



Revised Total Coliform Rule (RTCR)

**VT Rural Water Conference
May 5, 2011**



Background on the Current TCR

- Published 1989, effective 1990
- The only microbial drinking water regulation that applies to all public water systems (PWSs).
- Rule sets health goals (MCLG) and legal limits (MCL) for total coliforms. Presence of fecal coliforms or *E. coli* with TC (+) samples determines acute MCL violations.
- Regular monitoring for microbial indicators is used to determine PWS success in meeting water quality goals



History of TCR Revision

- EPA is required to review and revise, as appropriate, each National Primary Drinking Water Regulation no less often than every 6 years
- In 2003 EPA published its intent to revise the TCR
- In July 2007, EPA convened a Total Coliform Rule Distribution System Federal Advisory Committee (TCRDSAC), representing 15 organizations



Objectives of Original TCR Reaffirmed

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



Revised TCR Construct: Overview

- Overall shift in focus
 - From: monitoring results informing public notification
 - To: monitoring results informing investigation and corrective action





Revised TCR Construct:

- Benefits
 - More proactive approach to public health protection
 - Reduction in confusion associated with PN actions for TC violations





Revised TCR Construct

- **Use TC as part of an overall TT**
 - **No MCLG/MCL for TC**
 - **TC threshold exceedance triggers assessment and corrective action (of any defect found)**
 - **TT violation if assessment or corrective action is not completed**



Revised TCR Construct

- E.coli retains MCLG/MCL = 0
- Fecal Coliforms no longer used
- Public Notification for TT violations or acute MCL violations



Agreement in Principle (AIP) Elements

Find & Fix

- The Revised TCR would: Require systems to investigate and correct any sanitary defects found whenever monitoring results show a system may be vulnerable to contamination.

Find & Fix





AIP Elements

How do we find and fix?

- Require systems to conduct a simple self assessment (Level 1) or a more detailed assessment by a qualified party (Level 2) depending on the severity and frequency of contamination.





What is a Level 1 Assessment?

- Completed by PWS
- Identifies:
 - Sanitary defects detected
 - Corrective actions taken
 - Timetable for corrective actions not yet completed
- Reviewed by primacy agency to:
 - Establish that the problem has been corrected
 - Determine if the likely cause has been identified





What Triggers a Level 1 Assessment?

- Systems taking ≥ 40 samples: 5.0% TC+ samples
- Systems taking < 40 samples: 2 or more TC+ samples
- Failure to take all required repeat samples



What is a Level 2 Assessment?

- More detailed and comprehensive than Level 1 Assessment
- Conducted by PWS, provided the system has:
 - A certified operator with 2 years experience, or
 - Individuals with equivalent experience as approved by the primacy agency



What Triggers a Level 2 Assessment?

- E.coli MCL violation
- E.coli monitoring violation
- Second Level 1 trigger within a rolling 12 month period (unless primacy agency determines the system has corrected the initial problem)
- Level one trigger in two consecutive years (systems on annual monitoring only)



Routine Monitoring

- Systems serving $> 1,000$
 - No change
- Systems serving $< 1,000$
 - Transition with existing monitoring frequency unless primacy agency determines otherwise
 - New criteria for increased and reduced monitoring
- More flexibility in sample siting plans





Repeat Monitoring

- No changes for systems serving $> 1,000$
- For systems serving $< 1,000$
 - Reduces repeat monitoring from 4 samples to 3 samples
 - GW systems must still take an additional source sample to comply with GWR





Core AIP Elements

- The Revised TCR would provide flexibility in the location of sites for repeat samples beyond 5 sample taps up and down-stream of TC(+) location
- The Revised TCR would specifically allow the use of dedicated sampling sites instead of premises





Core AIP Elements

- The Revised TCR would require start-up procedures and sampling during high vulnerability periods for seasonal systems



Violations:

E.coli MCL Violation

- Definition
 - Routine and repeat TC+ samples, with at least one EC+ sample, or
 - Failure to take required samples following a routine EC+
- Consequences
 - Tier 1 Public Notification
 - Consult with primacy agency no less than 24 hours after learning of the violation
 - Level 2 assessment/corrective action



Violations:

Treatment Technique Violation

■ Definition

- Failure to perform a triggered Level 1 or Level 2 assessment, or
- Failure to correct all sanitary defects identified in an assessment, or
- Failure to correct sanitary defects according to agreed upon schedule

■ Consequences

- Tier 2 Public Notification
- Repeat PN every 3 months as long as violation or uncorrected defect persists





Violations:

Routine Monitoring Violation

- Definition
 - PWS does not take required routine or additional routine samples
- Consequences
 - Tier 3 Public Notification (can use annual consumer confidence report)





Violations: Reporting Violation

■ Definition

- PWS fails to submit a monitoring report or assessment form, or fails to submit a report by the required date

■ Consequences

- Tier 3 Public Notification (can use annual consumer confidence report)





Summary of TCRDSAC Recommendations

- No longer rely only on monitoring and notification
- Investigation and corrective action to be emphasized
- Reward well operated systems
- Distribution system research and information collection will be a priority



Assessment and Corrective Action Guidance

- Draft for comment will be posted at http://www.epa.gov/safewater/disinfection/tcr/regulation_revisions.html
- 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





Schedule for the Revised TCR

- Proposed rule published – July 2010
- Final rule- October 2012
- Effective date October 2015





More Information Available at:

www.epa.gov/safewater/

www.regulations.gov

The image displays two side-by-side screenshots of web browsers. The left browser window shows the EPA website 'Drinking Water Contaminant Candidate List and Regulatory Determinations'. The right browser window shows the 'Regulations.gov' search results page for the search term '2007-1189'.

Left Screenshot: EPA Website

- Page Title: Drinking Water Contaminant Candidate List and Regulatory Determinations
- Search: All EPA This Area
- Text: EPA has drinking water regulations for more than 90 contaminants. The Safe Drinking Water Act (SDWA) includes a process that we must follow to identify and list unregulated contaminants which may require a national drinking water regulation in the future. EPA must periodically publish this list of contaminants (called the Contaminant Candidate List or CCL) and decide whether to regulate at least five or more contaminants on the list (called Regulatory Determinations). EPA uses this list of unregulated contaminants to prioritize research and data collection efforts to help us determine whether we should regulate a specific contaminant.
- Text: In February 2005, we published the second CCL (CCL 2) contaminants. In May 2007, the Agency published a Federal Register notice announcing its preliminary determination that no regulatory action is appropriate or necessary for 11 of the 51 CCL 2 contaminants.
- Text: **New!** In February 2008, we announced the *draft third Drinking Water Contaminant Candidate List (CCL 3)* process and rationale used to develop the list.
- Text: The links below provide more information about Contaminant Candidate Lists and Regulatory Determinations.
- Links:
 - Basic Information - This page answers questions about how the CCL is developed, how it fits in development process and links to data and information on CCL contaminants.
 - CCL 3 List - This page describes the CCL 3 process and offers an opportunity to comment on the contaminants included on the draft CCL 3.
 - CCL 2 List and Regulatory Determinations - These pages provide the contaminants listed on the CCL 2 Regulatory Determinations.
 - CCL 1 List and Regulatory Determinations - These pages provide the contaminants listed on the Regulatory Determinations.

Right Screenshot: Regulations.gov Search Results

- Search Term: 2007-1189
- Search Term(s): 2007-1189
- Start Over
- Sort By: Title (A to Z)
- Display Results: 10
- Results:
 - (53) Announcement of Preliminary Regulatory Determinations for Priority Contaminants on the Drinking Water Contaminant Candidate List
 - (1) Notification
 - Federal Register of June 3, 2002 (67 FR 38222) [FRL-7221-8] ...
 - Agency: EPA Document Type: SUPPORTING & RELATED MATERIALS Comments Due: Docket ID: EPA-HQ-OW-2007-1189 Document ID: EPA-HQ-OW-2007-1189-0036
 - (2) View this Document
 - (53) Announcement of Regulatory Determinations for Priority Contaminants on the Drinking Water Contaminant Candidate List; Notice
 - (3) Notification
 - (52) Federal Register of July 18, 2003 (68 FR 42898) [FRL-7529-2] ...



Emergency Response Plan

This should be part of your daily operations, and

Practice, practice, practice.....your ERP





Water Security is now an “all hazards approach

- It's not just about terrorists anymore; must look at all vulnerabilities and possible threats
- Storage tanks – are common targets; And, chemicals, chlorine gas can be a vulnerability;
- Now also should factor in mother nature and other threats to water sector: floods, tornadoes, earthquakes, power loss, pandemic flu, and climate change impacts such as drought.
- Still a need for enhanced coordination with law enforcement, public health, local/state emergency responders and public.





What's new nationally?

- **March 31, 2011 HSPD 8 Update Signed by President** : Emphasizes three national preparedness principles:
 - 1) Enhancing integration of effort across Federal, State, local, tribal, and territorial governments; closer collaboration with the private and non-profit sectors; and more engagement of individuals, families and communities;
 - 2) A focus on capabilities, defined by specific and measurable objectives, as the cornerstone of preparedness. More integrated, flexible, and agile **“all hazards”** efforts tailored to the unique circumstances of any given threat, hazard, or actual event; and
 - 3) A focus on outcomes and rigorous assessment to measure and track progress in building and sustaining capabilities over time.





What's new cont: National Terrorism Advisory System (NTAS)

- Announced April 2011
- Replaces the previous color-coded Homeland Security Advisory System (HSAS)

Elevated Threat: Warns of a credible terrorist threat against the United States

Imminent Threat: Warns of a credible, specific, and impending terrorist threat against the United States



Mutual Aid: Utilities helping Utilities through Water/Wastewater Agency Response Networks (WARN)



Mission: The mission of WARN is to provide expedited access to specialized resources needed to respond to and recover from natural and human caused events that disrupt public and private drinking water and wastewater utilities.

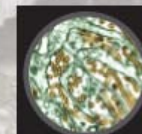
Vermont

**Water/Wastewater
Agency
Response
Network**

**WARN
Utilities helping
utilities**

Why join this FREE Network?

- No governmental disaster declaration needed = faster response
- Access to specialized resources in water/wastewater sector
- Developed, managed and run by utilities
- NIMS compliant and meets federal reimbursement requirements
- Responding is voluntary, and resources can be recalled if needed
- Single statewide agreement links all member utilities—large and small
- All utilities have something to contribute: labor, equipment, expertise
- Improved planning & coordination before, during & after emergencies
- Administrative issues resolved in advance, not during a response (reimbursement, insurance, indemnification)
- Private and public utilities are eligible to participate



funded by EPA New England

“It’s a Beautiful Thing.”

- EPA’s Jane Downing





Mutual Aid and WARN tools



- ICS/NIMs training specific to water sector, now have 300/400 available
- EPA's WARN tabletop facilitator's guide and scenarios on web
- AWWA resource typing manual for water sector
- EPA Generator brochure and information form for utilities

www.nationalwarn.org

www.epa.gov/safewater/security





March/April 2010 Rhode Island Floods





RI Floods Lessons learned

- Records and plans – keep duplicate sets secure in other locations.
- Moved some equipment out to high ground, have a plan
- What can we prepare for in rebuilding– energy, climate impacts?
- Have documentation and learn process for any FEMA public assistance needs in future





Some Adaptation Measures

- Review possible changes in climate in your area
- Consult latest FEMA flood maps
- Assess your particular vulnerabilities
- Incorporate future changes into planning
- Make “no regrets” changes like: watershed protection, demand management, backup supplies

TOP TEN WAYS
Utilities Can Save Water,
Energy and Money While
Preparing for Climate Change

- 10 **Reduce Energy Use.** Conduct a baseline energy audit. Develop a plan, and prioritize recommendations and make changes.
- 9 **Find unaccounted-for water.** Install and maintain meters. Find and fix leaks in the distribution system. Conduct a water audit and make recommended improvements.
- 8 **Conserve water.** Reduce peak demand and future supply needs. Help customers look for leaks and reduce water use.
- 7 **Explore renewable energy options.** Reduce green house gas emissions by generating or purchasing renewable energy (wind, solar, etc). Investigate any tax credits.
- 6 **Save money, manage efficiently.** Implement an asset management plan. Review rate structures for full cost pricing and include costs for energy/water conservation efforts and utility improvements.
- 5 **“Walk the talk”.** Educate customers and employees that savings are everyone’s job. Promote water and energy efficient products and install them in town buildings. Use best management practices such as low water use native gardens and drought resistant grass.
- 4 **Communicate.** Appoint someone to track energy and water performance. Use consumer confidence reports to highlight your savings. Visit local schools and community groups to teach the value of water.
- 3 **Conduct a climate vulnerability analysis.** Learn about potential climate change impacts to your area and infrastructure. Review latest flood maps, wet/dry/drought trends, runoff and recharge changes, water demand trends, and monitor changes in water quality.
- 2 **Adapt.** Design resilient physical structures to address identified climate vulnerabilities. Adjust operations and source water protection to more effectively manage for climate change impacts.
- 1 **Update emergency response plans.** Emergency standard operating procedures (SOP) should include response to events such as droughts and floods. Join your state’s Water and Wastewater Agency Response Network (WWARN) for mutual aid support. Work with your Local Emergency Planning Committee (LEPC).

EPA United States Environmental Protection Agency





EPA Region I Water Team

Working closely with FEMA and U.S. ACE to increase capacity for EPA regional water staff to support states in responding to emergencies affecting critical water infrastructure under ESF #3:

- ✓ EPA R1 held Water Emergency Workshop with Regions 4 & 6, U.S. COE, FEMA and NE States,
- ✓ R1 Agencies also planning Tabletop in CT, June 2011
- ✓ Ongoing and completed work:
 - ICS/NIMS/OSHA Training;
 - Cross-training with FEMA/U.S. COE;
 - DW Staff Fly Away Kits;
 - Sanitary Survey and Damage Assessment training;
 - GIS/SDWIS Mapping Tool;
- ✓ Established FY08, team of 33 staff/managers and provided key equipment.





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