 – Dec 31, 2015
C. Between Jan 1, 2016 – Dec 31, 2016
D. Between Jan 1, 2017 – Dec 31, 2017
E. After Jan 1, 2018





Other Rule Aspects



Associated SWTRs Requirements

- Subpart H systems that are unfiltered could lose unfiltered status based on RTCR monitoring results
  - Criteria for avoiding filtration
    - Eliminated the TC+ MCL
    - Added EC+ MCL
- Distribution system monitoring for detectable residual under SWTR
  - No change
  - Always take a sample at the same time & place as TC sample (routine & repeat)

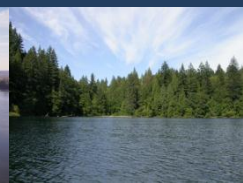
40 CFR 141.856(c); 141.857(c); & 141.74(b)(6)(i)

Unfiltered Subpart H Systems

- Must conduct monthly routine RTCR monitoring
  - Must provide filtration if PWS is not in compliance in at least 11 of 12 previous months:
    - With *E. coli* MCL
    - Coliform TT requirement
- Must also collect at least one additional TC sample (near first service connection) each day that turbidity exceeds 1 NTU
  - Must collect sample within 24 hours of exceedance
  - Must use sample as part of RTCR compliance determination

40 CFR 141.71(b); 141.856(c); & 141.857(c)





Variances & Exemptions

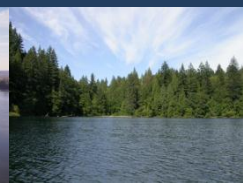
- EPA is not allowing variances or exemptions to the *E. coli* MCL
- EPA is eliminating the variance provision that allows a system to demonstrate to the state the violation of MCL is due to biofilm & not other contamination

40 CFR 141.4(a)-(b)

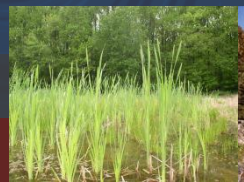
Consecutive Systems

- Consecutive systems must monitor for TC based on:
  - Population served by the consecutive system
  - Source type of the wholesale system





Polling Question #15

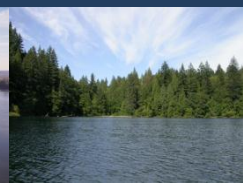


Polling Question #15

TRUE OR FALSE: Unfiltered Subpart H PWSs must collect at least one total coliform sample near first service connection each day that turbidity exceeds 1 NTU.

A. True
B. False



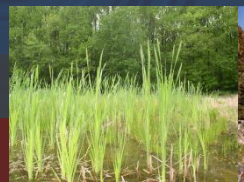


Polling Question #15: Answer

TRUE OR FALSE: Unfiltered Subpart H PWSs must collect at least one total coliform sample near first service connection each day that turbidity exceeds 1 NTU.

A. True
B. False

Summary



Sampling Plan

TCR	RTCR
Systems must collect samples that are representative of water throughout the distribution system according to a written sample siting plan	Systems must develop a written sample siting plan that identifies sampling sites & a sample collection schedule that are representative of water throughout the distribution system, no later than March 31, 2016
	Sites may include a customer's premise, dedicated sampling station or other designated compliance sampling station
	Routine, repeat & GWR (if the system is subject to the rule) sampling sites must be reflected in the plan
Plans are subject to state review & revision	Plans are subject to state review & revision

40 CFR 141.853(a)(1)

Seasonal Systems

TCR	RTCR
Seasonal PWS has the same requirements as other systems of the same size & type	All seasonal PWSs must demonstrate (certify) completion of a state-approved start-up procedure
	Routine (baseline) monitoring is monthly.
	State may exempt seasonal system from requirements (e.g., start-up procedure) if the entire distribution system remains pressurized

40 CFR 141.856(a)(4) & 141.857(a)(4)

Routine Monitoring Frequency (Baseline)

TCR	RTCR
PWS ≤1,000 : 1 sample per month	Same as current TCR
PWS >1,000: monthly based on population	
Seasonal systems monitor based on the size & type of system as identified above	• Seasonal systems ≤1,000: 1 sample per month • Seasonal systems >1,000: monthly based on population

Updated Final

40 CFR 141.856(a)(4) & (b); & 141.857(a)(4) & (b)

Repeat Monitoring – # of Samples

TCR	RTCR
PWS serving ≤1,000: 4 repeat samples for every TC+ routine sample	• All PWSs must take 3 repeat samples for every TC+ routine sample regardless of whether PWS has already triggered an assessment • Also must take additional repeats for TC+ repeat samples until TT trigger (including EC MCL) reached
PWS serving >1,000: 3 repeat samples for every TC+ routine sample	

40 CFR 141.21(b) & 141.858(a)

Repeat Monitoring – Locations

TCR	RTCR
Repeat samples must be collected from the original TC+ site, at least one at a tap within 5 service connections upstream, & at least one at a tap within 5 service connections downstream	PWS can collect repeat samples using the same procedure as in the TCR, or PWS can specify in their sample siting plan either fixed alternative locations or criteria for selecting sites on a situational basis via a standard operating procedure

40 CFR 141.853(a)(5)

Additional Routine Monitoring

TCR	RTCR
PWS taking < 5 routine samples per month (PWS serving ≤4,100) • Must take at least 5 routine samples in the month after a TC+ sample	No longer a requirement for systems that monitor at least monthly PWSs taking samples less frequently than once per month (i.e., quarterly or annually) • Must take at least 3 routine samples in a month after a TC+ sample

Updated Final

40 CFR 141.21(b)(5); 141.856(b); & 141.857(b)

Acute MCL Violation

TCR	RTCR
Fecal coliform-positive repeat sample	EC+ repeat sample following a TC+ routine sample
EC+ repeat sample	TC+ repeat sample following an EC+ routine sample
TC+ repeat sample following a fecal coliform-positive or EC+ routine sample	Fails to take all required repeat samples following an EC+ routine sample
	Fails to test for *E. coli* when any repeat sample tests positive for total coliform

40 CFR 141.63 & 141.860(a)

MCL & TT Violations & PN

TCR	RTCR
Violation of TC MCL when fecal coliform or *E. coli* are present – Tier 1 PN PWS must notify state re: single *EC*/FC+ result	Violation of *E. coli* MCL – Tier 1 PN PWS must notify state re: single EC+ result
	Monthly TC MCL violation is dropped – triggers assessment & corrective action instead
	A TT violation occurs when a PWS fails to conduct required assessment or corrective action – Tier 2 PN
Violation of monthly TC MCL – Tier 2 PN	A TT violation occurs when a seasonal system fails to complete a state-approved start-up procedure prior to serving water to the public – Tier 2 PN

40 CFR 141.63(b) & (d); 141.202; 141.203; & 141.860(a)-(b)

Monitoring (M) & Reporting (R) Violations & PN

TCR	RTCR
M&R violation **Tier 3 PN**	• Monitoring violations and reporting violations will be tracked separately – Both require Tier 3 PN • Newly specified M&R violations: – (M) Failure to take every required routine or additional routine sample in a compliance period – (M) Failure to analyze for *E. coli* following a TC+ routine sample – (R) Failure to submit a monitoring report or completed assessment form after monitoring or conducting assessment correctly/timely – (R) Failure to notify the state following an *E. coli*+ sample – (R) Failure to submit certification of completion of state-approved start-up procedure by a seasonal system

40 CFR 141.204 & 141.860(c)-(d)

PN & CCR Rules – Health Effects Language

TCR	RTCR
Mandatory health effects language for TC & fecal coliforms/*E. coli*	TC health effects language changed to reflect nature of TC as an indicator The health effects language for fecal coliforms/*E. coli* has been replaced with health effects language for *E. coli* only

40 CFR 141, Appendix B to Subpart Q

CCR Language

TCR	RTCR
Information related to highest monthly TC results (number or percentage) & the total number of fecal coliforms/EC+ samples	Information on the total number of EC+ samples
	Information about the number of assessments required & corrective actions taken, and, if appropriate, the number of assessments & corrective actions not completed

Updated Final

40 CFR 141.153(d)(4) & 141.153(h)(7)

Analytical Methods

TCR	RTCR
PWS must conduct TC analysis in accordance with the methods listed in 40 CFR 141.21(f)	Changes to methods, include: • Change in holding time definition • Requiring de-chlorination agent • Requiring autoclaving of MF funnel Revised & clarified the methods table (40 CFR 141.852)

40 CFR 141.852

Variances, Exemptions & Best Available Technology (BAT)

TCR	RTCR
Variances or exemptions may not be granted for TC MCLs except for persistent growth of TC (biofilm)	Variances or exemptions no longer needed since TC MCL is no longer effective
Variances or exemptions may not be granted for *E. coli* MCLs	Variances or exemptions may not be granted for *E. coli* MCL
BAT includes proper maintenance of the distribution system	• Cross connection control added to the BAT distribution system maintenance activities • Updated filtration (SW) & disinfection (SW & GW) BAT to include IESWTR, LT1ESWTR, LT2ESWTR & GWR

40 CFR 142.63(b) & (e)

Frequently Asked Question

What if a system conducts a required assessment, sets a timeline for corrective action years into the future, which is accepted by the primacy agency, but triggers additional assessments before the corrective action can be completed?

ANSWER: The system would incur a Level 1 or Level 2 assessment for each triggered event and must correct any additional sanitary defects. If the system discovers that the contamination continues to be caused by the original triggering event, the system can perform interim measures that ensure the delivery of safe water.

Frequently Asked Question

Does each TC+ routine sample need 3 repeat samples?

ANSWER: Yes, each TC+ routine sample needs 3 repeat samples regardless of whether an assessment has been triggered.

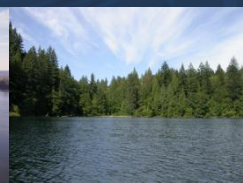
Frequently Asked Question

Are consecutive (purchased) systems that receive SW, purchased GWUDI, or systems that purchase SW/GWUDI blended sources required to monitor monthly for total coliforms under the RTCR?

ANSWER: Yes, any system that has a SW, GWUDI, SW/GWUDI blended source(s) are required to monitor on a monthly basis for total coliform. These systems are considered SW systems for purposes of RTCR coliform monitoring.

RTCR Technical Corrections Planned for Publication in Federal Register (Total=6)





RTCR Technical Corrections Planned for Publication in Federal Register

1. Incorrect cross-reference

§141.861 REPORTING AND RECORDKEEPING

(a) ***

(b) Recordkeeping. (1) The system must maintain any assessment form, regardless of who conducts the assessment, and documentation of corrective actions completed as a result of those assessments, or other available summary documentation of the sanitary defects and corrective actions taken under ~~§141.858~~ §141.859 for State review. This record must be maintained by the system for a period not less than five years after completion of the assessment or corrective action.

(2) ***

NOTE: Suggested language (in yellow) may change in FR.

RTCR Technical Corrections Planned for Publication in Federal Register

2. Incomplete list of items to be included in state primacy application

142.16 SPECIAL PRIMACY REQUIREMENTS

(a) ***

***

(q) *Requirements for States to adopt 40 CFR part 141 subpart Y – Revised Total Coliform Rule*

(1) ***

(2) The State's application for primacy for subpart Y must include a written description for each provision included in paragraphs (q)(2)(i) through ~~(viii)~~ (ix) of this section.

***

NOTE: Suggested language (in yellow) may change in FR.

RTCR Technical Corrections Planned for Publication in Federal Register (cont.)

3. Vague/confusing language

142.16 SPECIAL PRIMACY APPLICATIONS
(a) ***
***

(q) *Requirements for States to adopt 40 CFR part 141 subpart Y – Revised Total Coliform Rule*
***

(2) ***
(ii) Reduced Monitoring Criteria – An indication of whether the State will adopt the reduced
monitoring provisions of 40 CFR part 141, subpart Y. If the State adopts the reduced monitoring provisions, it must describe the specific types or categories of water systems that will be covered by reduced monitoring and whether the State will use all or a reduced set of the optional criteria. For each of the reduced monitoring criteria, both mandatory and optional, the State must describe how the criteria will be evaluated to determine when systems qualify.
NOTE: "Optional" criteria refers to criteria found in 141.854(h)(2) and 141.855(d)(1)(iii) of this title, where the State selects at least one.

NOTE: Suggested language (in yellow) may change in FR.

RTCR Technical Corrections Planned for Publication in Federal Register (cont.)

3. Vague/confusing language

142.16 SPECIAL PRIMACY APPLICATIONS

a) ***

***

(q) *Requirements for States to adopt 40 CFR part 141 subpart Y – Revised Total Coliform Rule*

***

(2) ***

(ii) Reduced Monitoring Criteria – An indication of whether the State will adopt the reduced monitoring provisions of 40 CFR part 141, subpart Y. If the State adopts the reduced monitoring provisions, it must describe the specific types or categories of water systems that will be covered by reduced monitoring and whether the State will use all or a reduced set of the ~~optional~~ criteria specified in §§ 141.854(h)(2) and 141.855(d)(1)(iii) of this Title. For each of the reduced monitoring criteria, ~~both mandatory and optional,~~ the State must describe how the criteria will be evaluated to determine when systems qualify.

NOTE: Suggested language (in yellow) may change in FR.

RTCR Technical Corrections Planned for Publication in Federal Register (cont.)

4. Clarify table in Appendix A to Subpart Q (Public Notification of Drinking Water Violations)

Contaminant	MCL/MRDL/TT violations[2]		Monitoring, testing & reporting procedure violations	
	PN Tier required	Citation	PN Tier required	Citation
I. Violations of National Primary Drinking Water Regulations (NPDWR):[3]				
A. Microbiological Contaminants				
1.a Total coliform bacteria †	2	141.63(a)	3	141.21(a)-(e)
1.b Total coliform (~~Monitoring or~~ TT violations resulting from failure to perform assessments or corrective actions, monitoring violations, and reporting violations) ‡	2	141.860(b)(1)	3	141.860(c)(1) 141.860(d)(1)
1.c Seasonal system failure to follow State-approved start-up plan prior to serving water to the public or failure to provide certification to State.‡	2	141.860(b)(2)	3	141.860(d)(3)

NOTE: Suggested language (in yellow) may change in FR.

RTCR Technical Corrections Planned for Publication in Federal Register (cont.)

4. Clarify table in Appendix A to Subpart Q (Public Notification of Drinking Water Violations)

Contaminant	MCL/MRDL/TT violations[2]		Monitoring, testing & reporting procedure violations	
	PN Tier required	Citation	PN Tier required	Citation
2.a Fecal coliform/*E. coli* †	1	141.63(b)	[4]1,3	141.21(e)
2.b *E. coli* (MCL, monitoring, and reporting violations)‡	1	141.860(a)	3	141.860(c)(2) 141.860(d)(1) 141.860(d)(2)
2.c *E. coli* (TT violations resulting from failure to perform level 2 Assessments or corrective action) ‡	2	141.860(b)(1)		

NOTE: Suggested language (in yellow) may change in FR.

RTCR Technical Corrections Planned for Publication in Federal Register (cont.)

5. **OFR mistake: citation for an analytical method in the wrong column**

Organism	Methodology Category	Method [1]	Citation [1]
Total Coliforms		***	
	Enzyme Substrate Methods	Colilert® ~~Standard Methods Online 9223 B-97~~ [2, 5]	Standard Methods 9223 B (20th ed.; 21st ed.) [2, 5] Standard Methods Online 9223 B-97 [2, 5]
		***	***

NOTE: Suggested language (in yellow) may change in FR.

40 CFR 141.852(a)(5)

RTCR Technical Corrections Planned for Publication in Federal Register (cont.)

6. Imperfect numbering

141.855 ROUTINE MONITORING REQUIREMENTS FOR COMMUNITY WATER SYSTEMS SERVING 1,000 OR FEWER PEOPLE USING ONLY GROUND WATER

(a) ***

(d) *Criteria for reduced monitoring*.

(1) ***

(2) Reserved

(e) ***

NOTE: Suggested language (in yellow) may change in FR.

Questions Regarding the RTCR?

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  Phone Number: 202-564-3896

- TCR Website:
  http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/index.cfm
- RTCR Website:
  http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm
  The Feb. 2013 Final RTCR can be found at this website, along with the RTCR Quick Reference Guide (QRG).

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