



The Revised Total Coliform Rule (RTCR)

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Drinking Water



RTCR Important Dates

Promulgated on **February 13, 2013**

Effective on **April 15, 2013**
(after 60-day Congressional review period)

State adoption by **February 13, 2015**
(up to two additional years with approved extension)

Compliance date is **April 1, 2016**



RTCR Objectives

Maintains and strengthens the 1989 TCR objectives

1. To evaluate the effectiveness of treatment
2. To determine the integrity of the distribution system
3. To signal the possible presence of fecal contamination

Greater public health protection

- More preventive approach requires systems that may be vulnerable to fecal contamination to identify and fix problems



What's changing under RTCR?

- *E. coli* as the only Fecal Indicator
- Monthly MCL for Total Coliform replaced by Treatment Technique
- Assessments and Corrective Actions
- Monitoring Requirements
- Seasonal Systems
- Public Notification Requirements



RTCR Eliminates Fecal Coliform as Indicator

- FC bacteria are a subgroup of TC
- The suitability of FC and *E. coli* as indicators has been examined
- *E. coli* is a more restricted group of coliform bacteria that almost always originate in the human or animal gut.
- *E. coli* is a better indicator of fecal contamination



Monthly MCL to Treatment Technique (TT)

- No longer a Monthly MCL Violation for TC detections
- TCR Monthly MCL is replaced by a coliform TT involving monitoring for TC and assessment and corrective action when triggered
- Similar conditions are now used to trigger a system to conduct an assessment of the system



Treatment Technique Triggers

Level 1 (Similar to TCR Monthly MCL Violation)

- For systems taking 40 or more samples per month, the PWS exceeds 5.0% TC+ samples for the month; or
- For systems taking fewer than 40 samples per month, the PWS has 2 or more TC+ samples in the same month; or
- The PWS fails to take every required repeat sample after any single routine TC+ sample



Treatment Technique Triggers

Level 2 (Similar to TCR Acute MCL Violation)

- *E. coli* MCL violation:
 1. TC+ routine followed by an EC+ repeat
 2. EC+ routine followed by a TC+ repeat
 3. System fails to take all required repeat samples following an EC+ routine
 4. System fails to test for EC when any repeat sample is TC+
- Two Level 1 treatment technique triggers within a rolling 12-month period
- PWSs on annual monitoring, a Level 1 trigger in two consecutive years



Assessments & Corrective Actions

Level 1 Assessment

- Basic examination of the source water, treatment, distribution system and relevant operational practices
- Self-assessment by PWS

Level 2 Assessment

- Comprehensive examination of the system and its monitoring and operational practices
- Conducted by a party approved by the State: the State itself, a third party or the PWS, where the system has staff or management with the required certification or qualifications specified by the State



Assessments & Corrective Actions

All conditions that could have caused the trigger should be investigated:

- Treatment process interruptions
- Loss of pressure
- Maintenance and operation activities
- Recent operational changes
- Sample sites, distribution system, storage tanks and source water should also be examined



Sanitary Defects

Systems are required to correct any Sanitary Defects found during a L1 or L2 Assessment

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”



Assessments & Corrective Actions

Assessment Forms

- Received by the State within 30 days of trigger
- State will consult with PWS if insufficient
- Revised assessments no later than 30 days after the date of consultation
- Must include assessment details, all sanitary defects found, corrective actions completed and a timetable for corrective actions not yet completed
- The State must determine if the system has identified the likely cause(s) and made the corrections



Assessments & Corrective Actions

Corrective Actions

- Sanitary defects corrected within 30 days (exceptions: cost and complexity)
- The State and PWS must work together to determine the appropriate timeline for completion, milestones and temporary public health protection measures
- State must be notified when each scheduled corrective action is completed



Monitoring Requirements

- Systems transition to RTCR on existing TCR monitoring frequency
- Monitoring frequencies reevaluated during Sanitary Surveys
- Reduced number of repeat and additional routine samples for systems serving $\leq 1,000$



Monitoring Requirements

- Reduced Monitoring
GW systems serving $\leq 1,000$ **(State Option)**
- Alternative Repeat Monitoring Locations
Repeat monitoring locations in lieu of sampling within five connections upstream and downstream of the TC+
(State Option)
- Dual Purpose Sampling GWR/RTCR
Single GW well serving $\leq 1,000$ **(State Option)**



Seasonal Systems

- RTCR establishes monitoring requirements specific to seasonal systems
- “a non-community water system that is not operated on a year-round basis and starts up and shuts down at the beginning and end of each operating season.”
- Depressurizing and dewatering present opportunities for contamination of the distribution system



Seasonal Systems

- State-approved start-up procedure
- May include disinfection, flushing and coliform sampling
- Failure to perform start-up procedures will result in a Tier 2 TT violation



Public Notification Requirements

- Tier 1 PN: ANY *E. coli* MCL violation
- Tier 2 PN: TT violation for failure to conduct assessments or corrective actions
- Tier 2 PN: TT violation for seasonal systems that do not follow state-approved start-up procedures
- Tier 3 PN for a monitoring or reporting violation



Implementation Products

Published

- Quick Reference Guide
- Webinar Training Series (ASDWA website)
- Assessments and Corrective Actions Guidance Manual
- State Implementation Guidance

In Progress

- Factsheets
 - Seasonal Procedures
 - Repeat Monitoring
 - L1 & L2 Assessments
 - Monthly & Quarterly/Annual Sampling
- Update to PN Handbook
- Update to CCR Guidance
- Small Systems Guide
- Transition Memo



Resources

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EPA Water (Home)

<http://water.epa.gov>

Link to FR notice and guidance documents

[http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/
regulation_revisions.cfm](http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm)