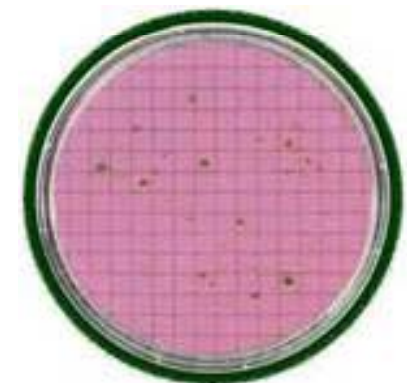


March 11, 2013



The New 2012 Revisions to the Total Coliform Rule (TCR) and What They Mean for Your Utility

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Agenda

Presentation

- Background on TCR
- Discuss Revision Drivers
- Current TCR Requirements
- Changes in the New TCR Revisions (RTCR)

Total Coliform Rule

- Originally promulgated in 1989
- Applies to all public water systems
- Provisions for:
 - Routine and Repeat Sampling of Total Coliform
 - Public Notification and Reporting of Violations
- TCR MCL:
 - Monthly Violation:
 - >5% of routine/repeat samples TC+
 - Acute Violation:
 - Any repeat sample that is *E. coli* or fecal coliform positive
 - Any routine sample that is *E. coli* or fecal coliform positive followed by a repeat sample that is TC+



Regulatory Update Timeline



- EPA is required to review and revise, as appropriate, each National Primary Drinking Water Regulation no less often than every 6 years
- In July 2007, EPA convened a Total Coliform Rule Distribution System Federal Advisory Committee (TCRDSAC)
- September 2008 – Committee issued Agreement in Principle on Revisions
- In July 2010 Proposed Revisions Issued by EPA
- In December of 2012 Final Rule Signed
- In February 2013 Rule was published in Federal Register
- Current rule effective through March 31, 2016
- Revised TCR effective **April 1, 2016**

Background on Drivers for Updates

Objectives of Original TCR Reaffirmed

1. Ensure integrity of DS
2. Confirm effectiveness of treatment
3. Indicate possible fecal contamination



Overall shift in focus

From: TC monitoring results requiring public notification

To: TC monitoring results triggering investigation and corrective action

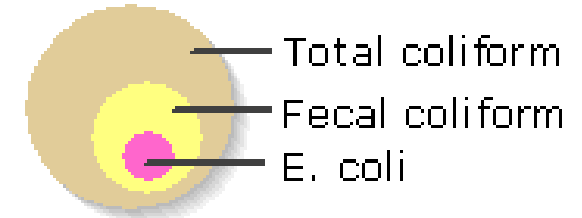
Benefits

1. More proactive approach to public health protection
2. Reduction in confusion associated with PN actions for TC violations

Background on Drivers for Updates

- TC used as indicator organism
- Presence of TC may indicate system deficiencies
- TC itself may not be a public health risk
- *E. coli* and fecal coliforms indicate direct fecal contamination and pose a public health risk
- Use of TC alone may overstate public health risk of TCR violations
- Revised TCR relies on *E. coli* for a more direct measure of public health risk

Coliform bacteria



Current TCR

Routine Sampling:

- Collected at sites representative of water quality throughout the distribution system
- Collected at regular time intervals
- Sampling frequency based on population served



Review of Current TCR

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.

Review of Current TCR

Repeat Sampling:

- Required if TC+
- At least 3 repeat samples required:
 - One from the same tap as original sample
 - One within 5 service connections upstream
 - One within 5 service connections downstream
- If any repeat sample is TC+:
 - TC+ sample must be tested for *E. coli* and fecal coliforms
 - An additional set of repeat samples must be collected unless the MCL has been violated and PN is taking place



Review of Current TCR

Public Notification and Reporting

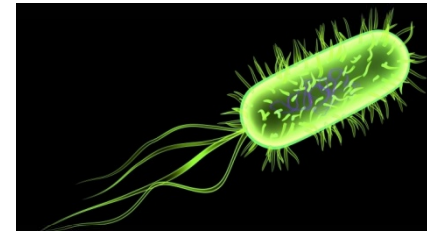
- Tier 1 Public Notice - Violation of EC/FC MCL (acute violation)
- Tier 2 Public Notice - Violation of monthly TC MCL (>5% samples)
- Tier 3 Public Notice - Monitoring & Reporting Violations
- Public water system must notify state regarding single EC/FC+ result



Revised TCR

What's changed?

- Total coliform MCL and MCLG have been eliminated
- *E. coli* MCL and MCLG have been implemented
- Triggered Sanitary Assessments required for:
 - Violations of *E. coli* standard
 - Frequent TC+ results
- Public Notification:
 - Monthly notification requirements have been eliminated for TC+ events
 - Required for *E. coli* violation or if a PWS fails to conduct a required assessment and corrective action



Revised TCR

E.coli retains MCLG/MCL = 0

MCL Violations:

- A system has a TC+ routine sample with an *E. coli* positive repeat sample
- A routine sample is *E. coli* positive and a repeat sample is TC+
- A system fails to test for *E. coli* when any repeat samples are TC+
- A system fails to take all required repeat samples following a routine sample that is *E. coli* positive

Revised TCR - Assessments

Level 1 Assessment



Triggers:

- For a system collecting at least 40 samples 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:

- Performed by PWS
- Identify atypical events

Revised TCR - Assessments

Level 2 Assessment

2

Triggers:

- Violation of the Proposed RTCR MCL for E. Coli
- Two Level 1 triggers in a 12 month period
- For NCWS (GW) serving $\leq 1,000$ on annual monitoring, Level 1 trigger in each of 2 consecutive years

Assessment:

- Performed by the state or an approved investigator, which may include the system operator
- More detailed assessment of the system including monitoring and operational practices



Revised TCR - Assessments

Level 1 and Level 2 Assessment Elements

- Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired
- Changes in distribution system maintenance and operation that may affect distributed water quality, including water storage
- Source and treatment considerations that bear on distributed water quality (disinfection)
- Existing water quality monitoring data
- Inadequacies in sample sites, sampling protocol, and sample processing



Revised TCR - Assessments

Level 1 and Level 2 Corrective Action

- The PWS must correct all sanitary defects found during the assessment
- Sanitary defects and corrective actions must be described in the assessment form the PWS must submit to the State within 30 days of the assessment trigger
- A timetable for any corrective actions not already completed must also be in the form; the State will determine a schedule after consulting with the PWS
- The form may also indicate that no sanitary defects were found
- The State determines if the assessment is sufficient

Revised TCR

Public Notification and Reporting

- Tier 1 Public Notice - Violation of EC MCL (acute violation <24hr), Failure to take repeat samples after EC+
- Tier 2 Public Notice – Issued if system fails to conduct a Level 1 Assessment or Corrective Action Plan (<30 d)
- Tier 3 Public Notice - Monitoring & Reporting Violations

Other Provisions

- Seasonal systems must use state-approved start-up/shut-down procedures

Revised TCR

Reduced Monitoring Requirements

- Available for systems with a clean compliance history for at least 12 months
- No MCL violations of TCR
- No monitoring violations of TCR
- No coliform treatment technique trigger exceedances
- No coliform treatment technique violations
- States may include other stipulations (i.e. no violations of GWR)
- Still only applicable to systems serving <1,000 people that are non-subpart H systems.

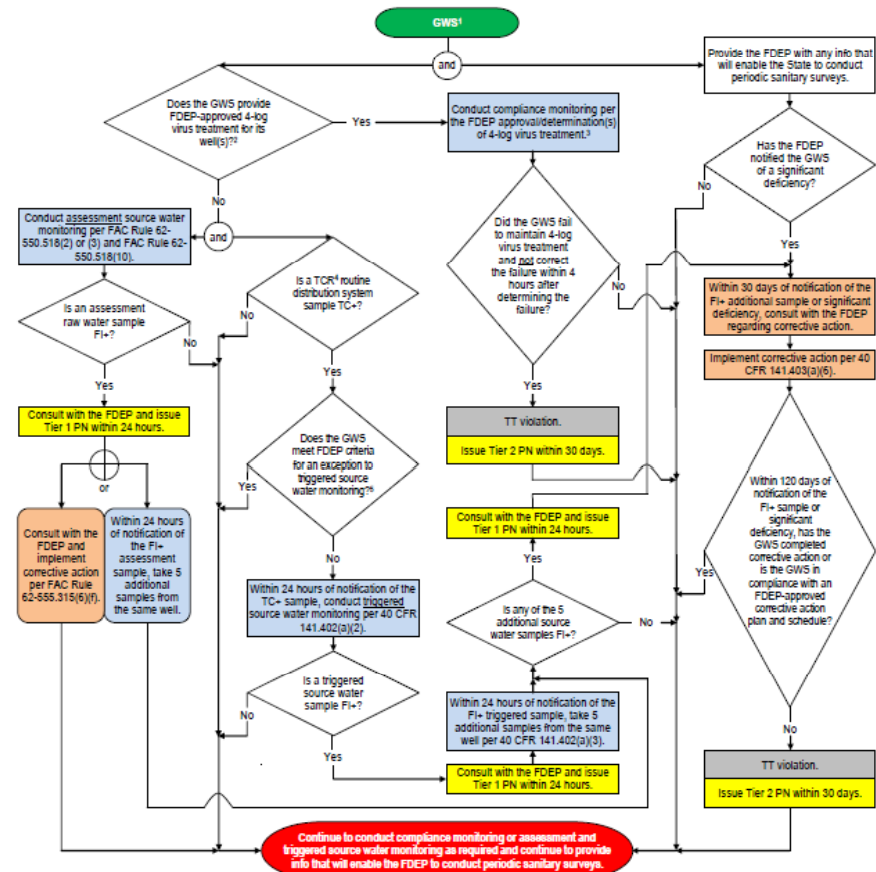


Florida GWR

Florida GWR also requires monitoring for TC

- Unclear what if any change to The GWR will take place by EPA / Florida

RTCR closes the TC gap– under GWR System could state that a Distribution System TC+ issue was related to an issue in the distribution system, and the system is not required to fix it, only provide PN.



Summary

RTCR changes will:

- Result in less Public Notification - to only confirmed *E. coli* events (no longer required for TC+ only occurrences)
- Require utilities to conduct Assessments when TC+ occurrences occur
- Require utilities to take Corrective Action identified in Assessments
- Provide continued emphasis on properly conducting monitoring, repeat sampling and reporting

Additional Information

<http://water.epa.gov/drink/> <http://>

The screenshot shows the EPA website's page for the 'Total Coliform Rule'. The header includes the EPA logo and navigation tabs for 'LEARN THE ISSUES', 'SCIENCE & TECHNOLOGY', 'LAWS & REGULATIONS', and 'ABOUT EPA'. The main content area is titled 'Water: Total Coliform Rule' and features a sidebar with various links. The main text explains that the rule was published in 1989 and became effective in 1990. A prominent section titled '2012 Final Revisions to the Total Coliform Rule' is highlighted with a 'New!' tag. Below this, it states that the EPA Administrator signed the final rule on December 20, 2012, and that the official version will appear in the Federal Register. A list of links for pre-publication and fact sheets is provided at the bottom.

[http:// www.dep.state.fl.us/water/](http://www.dep.state.fl.us/water/)

The screenshot shows the Florida Department of Environmental Protection (DEP) website. The header features the Florida DEP logo and navigation links for 'DEP Home', 'About DEP', 'Programs', 'Contact', 'Site Map', and 'Search'. The main content area is titled 'Florida Department of Environmental Protection' and includes a brief description of the agency's mission. A 'News & Info' section is visible, listing several recent news items with dates. A 'Subscribe to DEP' form is also present. The right sidebar contains various informational links and social media icons.

Questions?

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