Revised Total Coliform Rule Briefing

Introduction

The Total Coliform Rule (TCR) has been in effect since 1989. The federal Revised Total Coliform Rule (RTCR) was finalized on April 15, 2013. States are required to have RTCR in place February 13, 2015 but can ask for an extension of up to 2 years. Tennessee is asking for a six month extension. The RTCR takes effect for the water systems (community and non-community) on April 1, 2016. Individual systems may be allowed two additional years to comply if the State determines that additional time is necessary for capital improvements.

The RTCR replaces the maximum contaminant level (MCL) for total coliform with a treatment technique for total coliform that requires an assessment and corrective action. The RTCR establishes a maximum contaminant level (MCL) for E. coli, a more specific indicator of fecal contamination and potential harmful pathogens than total coliform.

The RTCR establishes an E. coli MCL violation, a treatment technique violation, a monitoring violation, and a reporting violation. A public notice is required for each type of violation. The type of notification is dependent on the degree of potential public health concern (tier 1, 2, or 3).

Assessments

Systems must conduct either a level 1 assessment (generally a total coliform treatment technique violation) or a more detailed level 2 assessment (generally an E. coli MCL violation) depending on the level of concern raised by the results of the indicator sampling. What was a non-acute MCL for total coliforms is now used as a trigger for an assessment of the system. The system is responsible for correcting any sanitary defect(s) found through either a level 1 or 2 assessment.

Level 1 Assessment

A level 1 assessment is an evaluation to identify the possible presence of sanitary defects, defects in the distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. It is a self-assessment performed by the water system (operator, owner or designated representative) to look at conditions that could have caused the total coliform-positive sample.

Level 2 Assessment

A level 2 assessment is an evaluation to identify the possible presence of sanitary defects, defects in the distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment. It is a more detailed examination of the system (including the system's monitoring and operational practices) through use of a more comprehensive investigation and review of available information, additional internal and external resources, and other relevant practices. Level 2 assessments must be conducted by a party approved by the State: the State itself, a third party, or a PWS where the system has staff or management with the required certification or qualifications specified by the State. A level 2 assessment is effectively a sanitary survey and is considered more of a "hands on" assessment with field visits and possibly additional sampling.

The triggers for level 2 assessments are:

1) The PWS has an E. coli MCL violation
2) The PWS has a second Level 1 treatment technique trigger within a rolling 12 month period

Seasonal Systems

All systems must demonstrate completion of a State-approved start-up procedure prior to serving water to the public. All systems must take at least one routine sample per month for total coliforms and E. coli for the months that they are in operation.

Under the proposed Tennessee Rule, seasonal systems will be required to obtain a negative total coliform bacteria result prior to serving water to the public. Systems that fail to perform start-up procedures will have a treatment technique violation.

Monitoring

The Federal RTCR allows a ground water system with a single well serving 1,000 or less people may still use a repeat sample collected from a ground water source to meet both the repeat monitoring requirements of the RTCR and the triggered source monitoring requirements of the GWR (dual purpose sample). This is not being allowed in the State rule to avoid confusion in sample labeling, tracking and reporting.

The RTCR specifically allows for the use of dedicated sampling stations

1) To reduce potential contamination of sampling taps
2) To facilitate access to sampling taps
3) To improve sampling representation of the distribution system

The Federal RTCR allows for waivers for well-run small community ground water systems (serving less than 1000 persons) to reduce monitoring from monthly to quarterly and for non-community ground water systems to reduce monitoring from quarterly to annually. The state regulations will maintain the existing requirements for these two types of systems. The Division does not feel this is adequately protective of public health and would add additional workload and tracking issues for the Division.

PWS will continue to monitor for total coliforms and E. coli according to a sample siting plan and schedule specific to the system. Systems must develop a written sample siting plan that identifies sampling sites and a sample collection schedule that are representative of water throughout the distribution system not later than March 31, 2016. Systems have the flexibility to propose alternate repeat sample locations that best verify and determine the extent of potential contamination of the distribution system rather than having to sample in the distribution system within 5 connections upstream and downstream of the total coliform-positive sample location. Systems may elect to specify either alternative fixed locations or criteria for selecting their repeat sampling locations on a situational basis in a standard operating procedure which is part of the sample siting plan. Systems must identify repeat monitoring locations in the sampling plan or the criteria for selection of alternate monitoring locations unless they are using the default sample of no more than 5 connections upstream and downstream.

Violations

1) <u>E. coli MCL violation</u>

The E. coli MCL is based on monitoring results for total coliforms and E. coli. A system is in compliance with the MCL unless any of the following conditions occur:

(a) System has an E. coli positive repeat sample following a total coliform positive routine sample or

(b) routine sample is E. coli positive and one of its associated repeat samples is total coliform positive or

(c) system fails to test for E. coli when any repeat sample tests positive for total coliforms, or

(d) system fails to take all required repeat samples following a routine sample that is positive for E. coli.

{Effectively, if there is a routine or repeat E. coli positive or the PWS fails to test for E. coli, there is an E. coli MCL violation.}

2 Coliform treatment technique violation

(a) A system fails to conduct a required assessment within 30 days of notification of the system exceeding the trigger.

(b) A system fails to correct any sanitary defect found through either a Level 1 or 2 assessment within 30 days or in accordance with the State derived schedule.

(c) A seasonal system fails to complete a State-approved start up procedure prior to serving water to the public.

3 Monitoring violation

(a) A system fails to take every required routine or additional routine sample in a compliance period.

(b) A system fails to test for E. coli following a routine sample that is total coliform positive.

4 Reporting violation

(a) A system fails to timely submit a monitoring report or correctly completed assessment form after it properly monitors or conducts an assessment by the required deadlines.

(b) A system fails to timely notify the State following an E. coli positive sample.

(c) A seasonal system fails to submit certification of completion of State-approved start-up procedure.

Public Notification

1) Tier 1 for E. coli MCL violation (24 hours)
2) Tier 2 for treatment technique violation for failure to conduct assessments or corrective actions (30 days)
3) Tier 3 for monitoring or reporting violation (1 year)