Overview of Option Approaches from the Break-Out Groups

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This Presentation

Objectives

Provisions

System compliance

Improvement

Research

Overview of Option Approaches from the Break-Out Groups

Conceptual Option Descriptions

Option 1: Current TCR Provisions	Option 2: Traditional Trigger for Total Coliforms	Option 3: Baseline with Incentives	Option 4: Expected Performance with "Punitive" Consequences
The current TCR requirements that serve as a baseline.	Uses the current rule framework with triggered actions and some modified requirements.	Establishes a fixed set of requirements, with a reduction in requirements if conditions are continually met.	Establishes a fixed set of requirements, with consequences if requirements aren't met.

Option 2: Traditional Trigger - Fundamental Principles

1. Combination of MCL and Treatment Technique approach
   - Acute MCL violation associated only with *E. coli*
   - Total Coliform triggers treatment technique/action
   - Fecal (thermotolerant) Coliform removed from rule construct
2. Reduction in time elapsed between sample collection and analyses for TC and EC for more timely response (this affects the approved methods)

Option 2: Traditional Trigger - Fundamental Principles

3. Baseline monitoring for large systems remains unchanged; routine monitoring for small systems increases
4. Systems that do not disinfect monitor more frequently than those that disinfect
5. Flexibility in repeat sampling requirements to maximize the information available

Option 3a: Baseline with Incentives - Fundamental Premises

1. Combination of MCL and Treatment Technique approach
2. Intent is for well functioning system to achieve reduced monitoring, with criteria for reduced monitoring providing incentives for:
   - A system to be well functioning
   - Systems and states to implement programs/activities that improve water quality and public health protection

Option 3a: Baseline with Incentives - Fundamental Premises

3. Criteria for reduced monitoring require that the system has had:
   - A sanitary survey in the last 5 years with deficiencies addressed
   - No MCL and no monitoring violation for a specified period.
   - One additional element from an expanded list (e.g., system has a CCC Program)
4. Return to base monitoring if there is a monitoring or treatment technique violation

Option 3b: Baseline with Incentives - Fundamental Premises

1. Focuses on the incentive for reduced monitoring.
2. Sets an increased baseline for Total Coliform monitoring, but also provides incentive to add additional barrier or faster response in return for reduced TC monitoring requirements.
3. Differentiates between results at the Entry Point to the Distribution System, as compared to the distribution system.
   - A distribution system is defined to create system categories

Option 3b: Baseline with Incentives - Fundamental Premises

4. Failure to perform action plan or do follow up testing results in Tier 1 violation.
5. Incentives place emphasis on:
   - Continuous disinfection
   - History of TC compliance
   - Compliance with monitoring and reporting
   - Sanitary Survey and cross-connection control program

Option 4: Expected Performance with Consequences - Fundamental Premises

1. Combination of MCL and Treatment Technique approach
2. Resources focus on systems with recurring monitoring and/or system problems rather than on monthly routine monitoring results
3. Emphasis on inspection of system components by competent personnel

Option 4: Expected Performance with Consequences - Fundamental Premises

4. Violations and corrective action based on:
   - Failure to perform required plant reviews or to address deficiencies
   - Failure to perform bacteriological monitoring
   - Unsatisfactory monitoring results
5. Monitoring based upon performance status (e.g., inspection, deficiencies)
6. Occurrence of indicators is not the trigger for action in an otherwise acceptable system. System history is considered in determining action.

Similarities Among Options 2, 3 & 4
(Compared to Option 1, Current TCR Provisions)

Category	Retain from Current TCR	Modify from Current TCR
Indicators	Total Coliform, *E. coli*	Eliminate Fecal Coliform
MCLG	*E. coli*	Eliminate Total Coliform and Fecal Coliform MCLG
Monitoring	Framework for large systems	1. Increase baseline sampling for small systems 2. Modify repeat sample approach

Similarities Among Options 2, 3 & 4

(Compared to Option 1, Current TCR Provisions)

Category	Retain from Current TCR	Modify from Current TCR
Corrective Action		Systems respond to TC/EC occurrence, with investigation and correction as stipulated in each option.
Violations	Acute for *E. Coli* with confirmation	1. Eliminate non-acute monthly MCL (current 5 % trigger retained for action) 2. Include failure to take triggered action (Acute or Non-Acute)
Public notification	Presence of *E. coli* (1) – Acute	Include failure to respond (Acute and Non-Acute)

1. Option 4 does not specifically include this.

Additional Approaches Common to Some Options

1. Focus rule on beneficial responses
   - Identify and resolve source of contamination
   - Promote programs to reduce potential for microbial contamination
2. Maintain and improve linkage to GW Rule
   - e.g., monitoring for TC and *E. coli* at entry point to the distribution system
3. Ongoing levels of TC+ trigger response actions

Questions that Underlie Rule Elements

1. What is the baseline monthly monitoring plan?
2. What criteria are used to change the baseline monitoring scheme?
3. What is repeat monitoring plan?
4. What triggers investigation and corrective action?
5. What is the role of Sanitary Surveys?
6. What constitutes a violation and when to communicate with the public?

How do these elements affect small systems and State implementation?

What are the Baseline Monthly Monitoring Plans? (Range of Options)

1. Samples analyzed simultaneously for TC and EC
2. For “smallest” systems:
   - 1 sample in distribution system for disinfecting systems
   - 1 sample at EPDS (*) and 1 distribution for non-disinfecting systems
3. For systems < 1000
   - CWS and NTNCWS – 2 samples
   - TNCWS – 1 sample

* EPDS = Entry Point to the Distribution System

What are the Baseline Monthly Monitoring Plans? (Range of Options)

4. Three categories
   - < 3,300 no distribution system - EPDS
   - < 3,300 distribution system - EPDS, 2 end of system
   - all other systems – EPDS, same as current rule
5. Until first Sanitary Survey or inspection
   - CWS, current rule
   - NTNCWS and TNCWS – 1 sample

* EPDS = Entry Point to the Distribution System

What Criteria are Used to Change the Baseline Monitoring Scheme? (Range of Options)

1. Reduced monitoring * for smallest systems based on historical monitoring data
2. Reduced monitoring * for systems < 1000 if system has had:
   - A sanitary survey in last 5 years and all deficiencies corrected
   - No MCL violations and no monitoring violations for specified period

* = Return to baseline monitoring if desired performance is not maintained

What Criteria are Used to Change the Baseline Monitoring Scheme? (Range of Options)

3. Reduced monitoring * if system can comply with one of the following:
   - Maintains a distribution system residual
   - Absence of TC+ samples for number of samples/specified period
   - No monitoring or reporting violations
   - Satisfactory compliance with findings of sanitary survey
   - Implementation of a cross connection control program
4. Performance based upon Sanitary Survey, with results in the following categories:
   - Complete and Partial Compliance
   - Substantive and Significant Non-Compliance
   - For Substantive Non-Compliance and Significant Non-Compliance categories, sampling higher than baseline

* = Return to baseline monitoring if desired performance is not maintained

What are the Repeat Monitoring Plans? (Range of Options)

1. For large systems:
   - One original tap, one upstream and one downstream within 24 hours
   - One original tap, two at points of potential contamination (e.g., storage tank, pump station, interconnect)
2. For NCWS with limited taps, one original tap and one from source

What are the Repeat Monitoring Plans? (Range of Options)

3. For small systems:
   - Sample at the original tap only
   - Sample at original tap, upstream and at storage tank (<3,300 with distribution system)
   - Eliminate 5 samples the following month
4. If EPDS sample is positive, sample at source (linkage to GWR?)

What Triggers Investigation and Corrective Action? (Range of Options)

1. TC+ samples above some threshold level
   - For large systems, > 5% positive samples
   - For systems collecting < 40 samples/mo, two or more TC+
2. Acute MCL violation
   - e.g., monitoring for TC and *E. coli* at point of entry to the distribution system
3. TC+ samples and current level of compliance (e.g., partial compliance)
4. Two – tiered response
   - First time a trigger is exceeded; notification to state and reduced monitoring revoked.
   - A trigger is exceeded two or more times in 12 month period; notification to state, investigate/evaluate/correct.

What Are Investigative and Corrective Actions? (Range of Options)

1. Break out groups provided different levels of detail regarding these investigative and corrective actions.
   - Group 2 prepared a toolbox of both investigative/ evaluation actions and corrective actions

What is the Role of Sanitary Surveys? (Range of Options)

1. Required for surface water systems the same as groundwater systems
   - Eight elements
   - Including corrective action
2. Compliance is part of incentive package to reduce monitoring
3. Compliance plays in determination of categories (e.g., Partial Compliance)

What Constitutes a Violation and When to Communicate with the Public? (Range of Options)

1. Tier 1 (Acute), public notification within 24 hours
   - *E. coli* + with confirmation
   - For systems with a TC waiver, loss of chlorine residual and single EC+
   - Significant non-compliance (system has not performed sanitary survey or inspection or has not performed actions to mitigate significant risk)
2. Tier 2 (Non-Acute), public notification within 30 days
   - Failure to investigate and implement corrective actions (treatment technique
   - Substantive non-compliance (system units are not adequate, do not meet industry standards, or if not functioning properly have not been repaired.
3. Tier 3 (Monitoring/Reporting), public notification annually
   - Monitoring and reporting

Questions that Underlie Rule Elements

1. What is the baseline monthly monitoring plan?
2. What criteria are used to change the baseline monitoring scheme?
3. What is repeat monitoring plan?
4. What triggers investigation and corrective action?
5. What is the role of Sanitary Surveys?
6. What constitutes a violation and when to communicate with the public?
7. What system categories to use?

How do these elements affect small systems and State implementation?