The Proposed Revised Total Coliform Rule (RTCR)

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Briefing Overview

- **Proposed Revised Total Coliform Rule (RTCR) history, objectives**
- **Core elements of the Proposed RTCR**
- **Comparison of Proposed RTCR vs. current TCR**
- **Qualitative evaluation of benefits**

Proposed Revised Total Coliform Rule (RTCR)

RTCR – History

- EPA is required to review and revise, as appropriate, each National Primary Drinking Water Regulation no less often than every 6 years (Current rule 1989)
- The net effect of the rule revision must be to maintain or improve public health protection
- 2003 - EPA published its intent to revise the Current TCR
- EPA convened the Total Coliform Rule Distribution System Advisory Committee (TCRDSAC), comprised of representatives from 15 organizations

RTCR Objectives / TCRDSAC Deliberation Issues (1 of 2)

- How to improve public health protection for systems that may be vulnerable to fecal contamination (indicated by the monitoring results) – “find-and-fix” sanitary defects: assessments and corrective action
- Evaluate the effectiveness of treatment
- 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 causing confusion and erosion of consumer confidence in drinking water?

RTCR Objectives / TCRDSAC Deliberation Issues (2 of 2)

- 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)

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

Proposed RTCR
– 8 Core Elements –

On July 14, 2010, EPA proposed a rule that has the same substance and effect as the elements in the AIP

– 8 Core Elements –

1. Requires systems to investigate and correct any sanitary defects found whenever monitoring results show a system may be vulnerable to contamination.

   - Two levels of assessment depending on the severity and frequency of contamination.

   - 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”

– 8 Core Elements –

2. Establishes a Treatment Technique in place of MCL for TC, with PN only for Treatment Technique violations. (failure to conduct a required assessment or fix an identified sanitary defect)

3. Keeps E. coli as a health indicator with an MCLG of zero and MCL similar to current TCR

4. Provides criteria that well-operated small ground water systems must meet to qualify and stay on reduced monitoring

5. Requires increased monitoring for high-risk small ground water systems with unacceptable compliance history

– 8 Core Elements –

6. Monitoring requirements:

- Serving ≤ 1,000 persons
  - Reduces the required number of repeat and additional routine samples
  - Eliminates additional routine for PWSs monitoring at least once/month
  - Provides flexibility in the location of sites for repeat samples, and allows the use of dedicated sampling stations
- Serving between 1,001 and 4,100 persons
  - Reduces the required number of additional routine samples
- Serving more than 4,100 people
  - Keeps routine monitoring requirements the same.

– 8 Core Elements –

7. Defines “seasonal systems”, requires start-up procedures and sampling during high vulnerability

8. Allows systems to transition at their current monitoring frequency

   - For GW systems serving ≤ 1,000 people, the State will re-evaluate the frequency during each sanitary survey cycle

Rule Construct

Current TCR	Proposed RTCR
♦ TC MCLG of zero ♦ TC monthly MCL based on the number of TC+ samples in a month ♦ Fecal coliform/E. coli acute MCL based on FC/EC + samples	♦ TC triggers assessment and corrective action (A/CA). (No MCL/MCLG for TC) ♦ E. coli MCLG of zero and an MCL based on TC/E. coli monitoring results (Fecal coliform is no longer used) **Public Notification** ♦ Not required for only TC(+) results ♦ Required for a Treatment Technique violation (failure to conduct assessment or take corrective action) ♦ Required for E. coli MCL violations

Routine Monitoring (Baseline) & Sample Siting Plan

Current TCR	Proposed RTCR
♦ For NCWS (GW) ≤1,000 –1 sample per quarter ♦ For NCWS(SW) ≤1,000 and all CWS ≤1,000 –1 sample per month ♦ For all PWS >1,000, sampling is monthly based on population	♦ Same as current TCR, with more explicit criteria to qualify for reduced monitoring ♦ Site plan may propose repeat sites other than 5 up-and down-stream ♦ Dedicated sampling stations acknowledged

Repeat Monitoring

Current TCR	Proposed RTCR
• PWS serving ≤1,000 must take 4 repeat samples for TC(+) routine sample • For GW PWS, 1 sample can be a source water sample to also comply with the Ground Water Rule (GWR) triggered monitoring requirement • Fecal coliform / E. coli acute MCL based on FC / EC + samples	• Reduce repeat monitoring for PWS ≤ 1,000 from 4 samples to 3 • GW PWS must still take an additional source sample to comply with the GWR • Clarifies that for GW PWS serving ≤1,000, the State can allow one TCR repeat sample from a GW source to also count as the GWR triggered source water sample if the State approves the use of E. coli as a fecal indicator for GWR source water sampling.

Additional Routine Monitoring

Current TCR	Proposed 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.	• For PWS taking samples less frequently than once per month, reduces the number of samples required the month after a TC (+) from 5 to 3 • For the other 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)

Level 1 Assessment

Current TCR	Proposed RTCR
None required	**Triggers for Level 1 Assessment:** • 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:** • Conducted by the PWS • A basic examination of the source water, treatment, distribution system and relevant operational practices

Level 2 Assessment

Current TCR	Proposed RTCR

None required	Triggers for level 2 Assessment:
	• Violation of the Proposed RTCR MCL for E. coli
	  • The system has an E. coli (+) repeat sample following a TC (+) routine sample
	  • The system has a TC (+) repeat sample following an E. coli (+) routine
	  • The system fails to test for E. coli when any repeat sample tests (+) for TC
	• Two Level 1 triggers in a 12 month period
	• For NCWS (GW) serving ≤1,000 on annual monitoring, a Level 1 trigger in each of 2 consecutive years

Level 2 Assessment (cont'd)

Current TCR	Proposed RTCR
None required	Assessment: • 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 system and its monitoring and operational practices

Elements for Level 1 and Level 2 Assessments

Current TCR	Proposed RTCR
None required	• 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 • Existing water quality monitoring data • Inadequacies in sample sites, sampling protocol, and Sample Processing

Corrective Action

Current TCR	Proposed RTCR
None required	• 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

Reduced Monitoring NCWS ≤1,000 (GW)

Current TCR	Proposed RTCR
NCWS≤1,000 (GW) can reduce to 1 sample per year if system is free of sanitary defects	♦ NCWS ≤1,000 (GW) same as in current TCR, but more criteria to qualify and remain on reduced mon. **Criteria include:** ♦ an annual site visit; ♦ a clean compliance history* for at least the last 12 months; ♦ free of sanitary defects; ♦ have a protected source and meet construction standards ♦ Other criteria are encouraged for NCWS: cross connection control; certified operator; meet disinfection criteria; other equivalent enhancements * *"Clean compliance history" means no MCL, monitoring, or TT violations, or TT trigger exceedances under RTCR.*

Reduced Monitoring
CWS ≤1,000 (GW)

Current TCR	Proposed RTCR
CWS ≤ 1,000 (GW) can reduce to 1 sample per Quarter if they have: • No history of TC Contamination • No sanitary defects • A protected GW source	CWS ≤ 1,000 (GW) same as in current TCR, but more criteria to qualify and remain on reduced **Criteria include:** • a clean compliance history; • free of sanitary defects; • have a protected source and meet construction standards • Other criteria (one or more required for CWS; cross connection control; meet disinfection criteria; other equivalent enhancements)

Reduced Monitoring
-other provisions-

Current TCR	Proposed RTCR
♦Systems serving >1,000 people and Subpart H* systems (no matter the size) are not eligible for reduced monitoring	♦ Same as Current TCR for systems serving >1,000 people and all Subpart H* systems

**A Subpart H system is a PWS using surface water or ground water under the direct influence of surface water as a source.*

Increased Monitoring (NCWS) and Return to Baseline Monitoring (CWS)

Current TCR	Proposed RTCR
No criteria for remaining on or losing reduced monitoring	♦ NCWS (GW) serving ≤ 1,000 increase from quarterly or annual to monthly monitoring if they meet the criteria below ♦ CWS (GW) serving ≤ 1,000 increase from quarterly back to monthly monitoring if they meet the criteria below **Criteria include:** ♦ Triggered Level 2 assessment or a 2nd (Second) Level 1 assessment in 12 months ♦ E. coli MCL violation ♦ TT violation ♦ Two (RTCR) monitoring violations within 12 months if on quarterly monitoring, or one (RTCR) monitoring violation if on annual

Transition to the New Rule

Current TCR	Proposed RTCR

N/A	• Systems continue on their current TCR monitoring schedule
	• For GW systems serving ≤ 1,000
	  ◦ NCWS must have an annual site visit or voluntary Level 2 assessment to remain on annual monitoring
	  ◦ NCWS and CWS on reduced monitoring remain on that NCWS and CWS on reduced monitoring remain on that schedule unless/until they have an event that triggers a return to routine monitoring or as otherwise directed by the State
	  ◦ Monitoring schedules will be evaluated by the State during each sanitary survey to determine if the monitoring frequency is appropriate

Seasonal Systems

Current TCR	Proposed RTCR
Seasonal PWS has the same requirements as other systems of the same size and type	• Seasonal PWS is defined as a non-community system that operates 3 or fewer calendar quarters per year • Seasonal PWS must demonstrate completion of a State-approved start up procedure • Seasonal PWS sample site plan must designate the time period for monitoring based on high demand or vulnerability (if the PWS is monitoring less than monthly)

Violations, Public Notification (PN), and Consumer Confidence Reports (CCR)

Current TCR	Proposed RTCR
• Violation of EC/FC MCL –acute violation, Tier 1 PN • Violation of monthly TC MCL –Tier 2 PN • M&R violation –Tier 3 PN • PWS must notify State re: single EC/FC (+) result	• Violation of EC MCL –Tier 1 PN • Failure to take repeat samples following an EC (+) routine sample is also an MCL violation • PWS must notify State re: single EC (+) result • 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 • M&R violations will be tracked separately –Tier 3 PN • PN/CCR Language -TC health effects language changed to reflect failure to conduct A or CA

Variances, Exemptions and Best Available Treatment

Current TCR	Proposed RTCR
Variances or exemptions may not be granted for TC or E. coli MCLs except for persistent growth of TC (biofilm) BAT includes proper maintenance of the distribution system	Variances or exemptions no longer needed since TC MCL is no longer effective (3) Cross connection control added to the BAT Distribution system maintenance activities (4) Updated filtration (SW) and disinfection (SW and GW) BAT to include Subparts P (IESWTR), T (LT1), W (LT2) and S (GWR)

Qualitative Benefits Estimate

Qualitative evaluation of benefits, using EPA judgment, as informed by the Advisory Committee deliberations

- An ↑ in assessments and corrective actions should lead to a ↓ in TC and E. coli occurrence
- A ↓ in E. coli occurrence may be associated with a ↓ in pathogenic bacteria, virus, and protozoa from fecal contamination and therefore a ↓ in public health risk
- Non-quantified non-health benefits include increased operator knowledge of system operation, avoided costs of outbreaks, accelerated maintenance and repair, and reductions in averting behavior

Do not hesitate to contact us

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Thank You

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