The Revised Total Coliform Rule

Webinar

April 10, 2013

USEPA Office of Ground Water and Drinking Water

Your Presenters

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Contact information is provided at the end of the presentation.

Allison Watanabe is providing much needed assistance. Thanks Allison !!

Overview

1. Current Total Coliform Rule (TCR) – Background
2. Revised Total Coliform Rule (RTCR) – History
3. RTCR Requirements
   - Key Provisions
   - Comparison of RTCR vs. TCR
4. Schedule for Planned Guidance and Training

Current TCR - Background

- Published in 1989, effective in 1990
- The only microbial drinking water regulation that applies to all public water systems (PWSs).
- 53,000 community water systems (CWS)
- 19,000 non-transient non-community water systems (NTNCWS) – schools, factories, etc.
- 86,000 transient non-community water systems (TNCWS) – restaurants, gas stations, parks, etc.
  - One of the few rules that apply to transient PWSs
- Requirements effective until RTCR takes effect 4/1/16

Current TCR (cont'd.)

- Rule objectives:
  - Determine the integrity of the distribution system
  - Evaluate the effectiveness of treatment
  - Signal the possible presence of fecal contamination
- Regular monitoring for microbial indicators is used to determine PWS success in meeting water quality goals and rule objectives
  - Total Coliform (TC)
  - Fecal Coliform (FC) or *E. coli* analysis for all TC (+)
- Public Notification (PN) is required for violations of the Maximum Contaminant Level (MCL) and monitoring/reporting requirements
- No requirement for assessment or corrective action

Current TCR - Monitoring Requirements

- Minimum number of routine samples required varies based on system type & number of people served
- Sampling occurs at sites representative of the water throughout the distribution system according to a written sample siting plan that is subject to State review and revision
- Repeat and additional routine samples may be required based on routine sampling results
- All routine and repeat samples count toward calculating MCL compliance

TCR Monitoring Requirements – Community Water Systems

Public Water System ROUTINE Monitoring Frequencies					
Population	Minimum Samples/ Month	Population	Minimum Samples/ Month	Population	Minimum Samples/ Month
25-1,000*	1	21,501-25,000	25	450,001-600,000	210
1,001-2,500	2	25,001-33,000	30	600,001-780,000	240
2,501-3,300	3	33,001-41,000	40	780,001-970,000	270
3,301-4,100	4	41,001-50,000	50	970,001-1,230,000	300
4,101-4,900	5	50,001-59,000	60	1,230,001-1,520,000	330
4,901-5,800	6	59,001-70,000	70	1,520,001-1,850,000	360
5,801-6,700	7	70,001-83,000	80	1,850,001-2,270,000	390
6,701-7,600	8	83,001-96,000	90	2,270,001-3,020,000	420
7,601-8,500	9	96,001-130,000	100	3,020,001-3,960,000	450
8,501-12,900	10	130,001-220,000	120	≥ 3,960,001	480
12,901-17,200	15	220,001-320,000	150		
17,201-21,500	20	320,001-450,000	180		
*Includes PWSs which have at least 15 service connections, but serve <25 people.					

Current TCR – Reduced Monitoring

- For **ground water** systems serving ≤ 1,000 – States may reduce monitoring:
  - NCWSs - start at quarterly but may monitor as little as annually
  - CWSs - start at monthly but may monitor as little as quarterly
  - The criteria to qualify for reduced monitoring:
    - No sanitary defects at last sanitary survey (NCWS, CWS)
    - No history of TC contamination, protected source (CWS)
  - No existing criteria to remain on reduced monitoring
- No reduced monitoring if system serves > 1,000 people or system uses surface water or ground water under the direct influence of surface water (GWUDI)

Current TCR - Total Coliform MCL Violations

- Non-acute (monthly) violation
  - More than 5.0% of samples collected are TC(+) - if system collects at least 40 samples per month,
  - Two or more samples are TC (+) – if the system collects fewer than 40 samples per month.
  - PN required within 30 days
- Acute Violation
  - Any FC/*E. coli* (+) repeat sample, or any TC (+) repeat sample following a FC/*E. coli* (+) routine
  - PN required within 24 hours

History of 2013 RTCR

- **Six Year Review -** SDWA requires EPA to review and revise, as appropriate, each National Primary Drinking Water Regulation no less often than every six years; In 2003, EPA reviewed and decided to revise the TCR
- **Advisory Committee –** In July 2007, EPA convened the Total Coliform Rule Distribution System Federal Advisory Committee (TCRDSAC), representing 15 organizations.
- **Agreement in Principle –**In Sept 2008, TCRDSAC deliberations concluded with a signed Agreement in Principle (AIP) that included consensus recommendations on how to revise the TCR.
- **Proposed Rule –** In July 2010, EPA proposed an RTCR which had the same substance and effect as the TCRDSAC recommendations.
- **Final Rule** – On Feb. 13, 2013, after considering 134 public comment letters, EPA promulgated the final RTCR.

Total Coliform Rule/Distribution System Advisory Committee

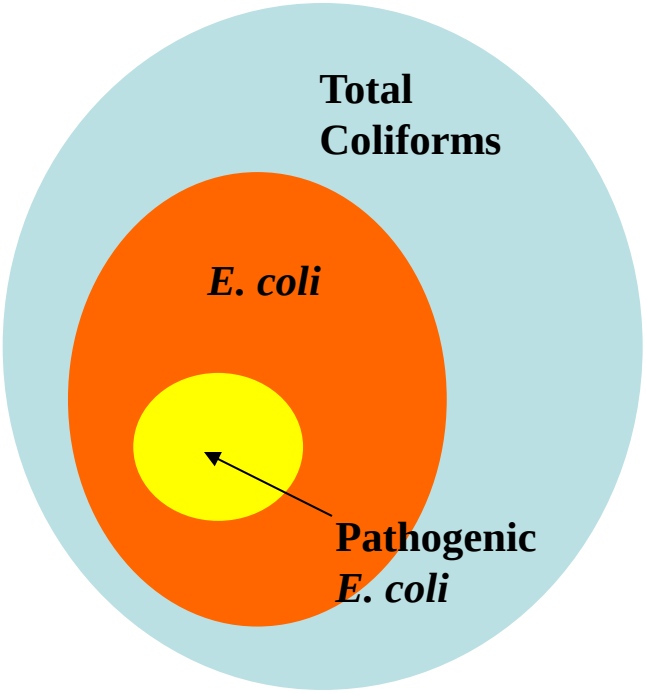
- Committee charge: recommend revisions to the TCR and consider distribution system issues.
- Met 13 times - July 2007 through September 2008
- A Technical Work Group provided technical support and data analyses to inform perspectives on the various rule components that were considered
- Compiled, analyzed, and discussed:
  - TC and *E. coli* occurrence data, system inventories, violation data, state and system responses to violations, and cost information

TCRDSAC Membership

Organization	Representative
National Rural Water Association	David Baird, City of Milford, DE
Native American Water Association	Thomas Crawford, Native American Water Association
US Environmental Protection Agency	Cynthia Dougherty, USEPA, OGWDW
Environmental Council of the States	Patti Fauver, Utah Department of Environmental Quality
National Association of State Utility Consumer Advocates	Christine Maloni Hoover, PA Office of Consumer Advocate
American Water Works Association	Carrie Lewis, Milwaukee Department of Public Works
National Association of Water Companies	Mark LeChevallier, American Water
Council of State and Territorial Epidemiologists	John Neuberger, University of Kansas Medical Center
Rural Community Assistance Partnership	Harvey Minnigh, RCAP Solutions Inc.
Association of State Drinking Water Administrators	Jerry Smith, Minnesota Department of Health
Clean Water Action	Lynn Thorp, Clean Water Action
National League of Cities	Bruce Tobey, City of Gloucester, MA
National Environmental Health Association	Bob Vincent, Florida Department of Health
Association of Metropolitan Water Agencies	David Visintainer, City of St. Louis Dept. of Public Utilities
Natural Resources Defense Council	Mae Wu, Natural Resources Defense Council

Committee Deliberation of Issues (1 of 3)

- How to improve public health protection by building on actions already being taken by well-run systems – “find-and-fix” assessments and corrective action
- How to optimize the value of TC as a more suitable indicator of system operation since it is not an immediate public health concern
- Is Public Notification for TC(+) samples (monthly MCL) causing confusion and erosion of consumer confidence?



Committee Deliberation of Issues (2 of 3)

- Are the number of routine, repeat, and additional routine samples appropriate and effective, especially for small systems?
- How to hold small systems on reduced monitoring accountable and ensure these systems demonstrate continuing eligibility
  - Only systems that are well-operated should qualify for reduced monitoring
  - Should there be increased monitoring for higher risk systems?
  - How to best balance the benefits of monitoring and state involvement (site visits, sanitary surveys, consultations)

Committee Deliberation of Issues (3 of 3)

Also deliberated on:

- Transition from the TCR to the RTCR
- Flexibility in the sampling locations for repeat monitoring
- Seasonal systems

Deliberations concluded with a signed Agreement in Principle (AIP) in September 2008

EPA Commitments to Stakeholders (AIP)

- ✓ Publish a proposed RTCR based on the Advisory Committee recommendations
- Involve stakeholders in
  - ✓ Rule development (Stakeholder meetings in 2009, 2010)
  - ✓ Developing guidance for assessments (public comment draft released August 2010) (ongoing)
  - Developing guidance and training materials (ongoing)
  - Making timely modifications to the data tracking systems – Safe Drinking Water Information System (SDWIS) Next Gen (ongoing)

Key Provisions of RTCR (1 of 3)

Monitoring

- Maintains the routine sampling structure of TCR
- Allows systems to transition on their existing TCR monitoring frequency; re-evaluated at sanitary surveys
- Reduces the required number of follow-up samples (repeat and additional routine) for systems serving ≤1,000
- Like TCR, reduced monitoring is available for small systems (GW serving ≤1,000)
- Provides more stringent criteria that systems must meet to qualify for and stay on reduced monitoring
- Requires small systems with problems to monitor more frequently

Key Provisions of RTCR (2 of 3)

Assessment and Corrective Action

- RTCR requires PWSs to investigate the system and correct any sanitary defects found when monitoring results show the system may be vulnerable to contamination
- Systems must conduct a basic self assessment (Level 1) or a more detailed assessment by a qualified party (Level 2) depending on the severity and frequency of contamination
- Failure to assess and correct is a Treatment Technique (TT) violation

Key Provisions of RTCR (3 of 3)

Seasonal Systems

- Defines “seasonal systems” and requires them to have start-up procedures and sampling during high vulnerability periods

Public Notification (PN)

- Notify public within 24 hours if system confirms fecal contamination (*E. coli*)
- Notify public within 30 days if system does not investigate and fix the identified problem (replaces the PN for total coliform MCL violations, reducing system costs and consumer confusion)
- Notify public yearly regarding monitoring, reporting and recordkeeping violations (for CWSs, via the Consumer Confidence Report (CCR))

Subpart Y - Revised Total Coliform Rule

141.851	General.
141.852	Analytical methods and laboratory certification.
141.853	General monitoring requirements for all public water systems.
141.854	Routine monitoring requirements for non-community water systems serving 1,000 or fewer people using only ground water.
141.855	Routine monitoring requirements for community water systems serving 1,000 or fewer people using only ground water.

Subpart Y - Revised Total Coliform Rule (cont'd)

141.856 Routine monitoring requirements for subpart H public water systems of this part serving 1,000 or fewer people.

141.857 Routine monitoring requirements for public water systems serving more than 1,000 people.

141.858 Repeat monitoring and *E. coli* requirements.

141.859 Coliform treatment technique triggers and assessment requirements for protection against potential fecal contamination.

141.860 Violations.

141.861 Reporting and recordkeeping.

Current TCR vs. 2013 RTCR

Rule Construct

TCR	RTCR
• Maximum Contaminant Level (MCL) for Total Coliform (TC) including fecal coliform/*E. coli*	• Treatment Technique based on TC and *E. coli* and an MCL for *E. coli*
• Acute violation based on fecal coliform and *E. coli*	• Acute violation based on *E. coli* only
• Routine monitoring required based on system size and type	• Routine monitoring required based on system size and type
• No assessment or corrective action required	• Assessment and corrective action required based on monitoring results
• PN required for monthly TC and acute *E. coli* violations	• PN required for failure to assess/correct and for acute *E. coli* violations

Acute Violation of the MCL

TCR	RTCR
Any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample, constitutes a violation of the MCL for total coliforms.	A system is in compliance with the MCL for *E. coli* unless any of these conditions occur: (1) The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample. (2) The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample. (3) The system fails to take all required repeat samples following an *E. coli*-positive routine sample. (4) The system fails to test for *E. coli* when any repeat sample tests positive for total coliform.

Routine Monitoring (Baseline)

TCR	RTCR
• NCWS (GW) ≤1,000 – 1 sample per quarter • NCWS (SW) ≤1,000 and all CWS ≤1,000 – 1 sample per month • PWS >1,000, monthly based on population (table on slide 7) • Seasonal systems monitor based on the size and type of system as identified above	• Same as current TCR • Seasonal systems ≤ 1,000 (GW and SW) - one sample per month • Seasonal systems > 1,000, monthly based on population (table on slide 7)

Sample Siting 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 and 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 and Ground Water Rule sampling sites must be reflected in the plan
• Plans are subject to State review and revision	• Plans are subject to State review and revision

Transition to the RTCR

For GW systems serving ≤ 1,000

- Systems continue on their TCR monitoring schedule that is in effect on March 31, 2016
- NCWS and CWS on reduced monitoring remain on that schedule unless they
  - trigger more frequent monitoring, or
  - are otherwise directed by the State
- NCWS on annual monitoring must have an annual site visit or voluntary Level 2 assessment beginning no later than 2017 to remain on annual monitoring
- State must perform a special monitoring evaluation during each sanitary survey to determine if the monitoring schedule is appropriate

Reduced Monitoring - NCWS ≤1,000 (GW)

TCR	RTCR
State can reduce to 1 sample per year if system is free of sanitary defects (most recent sanitary survey)	State can reduce to 1 sample per year • Criteria: – an annual site visit by the State or an annual voluntary Level 2 assessment (before the first reduction, annually thereafter); – a clean compliance history* for at least the last 12 months; – free of sanitary defects (most recent sanitary survey); – a protected source and meets construction standards * "*Clean compliance history* is, for the purposes of subpart Y, a record of no MCL violations under § 141.63; no monitoring violations under § 141.21 or subpart Y; and no coliform treatment technique trigger exceedances or treatment technique violations under subpart Y."

Reduced Monitoring - CWS ≤1,000 (GW)

TCR	RTCR
State can reduce to no less than 1 sample/quarter if no history of TC contamination and a sanitary survey in the last 5 years shows • no sanitary defects • a protected GW source	State can reduce to no less than 1 sample / quarter if : ▪ compliance with certified operator provisions ▪ a clean compliance history for at least 12 months; ▪ free of sanitary defects (last sanitary survey) or on approved plan and schedule, ▪ a protected source and meets construction standards ▪ at least one of the following: – annual site visit or Level 2 assessment – cross connection control as approved by State – meets disinfection criteria (distribution system or virus removal/inactivation as specified in the GWR) – other equivalent enhancements

Increased Monitoring (NCWS) – RTCR only

- NCWS (GW) serving ≤ 1,000 increases from annual to quarterly monitoring the quarter after the system has one RTCR monitoring violation
- NCWS (GW) serving ≤ 1,000 increases from quarterly or annual to monthly monitoring the month following any of these events:
  - Triggered Level 2 assessment or a 2nd Level 1 assessment in a rolling12 months
  - *E. coli* MCL violation
  - Coliform TT violation
  - Two RTCR monitoring violations, or one RTCR monitoring violation and one Level 1 assessment, in a rolling 12 months, for a system on quarterly monitoring

Increased Monitoring (NCWS) (cont'd)

- For Transient NCWS on quarterly or monthly monitoring, State may elect not to count monitoring violations to determine eligibility for reduced monitoring if the system collects the missed sample before the end of the next monitoring period

Return to Quarterly Monitoring (NCWS) – RTCR only

For a NCWS (GW) serving ≤ 1,000 that was triggered to increased monthly monitoring, the State may reduce the monitoring frequency to quarterly if:

- Within the last 12 months, the system has a completed sanitary survey or site visit by the State or voluntary Level 2 assessment by a party approved by the State,
- Is free of sanitary defects,
- Has a protected source, and
- Has a clean compliance history for a minimum of 12 months

Return to Annual Monitoring (NCWS) – RTCR only

For a NCWS (GW) serving ≤ 1,000 that was triggered to increased monthly monitoring, the State may reduce the monitoring frequency to annual if it:

- Meets the criteria for returning to quarterly monitoring (see previous slide),
- Has an annual site visit or voluntary Level 2 assessment (correction of all identified sanitary defects),
- Has at least one additional enhancement:
  - cross-connection control
  - certified operator or regular visits by a certified circuit rider
  - meets disinfection standards (in the distribution system or virus inactivation or removal as specified in the GWR)
  - other equivalent enhancements

Return (Increase) to Routine Monthly Monitoring (CWS) – RTCR only

CWS (GW) serving ≤ 1,000 returns from quarterly (reduced) monitoring to routine monthly monitoring the month following any of these events

- triggered Level 2 assessment or a 2nd Level 1 assessment in a rolling12 months
- *E. coli* MCL violation
- Coliform TT violation
- Two RTCR monitoring violations in a rolling 12 months
- System loses its certified operator

Seasonal Systems

TCR	RTCR

Seasonal PWS has the same requirements as other systems of the same size and type	• *"Seasonal system* is a non-community water system that is not operated as a public water system on a year-round basis and starts up and shuts down at the beginning and end of each operating season"
	• All seasonal PWSs must demonstrate (certify) completion of a State-approved start up procedure
	• Baseline monitoring is monthly. For reduced monitoring
	  − Seasonal PWS must meet the same criteria as other systems of its size and type
	  − Sample site plan must designate the time period for monitoring based on high demand or vulnerability
	• State may exempt seasonal system from requirements (e.g. start up procedure) if the entire distribution system remains pressurized, except that systems monitoring less than monthly must still monitor during the designated vulnerable period

Monitoring Frequency – PWSs Serving ≤ 1,000 Persons

System Type		Increased	Routine	Reduced	Transition to the RTCR
CWS	**GW**	NA	1 / month	1 / quarter	Same frequency under the 1989 TCR
	SW	NA	1 / month	NA	NA (1 / month)
NCWS	**SW**	NA	1 / month	NA	NA (1 / month)
	GW non-seasonal	1 / month	1 / quarter	1 / year	Same frequency under the 1989 TCR For annual – must have site visit or voluntary Level 2 assessment in 1st and subsequent years
	GW seasonal	NA	1 / month	1 / quarter or 1 / year	Same frequency under the 1989 TCR For quarterly – must identify vulnerable period for monitoring For annual – must identify vulnerable period for monitoring and have site visit or voluntary Level 2 assessment in 1st and subsequent years

Repeat Monitoring

TCR	RTCR
• PWS serving ≤1,000 must take 4 repeat samples for every TC(+) routine sample; all others must take 3	• All systems must take 3 repeat samples for every TC(+) routine sample;
• For GW PWS serving ≤1,000, 1 repeat sample can be a source water sample used to also comply with the GWR triggered monitoring requirement if the State approves the use of *E. coli* as a fecal indicator for GWR source water sampling.	• Same as TCR, but the State must also approve the use of a single sample to meet both requirements.

Repeat Monitoring (cont'd)

TCR	RTCR
• Repeat samples must be collected from the original TC (+) site, at least one at a tap within five service connections upstream, and at least one at a tap within five 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

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.	• PWS taking samples less frequently than once per month (i.e. quarterly or annually) – Must take at least 3 routine samples in the month after a TC(+) sample • PWS taking at least 1 sample per month – the additional routine sample requirement is eliminated (they take their usual number of samples the following month)

Assessments – RTCR only

- Under the RTCR there is no longer a monthly MCL violation for multiple total coliform detections.
- Instead, the RTCR requires systems that have an indication of coliform contamination in the distribution system to assess the problem and take corrective action
- Assessments – two levels based on severity or frequency of contamination

  "…an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. …"

Sanitary Defects

- *"Sanitary defect* is 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. "
- Examples of sanitary defects could include:
  - Cross connection
  - Breakdown in treatment
  - Source problems (e.g., defective well seal or casing)
  - Improper disinfection of main repairs or other appurtenances being returned to service

Assessment Elements – Levels 1 and 2

1. Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired
2. Changes in distribution system maintenance and operation that may affect distributed water quality, including water storage
3. Source and treatment considerations that bear on distributed water quality
4. Existing water quality monitoring data
5. Inadequacies in sample sites, sampling protocol, and sample processing

Level 1 Assessment

Triggers:

- For a system collecting 40 samples or more per month, more than 5.0% of samples collected are TC (+)
- For a system collecting fewer than 40 samples per month, more than one sample is TC (+)
- The PWS fails to take every required repeat sample after any single routine TC (+)

Assessment:

- Conducted by the PWS
- A basic examination of the source water, treatment, distribution system and relevant operational practices

Level 1 Assessment - Definition

Level 1 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. It is conducted by the system operator or owner. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any State directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system.

Level 2 Assessment

Triggers:

- Violation of the RTCR MCL for *E. coli*
  - An *E. coli* (+) repeat sample following a TC (+) routine sample
  - A TC (+) repeat sample following an *E. coli* (+) routine sample
  - The system fails to take all required repeat samples following an *E. coli* (+) routine sample
  - The system fails to test for *E. coli* when any repeat sample tests (+) for TC

Level 2 Assessment (cont'd)

Triggers (cont'd):

- Two Level 1 triggers in a rolling 12 month period
- For NCWS (GW) serving ≤1,000 on annual monitoring, a Level 1 trigger in each of 2 consecutive years

Conducted by the State or a party approved by the State (could be the PWS if qualified and approved by the State)

A more in-depth examination of the source water, treatment, distribution system and relevant operational practices (e.g., more sampling, site visits, inspections, etc.)

Level 2 Assessment - Definition

Level 2 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. A Level 2 assessment provides a more detailed examination of the system (including the system's monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. It is conducted by an individual approved by the State, which may include the system operator. Minimum elements include review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired; changes in distribution system maintenance and operation that could affect distributed water quality (including water storage); source and treatment considerations that bear on distributed water quality, where appropriate (e.g., whether a ground water system is disinfected); existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing. The system must conduct the assessment consistent with any State directives that tailor specific assessment elements with respect to the size and type of the system and the size, type, and characteristics of the distribution system. The system must comply with any expedited actions or additional actions required by the State in the case of an *E. coli* MCL violation.

Assessment Forms – RTCR only

- Sanitary defects, corrective actions completed, and a proposed timetable for any corrective actions not already completed must be described in the assessment form the PWS submits to the State
- The form may also indicate that no sanitary defects were found
- Forms are due to the State within 30 days of the PWS learning that it has exceeded a trigger
- States will develop assessment forms or formats
- If the State determines the assessment is not sufficient, the State must consult with the PWS and the PWS must submit a revised form on an agreed-upon schedule
- At any time during the assessment or corrective action phase, either the PWS or the State may request a consultation with the other party to determine the appropriate actions to be taken

Example Level 1 Assessment Form - AIP

APPENDIX X

CONCEPT EXAMPLE

LEVEL 1 ASSESSMENT FORM

System Name:	Source Water:	PWSID #
System Type:	System Size:	
Operator in Responsible Charge (ORC):	Phone:	PWS Address:
City, State:		
County:		
Person that collected TC samples if different than ORC:	Phone:	
Address, City, State, Zip:		
Date Assessment Completed:		

	Questions	Review	Applicable	Issue Identified	Issue Description	Corrective Action Taken (Including Date)
MANAGEMENT	1. Have any of the following occurred at relevant facilities prior to the collection of TC samples?	☐	Y N	Y N		
	(Any interruptions in the treatment process; any reported loss of pressure events (5 psi); operation and maintenance activities that could have introduced total coliform; reported vandalism and/or unauthorized access to facilities; visible indicators of unsanitary conditions reported; Has there been a fire fighting event, flushing operation, sheared hydrant, etc.)					
	2. Have there been any recent changes?	☐	Y N	Y N		
	(Sources introduced, treatment or operational changes, potential sources of contamination)					
	3. Evaluate sample site.	☐		Y N		
	(Condition or location of tap, regular use of connection)					
	4. Sample protocol followed. And reviewed	☐		Y N		
	(Flush tap, remove aerator, no swivel, fresh sample bottles, sample storage acceptable)					

Corrective Action – RTCR only

- The PWS must correct all sanitary defects found during the assessment
- Corrective actions must be described in the assessment form the PWS must submit to the State
- For corrective actions not completed by the time the form is submitted, the PWS must complete the corrective actions in compliance with a timetable approved by the State in consultation with the PWS
  - The PWS must notify the State when each scheduled corrective action is taken
- Corrective actions should be completed in accordance with recognized industry guidance and best professional judgement

MCL and TT Violations and PN

TCR	RTCR
• Violation of TC MCL when fecal coliform or *E. Coli* are present – Tier 1 PN	• Violation of EC MCL – Tier 1 PN
• PWS must notify State re: single *E. Coli* /FC (+) result.	• PWS must notify State re: single *E. coli* (+) result
• Violation of monthly TC MCL – Tier 2 PN	• Monthly TC MCL violation is dropped – triggers Assessment and Corrective Action (A/CA) instead
	• A TT violation occurs when a PWS fails to conduct required A or CA – 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

Monitoring and Reporting Violations and PN

TCR	RTCR
M&R violation – Tier 3 PN	M&R 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

PN and Consumer Confidence Report (CCR) Language

TCR	RTCR
• Mandatory health effects language for TC and *E. coli*	• TC health effects language changed to reflect nature of TC as an indicator and, if appropriate, the failure to conduct assessments or corrective action
• CCR must contain information related to highest monthly TC results (number or percentage) and the total number of fecal positive (*E. coli)* samples	• CCR must contain information about the number of assessments required and corrective actions taken, and, if appropriate, the number of assessments and corrective actions not completed

Analytical Methods

TCR	RTCR
• PWS must conduct TC analysis in accordance with the methods listed	• Changes to methods included in the proposed RTCR (but not discussed in the AIP) are consistent with the lab cert manual ▪ change in holding time definition ▪ requiring de-chlorination agent ▪ requiring autoclaving of MF equipment • Revised and clarified the methods table

Variances, Exemptions and Best Available Treatment

TCR	RTCR
• Variances or exemptions may not be granted for TC or *E. coli* MCLs except for persistent growth of TC (biofilm)	• Variances or exemptions no longer needed since TC MCL is no longer effective
• BAT includes proper maintenance of the distribution system	• Cross connection control added to the BAT Distribution system maintenance activities • Updated filtration (SW) and disinfection (SW and GW) BAT to include Subparts P (IESWTR), T (LT1), W (LT2) and S (GWR)

Overlaps and Efficiencies with Other Rules

Some RTCR requirements take advantage of processes that occur due to other regulations

- Existing sanitary survey process can be used by States to meet the following RTCR requirements:
  - A sanitary survey can be used to meet the requirements for annual site visits and for a Level 2 assessment
  - Sanitary surveys will be used to review the monitoring frequency of systems on reduced monitoring
  - Sanitary surveys can be used to review sample siting plan revisions
- GWR requirements and RTCR requirements can be met by the same activity
  - Investigations and sampling under the GWR may be used to comply with assessments and sampling under the RTCR if deemed appropriate by the State, and vice versa. Talk to your State!

RTCR Special Primacy Conditions

142.16(q) Application for approval of a State program revision that adopts subpart Y (RTCR) must include information about how the State will implement:

- Monitoring requirements – baseline, reduced, review of sampling plans, special monitoring evaluations
- Assessment and corrective action requirements – forms, sanitary defects, Level 2 assessors, consultations
- Seasonal system requirements – identification, start up procedures, monitoring
- Criteria for invalidating samples and for extending the 24 hour period to collect repeat samples

Guidance and Implementation

- PWSs are expected to comply three years after publication (by April 1, 2016). Some States have indicated that they may pursue early implementation
- EPA HQ will provide additional more specific training to Regions and States for implementation - Fall 2013 through Spring 2014
- Expect to release Guidance Manuals in the next 1-2 years:
  - Assessments and Corrective Actions Guidance ~ Sept. 2013
  - Draft Small Systems Guidance (Systems ≤ 1,000) ~ Sept. 2013
  - Quick Reference Guide ~ Sept. 2013
  - Fact sheets, placards, laboratory quick reference guide ~ Dec. 2013
  - State Implementation Guide, primacy guidance/templates ~ Sept. 2013

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- **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. Please read it in its entirety !!