



**The Proposed  
Revised Total Coliform Rule  
(RTCR)**

**Public Information Meetings**

**August 2010**



# Briefing Overview

1. **Current Total Coliform Rule (TCR)** – Major Relevant Provisions
2. **Proposed Revised Total Coliform Rule (RTCR)** – History
3. Core Elements of the Proposed **RTCR**
4. Comparison of Proposed **RTCR** vs. Current **TCR**
5. Cost and Benefit Information
6. Requests for Comment and Ways to Comment on the Proposed **RTCR**
7. Planned Guidance Materials

**NOTE: EPA IS NOT TAKING PUBLIC COMMENT ON THE PROPOSED **RTCR** AT THIS MEETING**



# Current TCR

## -Provisions-



## Current TCR

- 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
  - Rule fosters interactions between these systems and the State



# Public Water System Inventory Data

System Type		1,000 or less	1,001-10,000	> 10,000	Total
Community Water Systems	# of systems	35,517 (22%)	13,017	4,100	52,634
	Pop. served	9,235,319	43,257,943	233,803,382	286,296,644
Non-Transient Non-Community	# of systems	18,253 (12%)	902	23	19,178
	Pop. served	3,651,750	1,895,831	736,845	6,284,426
Transient Non-Community	# of systems	85,397 (54%)	782	18	86,197
	Pop. served	8,847,216	1,709,623	3,293,662	13,850,501
	Total # of systems	139,167	14,701	4,141	158,009



## 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
  - Total Coliform (TC)
  - *E. coli* analysis for all TC (+)
- Monitoring informs Public Notification (PN)
- No requirement for assessment or corrective action



## Current TCR - Monitoring Requirements

- The minimum number of routine samples required per month varies based on the system type and the number of people served
- Sampling occurs at sites representative of the water throughout the distribution system
- Repeat and additional routine samples are required based on routine sampling results
  - For each TC(+) sample, the system must collect 3 repeat samples (4 if  $\leq 1,000$  people served)
  - Systems serving  $\leq 4,100$  ( $< 5$  samples/mo) must also collect up to 5 additional routine samples the month following a TC(+) sample
  - All routine and repeat samples count toward calculating compliance



Table 2: Current TCR Monitoring Requirements

<b>Public Water System ROUTINE Monitoring Frequencies</b>					
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 - Monitoring Requirements (cont'd)

- For **ground water** systems serving  $\leq 1,000$  – 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 explicit criteria to remain on reduced monitoring
- No reduced monitoring if  $> 1,000$  people served or system uses surface water/GWUDI



## Current TCR - Total Coliform MCL Violations

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



# Proposed Revised Total Coliform Rule (RTCR)

**- History -**



## RTCR - History

- 6 year review: EPA is required to review and revise, as appropriate, each National Primary Drinking Water Regulation no less often than every 6 years
- The net effect of the rule revision must be to maintain or improve public health protection
- EPA published its intent to revise the **Current TCR**
- EPA and industry experts conducted workshops and developed issue papers
- EPA convened the Total Coliform Rule Distribution System Federal Advisory Committee, comprised of representatives from 15 organizations



# Total Coliform Rule/Distribution System Advisory Committee



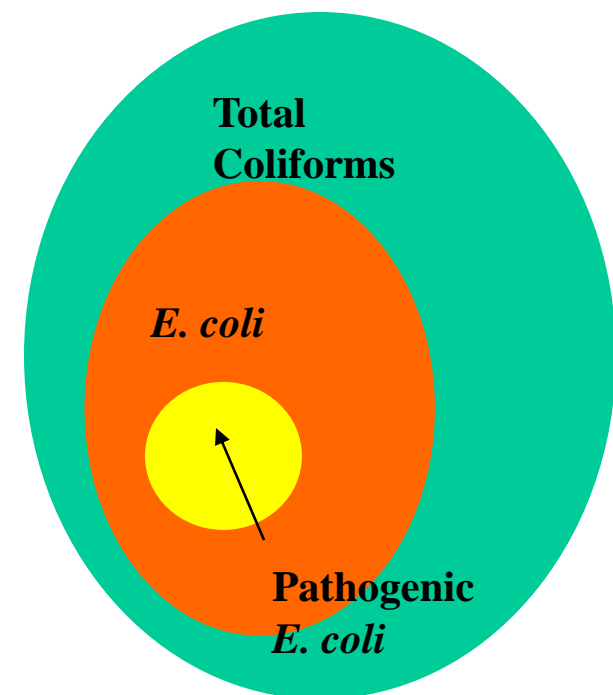
# The Advisory Committee Process

- Committee charge: recommend revisions to the **Current 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 recommendations 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
- Deliberated on initial proposals and ideas from advisory committee members
- Members listed in the Appendix to this presentation



# 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 causing confusion and erosion of consumer confidence in drinking water?





## 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 to the revised rule
- State discretion in allowing reduced monitoring
- Flexibility in the sampling locations for repeat monitoring
- The number of repeat samples required for small systems
- Seasonal systems
- The level and details of the Treatment Technique assessment and corrective actions

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 States and other stakeholders in the rule development process
  - While developing rule language
  - When estimating state implementation burden
  - To develop guidance for assessments
  - To develop **RTCR** guidance and training materials
  - To make timely modifications to the data tracking systems – within 18 months of publishing the final rule



# Questions?



# Core Elements of the **Proposed** **RTCR**



## 8 Core Elements - Proposed RTCR

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

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 - Proposed RTCR

2. Establishes a Treatment Technique in place of MCL / MCLG 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 ground water small 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 – Proposed RTCR

### 6. Monitoring requirements:

- Keeps routine monitoring requirements for PWSs serving more than 4,100 people
- For systems serving between 1,001 and 4,100 persons, reduces the required number of additional routine samples
- For systems serving  $\leq 1,000$  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



## 8 Core Elements – Proposed RTCR

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  $\leq 1,000$  people, the State is to re-evaluate the frequency during each sanitary survey cycle



# Rule Construct

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Sections 141.52 (MCLGs), 141.63 (MCLs)</i></p> <ul style="list-style-type: none"> <li>• TC MCLG of zero</li> <li>• TC monthly MCL based on the number of TC+ samples in a month</li> <li>• Fecal coliform/<i>E. coli</i> acute MCL based on FC/EC + samples</li> <li>• Public Notification (PN) required for MCL violations</li> </ul>	<p><i>Sections 141.52 (MCLGs), 141.63 (MCLs), 141.859 (TT)</i></p> <ul style="list-style-type: none"> <li>• TC triggers assessment and corrective action (A/CA). [No MCL/MCLG for TC]</li> <li>• <i>E. coli</i> MCLG of zero and an MCL based on TC/<i>E. coli</i> monitoring results (Fecal coliform is no longer used)</li> <li>• PN               <ul style="list-style-type: none"> <li>▪ not required for only TC (+) results</li> <li>▪ Required for a Treatment Technique violation (failure to conduct assessment or take corrective action)</li> <li>▪ required for <i>E. coli</i> MCL violations</li> </ul> </li> </ul>



# Routine Monitoring (Baseline) & Sample Siting Plan

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.21(a)</i></p> <ul style="list-style-type: none"> <li>• For NCWS (GW) <math>\leq 1,000</math> – 1 sample per quarter</li> <li>• For NCWS (SW) <math>\leq 1,000</math> and all CWS <math>\leq 1,000</math> – 1 sample per month</li> <li>• For all PWS <math>&gt; 1,000</math>, sampling is monthly based on population</li> </ul>	<p><i>Sections 141.854(b), 141.855(b), 141.856(b), 141.857(b)</i></p> <ul style="list-style-type: none"> <li>• Same as current TCR, with more explicit criteria to qualify for reduced monitoring</li> <li>• Site plan may propose repeat sites other than 5 up- and down- stream</li> <li>• Dedicated sampling stations acknowledged</li> <li>• Primacy application must indicate               <ul style="list-style-type: none"> <li>▪ what baseline and reduced monitoring provisions the State will adopt</li> <li>▪ how the State will implement to meet the minimum requirements of the rule</li> <li>▪ how the State will review and revise the sample siting plan</li> </ul> </li> </ul>



# Repeat Monitoring

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.21(b)(1)-(4)</i></p> <ul style="list-style-type: none"> <li>• PWS serving <math>\leq 1,000</math> must take 4 repeat samples for every TC(+) routine sample</li> <li>• For GW PWS, 1 sample can be a source water sample to also comply with the Ground Water Rule (GWR) triggered monitoring requirement</li> </ul>	<p><i>Section 141.858, 141.402(a)(2)(iv)</i></p> <ul style="list-style-type: none"> <li>• Reduce repeat monitoring for PWS <math>\leq 1,000</math> from 4 samples to 3</li> <li>• GW PWS must still take an additional source sample to comply with the GWR</li> <li>• Clarifies that for GW PWS serving <math>\leq 1,000</math>, the State can allow one RTCR repeat sample from a GW source to also count as the GWR triggered source water sample if the State approves the use of <i>E. coli</i> as a fecal indicator for GWR source water sampling.</li> </ul>



# Additional Routine Monitoring

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.21(b)(5)</i></p> <p>PWS taking &lt; 5 routine samples per month (PWS serving ≤4,100) must take at least 5 routine samples in the month after a TC(+) sample.</p>	<p><i>Section 141.854(j), 141.855(f)</i></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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)</li> </ul>



# Level 1 Assessment

<b>Current TCR</b>	<b>Proposed RTCR</b>
None required	<p data-bbox="485 483 758 516"><i>Section 141.859</i></p> <p data-bbox="485 548 730 613"><b>Triggers:</b></p> <ul data-bbox="520 634 1839 1003" style="list-style-type: none"><li data-bbox="520 634 1839 743">• For a system collecting at least 40 samples per month, more than 5.0% of samples collected are TC (+)</li><li data-bbox="520 760 1839 868">• For a system collecting fewer than 40 samples per month, more than one sample is TC (+)</li><li data-bbox="520 885 1839 1003">• The PWS fails to take every required repeat sample after any single routine TC (+)</li></ul> <p data-bbox="485 1024 848 1084"><b>Assessment:</b></p> <ul data-bbox="520 1105 1808 1295" style="list-style-type: none"><li data-bbox="520 1105 1808 1166">• Conducted by the PWS</li><li data-bbox="520 1182 1808 1295">• A basic examination of the source water, treatment, distribution system and relevant operational practices</li></ul>



# Level 2 Assessment

<b>Current TCR</b>	<b>Proposed RTCR</b>
None required	<p><i>Section 141.859</i></p> <p><b>Triggers:</b></p> <ul style="list-style-type: none"><li>• Violation of the <b>Proposed RTCR</b> MCL for <i>E. coli</i><ul style="list-style-type: none"><li>▪ The system has an <i>E. coli</i> (+) repeat sample following a TC (+) routine sample</li><li>▪ The system has a TC (+) repeat sample following an <i>E. coli</i> (+) routine sample</li><li>▪ The system fails to take all required repeat samples following an <i>E. coli</i> (+) routine sample</li><li>▪ The system fails to test for <i>E. coli</i> when any repeat sample tests (+) for TC</li></ul></li><li>• Two Level 1 triggers in a 12 month period</li><li>• For NCWS (GW) serving <math>\leq 1,000</math> on annual monitoring, a Level 1 trigger in each of 2 consecutive years</li></ul>



## Level 2 Assessment (cont'd.)

<b>Current TCR</b>	<b>Proposed RTCR</b>
None required	<p><i>Section 141.859</i></p> <p><b>Level 2 Assessment:</b></p> <ul style="list-style-type: none"><li>• Conducted by the State or a party approved by the State (could be the PWS if qualified and approved by the State)</li><li>• A more in-depth examination of the system and its monitoring and operational practices</li></ul>



# Assessment Elements – Levels 1 and 2

<b>Current TCR</b>	<b>Proposed RTCR</b>
None required	<p><i>Section 141.859</i></p> <ul style="list-style-type: none"><li>• Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired</li><li>• Changes in distribution system maintenance and operation that may affect distributed water quality, including water storage</li><li>• Source and treatment considerations that bear on distributed water quality</li><li>• Existing water quality monitoring data</li><li>• Inadequacies in sample sites, sampling protocol, and sample processing</li></ul>



# Corrective Action

<b>Current TCR</b>	<b>Proposed RTCR</b>
None required	<p><i>Section 141.859</i></p> <ul style="list-style-type: none"><li>• The PWS must correct all sanitary defects found during the assessment</li><li>• 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</li><li>• 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</li><li>• The form may also indicate that no sanitary defects were found</li><li>• The State determines if the assessment is sufficient</li></ul>



## Reduced Monitoring - NCWS $\leq 1,000$ (GW)

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.21(a)(3)(i)</i></p> <p>NCWS <math>\leq 1,000</math> (GW) can reduce to 1 sample per year if system is free of sanitary defects</p>	<p><i>Sections 141.854(e), 141.855(d)</i></p> <ul style="list-style-type: none"> <li>• NCWS <math>\leq 1,000</math> (GW) - same as in current TCR, but more criteria to qualify and remain on reduced</li> <li>• Criteria include:               <ul style="list-style-type: none"> <li>▪ an annual site visit;</li> <li>▪ a clean compliance history* for at least the last 12 months;</li> <li>▪ free of sanitary defects;</li> <li>▪ have a protected source and meet construction standards</li> </ul> </li> <li>• Other criteria are encouraged for NCWS: cross connection control; certified operator; meet disinfection criteria; other equivalent enhancements</li> </ul> <p>* "Clean compliance history" means no MCL, monitoring, or TT violations, or TT trigger exceedances under RTCR</p>



## Reduced Monitoring - CWS $\leq$ 1,000 (GW)

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.21(a)(3)(i)</i></p> <p>CWS <math>\leq</math>1,000 (GW) can reduce to 1 sample per quarter if they have</p> <ul style="list-style-type: none"> <li>• no history of TC contamination</li> <li>• no sanitary defects</li> <li>• a protected GW source</li> </ul>	<p><i>Sections 141.854(e), 141.855(d)</i></p> <ul style="list-style-type: none"> <li>• CWS <math>\leq</math> 1,000 (GW) - same as in current TCR, but more criteria to qualify and remain on reduced</li> <li>• Criteria include:               <ul style="list-style-type: none"> <li>▪ a clean compliance history;</li> <li>▪ free of sanitary defects;</li> <li>▪ have a protected source and meet construction standards; and</li> <li>▪ certified operator</li> </ul> </li> <li>• Other criteria (one or more required for CWS; cross connection control; meet disinfection criteria; other equivalent enhancements)</li> </ul>



# Reduced Monitoring – Other Provisions

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p>Systems serving &gt;1,000 people and Subpart H* systems (no matter the size) are not eligible for reduced monitoring</p> <p>*A Subpart H system is a PWS using surface water or ground water under the direct influence of surface water as a source</p>	<ul style="list-style-type: none"><li>• Same as <b>Current TCR</b> for systems serving &gt;1,000 people and all Subpart H* systems</li><li>• <u>Primacy application</u> must indicate<ul style="list-style-type: none"><li>▪ whether the State will adopt reduced monitoring provisions</li><li>▪ whether the State will use all or a reduced set of optional criteria</li><li>▪ how the criteria will be evaluated</li></ul></li></ul>



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

Current TCR	Proposed RTCR
No criteria for remaining on or losing reduced monitoring	<p><i>Sections 141.854(f), 141.855(e)</i></p> <ul style="list-style-type: none"> <li>• NCWS (GW) serving <math>\leq 1,000</math> increase from quarterly or annual to monthly monitoring if they meet the criteria below</li> <li>• CWS (GW) serving <math>\leq 1,000</math> increase from quarterly back to monthly monitoring if they meet the criteria below</li> <li>• Criteria:               <ul style="list-style-type: none"> <li>▪ triggered Level 2 assessment or a 2<sup>nd</sup> Level 1 assessment in 12 months</li> <li>▪ <i>E.coli</i> MCL violation</li> <li>▪ TT violation</li> <li>▪ Two Subpart Y (RTCR) monitoring violations within 12 months if on quarterly monitoring, or Subpart Y (RTCR) monitoring violation if on annual</li> </ul> </li> </ul>



# Transition to the New Rule

<b>Current TCR</b>	<b>Proposed RTCR</b>
N/A	<p>Sections 141.854(c), 141.854(d), 141.855(c)</p> <ul style="list-style-type: none"><li>• Systems continue on their current TCR monitoring schedule</li><li>• For GW systems serving <math>\leq 1,000</math><ul style="list-style-type: none"><li>▪ NCWS must have an annual site visit or voluntary Level 2 assessment to remain on annual monitoring</li><li>▪ 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</li><li>▪ Monitoring schedules will be evaluated by the State during each sanitary survey to determine if the monitoring frequency is appropriate</li></ul></li></ul>



# Seasonal Systems

<b>Current TCR</b>	<b>Proposed RTCR</b>
Seasonal PWS has the same requirements as other systems of the same size and type	<p><i>Section 141.851, 141.854(i), 141.856(a)(4), 141.857(a)(4)</i></p> <ul style="list-style-type: none"> <li>• Seasonal PWS is defined as a non-community system that operates 3 or fewer calendar quarters per year</li> <li>• Seasonal PWS must demonstrate completion of a State-approved start up procedure</li> <li>• 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)</li> <li>• Primacy application must describe how the State will identify seasonal systems, how the State will determine when systems on less than monthly monitoring must monitor, and what start-up provisions seasonal systems must meet</li> </ul>



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

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.63, Subpart O, Subpart Q</i></p> <ul style="list-style-type: none"> <li>• Violation of EC/FC MCL – acute violation, Tier 1 PN</li> <li>• Violation of monthly TC MCL – Tier 2 PN</li> <li>• M&amp;R violation – Tier 3 PN</li> <li>• PWS must notify State re: single EC/FC (+) result.</li> </ul>	<ul style="list-style-type: none"> <li>◦ <i>Violations - Section 141.860(a)</i></li> <li>◦ <i>PN – Sections 141.202, 203, 204, and Appendices A and B</i></li> <li>◦ <i>CCR – Section 141.153 and Appendix A</i></li> <li>• Violation of EC MCL – Tier 1 PN               <ul style="list-style-type: none"> <li>▪ Failure to take repeat samples following an EC (+) routine sample is also an MCL violation</li> </ul> </li> <li>• PWS must notify State re: single EC (+) result</li> <li>• Monthly TC MCL violation is dropped – triggers Assessment and Corrective Action (A/CA) instead</li> <li>• A TT violation occurs when a PWS fails to conduct required A or CA – Tier 2 PN</li> <li>• M&amp;R violations will be tracked separately – Tier 3 PN</li> <li>• PN/CCR Language - TC health effects language changed to reflect failure to conduct A or CA</li> </ul>



# Analytical Methods

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.21(f)</i></p> <ul style="list-style-type: none"><li>• PWS must conduct TC analysis in accordance with the methods listed</li></ul>	<p><i>Section 141.852</i></p> <ul style="list-style-type: none"><li>• Changes to methods included in the proposed RTCR (but not discussed in the AIP) are consistent with the lab cert manual<ul style="list-style-type: none"><li>▪ change in holding time definition</li><li>▪ requiring de-chlorination agent</li><li>▪ requiring autoclaving of MF equipment</li></ul></li><li>• Revised and clarified the methods table</li></ul> <p><i>Note: As recommended in the Advisory Committee AIP, the EPA Technical Services Center is planning evaluations of current methods and the Alternative Testing Procedure for approving new methods. For more information on the evaluations, please contact Jennifer Best at <a href="mailto:best.jennifer@epa.gov">best.jennifer@epa.gov</a>.</i></p>



# Variations, Exemptions and Best Available Treatment

<b>Current TCR</b>	<b>Proposed RTCR</b>
<p><i>Section 141.4</i></p> <ul style="list-style-type: none"> <li>• Variations or exemptions may not be granted for TC or <i>E. coli</i> MCLs except for persistent growth of TC (biofilm)</li> </ul> <p><i>Section 141.63(e)(3)</i></p> <ul style="list-style-type: none"> <li>• BAT includes proper maintenance of the distribution system</li> </ul>	<p><i>Section 141.4</i></p> <ul style="list-style-type: none"> <li>• Variations or exemptions no longer needed since TC MCL is no longer effective</li> </ul> <p><i>Section 141.63(e)</i></p> <ul style="list-style-type: none"> <li>• (3) Cross connection control added to the BAT Distribution system maintenance activities</li> <li>• (4) Updated filtration (SW) and disinfection (SW and GW) BAT to include Subparts P (IESWTR), T (LT1), W (LT2) and S (GWR)</li> </ul>



# Questions?



# Proposed RTCR

## – Cost and Benefit Information –



## Annualized Net (Incremental) Cost RTCR

Rule Provision	Net Change in Cost* for all Public Water Systems	Net Change in Cost* for States
Monitoring	\$1.08	\$0.00
Assessments	\$0.70	(\$0.08)
Corrective Action	\$11.89	\$0.01
Public Notification	(\$3.48)	(\$0.38)
Other	\$3.36	\$0.60
<b>Total</b>	<b>\$13.55</b>	<b>\$0.15</b>

\*(Millions of 2007\$, 3 Percent Discount Rate)

In comparison, monitoring costs for implementing the **Current TCR** - \$180 million



# Qualitative Benefits Estimate

EPA is unable to quantify health benefits - Insufficient data reporting the co-occurrence of the fecal indicator *E. coli* and pathogenic organisms

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

There will be a potential for increased risk because TC monitoring may be reduced for some PWSs

- The RTCR Economic Analysis indicates that this should be more than offset by potential decreases in risk from increased routine monitoring and find-and-fix requirements



# Burden Decreases & Efficiencies

- Less tracking of PN and responding to inquiries about it
- GWR will lead to correction of deficiencies, and therefore fewer TC (+) and violations
- GWR requirements can be used to meet the **RTCR** requirements
- The sanitary survey can be used to review **RTCR** monitoring requirements and substitute as a Level 2 assessment
- The **RTCR** will result in better system performance over time, leading to fewer TC (+) and violations
- Some assessment and corrective action are being done already; the burden increase from the **RTCR** will not be as great as it might seem



# Specific Requests for Comment

- Definitions (pg.40931 of the posted FRN)
  - Seasonal systems, sanitary defect, clean compliance history
- Rule construct (40933)
  - MCLs, MCLGs, treatment technique
- Monitoring requirements (40938)
  - Including transition, guidance, seasonal systems, State burden, consecutive systems
- Repeat samples (40943)
  - Dual purpose samples, State approvals



## Requests for Comment (2)

- Treatment technique and assessments (40945)
  - Requirements, differences between Level 1 and 2, guidance
- Violation determinations (40946)
- PN and Consumer Confidence Reports (40947)
  - Language, impact of changes, special notice for sanitary defects
- Reporting and recordkeeping timeframes (40948)



## Requests for Comment (3)

- AIP related method issues (40949)
- Sample holding temperatures (40951)
- Proposed compliance date (40952)
- Modifications to BATs (40953)
- Variances and exemptions (40953)
- Consistency with the GWR (40953)
- Storage tank inspection and cleaning (40953)



## Requests for Comment (4)

- EPA direct implementation authorities (40954)
- State implementation requirements (40956)
- Distribution system optimization projects (40957)
- Economic analysis and assumptions (40993)
  - Selection of the AIP option over the Alternative option
  - Measures to track long-term effectiveness of RTCR
  - Factoring costs of major DS appurtenances
  - States that will allow annual monitoring under RTCR
  - % of assessments that lead to corrective action
  - Effectiveness of assessments in reducing occurrence



## Requests for Comment (5)

- Information collection requirements and estimates (40995)
- Impact on small entities (40996)
- Comments from States, local officials, and tribal officials (40996)
- Comments or studies and data on effects of early life exposure to fecal contaminants (40993)
- Comments on the use of voluntary consensus standards (analytical methods that are in *Standard Methods*) (40997)



## Requests for Comment (6)

- Environmental justice considerations (40997)
- Does RTCR result in requirements that are easier to implement when compared to the current TCR (40998)
- Cost and benefit of reduced monitoring (40998)
- Effects of (coliform) contamination on the general population and sensitive subpopulations (40998)
- Improvements to rule language to enhance readability and understanding (40998)



# Submitting Comments on the Proposed RTCR

- Direct your comments to Docket ID No. EPA-HQ-OW-2008-0878
- Federal eRulemaking Portal
  - <http://www.Regulations.gov> : Follow the on-line instructions
- Mail
  - Water Docket, Environmental Protection Agency, Mailcode: 4101T, 1200 Pennsylvania Ave., NW, Washington, DC 20460
  - Copy to the Office of Management and Budget
- Hand Delivery
  - EPA Docket Center, EPA West, Room B102, 1301 Constitution Ave., Washington DC)
- See the Addresses section of the July 14, 2010 Federal Register notice of the proposed RTCR at <http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation.cfm>



# Planned Guidance – New and Revised

- Draft Assessment and Corrective Action Guidance Manual (available for public comment – August 2010)
- Revised Total Coliform Rule: A Handbook for Small Noncommunity Water Systems serving 1,000 persons or fewer
- A Small Systems Guide to the Revised Total Coliform Rule (for CWS serving 3,300 or fewer persons)
- Revised Total Coliform Rule: A Handbook for Small Noncommunity Water Systems serving less than 3,300 persons
- Revised Total Coliform Rule: A Quick Reference Guide
- EPA's Interactive Sampling Guide



# Assessment and Corrective Action Guidance

- Draft for comment will be posted at <http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation.cfm>
- Contains a description of the proposed RTCR and guidance on:
  - Conducting assessments
  - Qualifications of assessors
  - Common causes of coliform contamination and common corrective actions
- Also contains sample assessment forms and examples of completed assessments



# Appendix



# TCRDSAC Membership (1 of 2)

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



# TCRDSAC Membership (2 of 2)

Organization	Representative
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