RTCR-LITE: AN OVERVIEW OF THE REVISED TOTAL COLIFORM RULE REGULATIONS

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RTC RULE DEVELOPMENT

- **Proposed RTCR July 14, 2010**
- **Final RTCR signed By EPA Administrator Lisa Jackson in December 2012**
- **Final RTCR published February 13, 2013**
- **NMED Interim Primacy March 2016**
- **Rule goes into effect April 1, 2016**

RTCR APPLICABILITY

- **Who does the RTCR Apply to?**
  - RTCR applies to all PWSs providing water to the public.
  - There is no grandfathering or waiving of this rule.
  - If you are a Public Water System, you will be required to comply with all aspects of this rule.

RTCR REQUIREMENTS

ALL Public Water Systems:

- **Monitor for Total Coliform and *E.coli* (no change for New Mexico)**
- **No reduced monitoring will be allowed in New Mexico. Water systems that are currently sampling quarterly will now be required to sample monthly.**
- **All PWSs must monitor according to a written sample siting plan; plan must identify routine AND repeat sampling locations.**
- ***E. coli* MCL violation replaces TCR's acute MCL with an *E. coli* MCL – still requires a Tier 1 Public Notice**
- **Total coliform Treatment Technique violation replaces TCR's total coliform MCL violations – no Public Notice (Tier 2) req'd**

SEASONAL START-UP

- **Seasonal Public Water Systems**

  Must complete a State Approved Startup Procedure prior to opening for the season.

- **Must sample on a Monthly basis rather than on a quarterly basis**

RTCR REDUCED MONITORING

- **Why is Reduced Monitoring (Quarterly) not being allowed in New Mexico?**

The requirements for reduced monitoring within the RTCR made it very difficult to obtain, track, and maintain those reduced schedules.

Some of those were:

Minimum of 12 months clean compliance history

Sanitary Survey with no deficiencies

Annual Site visits from NMED (Or annual Level 2 Assessment)

Cross-Connection control program approved by the State

Continuous disinfection

4-Log Removal or inactivation of viruses

RTCR SAMPLING PLANS

- **All PWSs in New Mexico will be required to update their Sampling Plans**
  - The PWS must design its sample siting plan to identify routine **AND** repeat sampling with physical address or location info that best verify and determine the extent of potential contamination of the distribution system. The state has the discretion to modify the sample siting plan as necessary.
  - Monthly sample site verifications between Chain-of-Custody location information will be compared to site plan location designations

RTCR SAMPLING PLANS

All PWSs in New Mexico will be required to update their Sampling Plans using DSSP Instructions and Template (available on DWB website)

At a minimum sampling plans must contain the following:

- Name of PWS
- Name and Contact Information for all important contacts at PWS (Administrative Contact, Operator, Sampler, Emergency Contact)
- Routine Sampling Locations that are representative of the entire distribution system
- Pre-Identified repeat monitoring locations
- Map of the entire distribution system

RTCR SAMPLING

- **What happens when a routine sample is either Total Coliform or *E.Coli* Positive?**

All systems are required to collect repeat sampling

Repeat sampling will be limited to **three** repeat samples for every routine positive result. (Plus triggered source sampling to comply with the Ground Water Rule)

Repeat Samples do not have to be collected within 5 connections upstream or downstream.

RTCR allows for alternative repeat sampling locations if a PWS believes that that those alternative locations are representative of pathways for contamination of the distribution system

Sampling from alternative locations must be approved by DWB prior to repeat sampling event by system submitting SOP to designate alternate sites

TCR/RTCR POPULATION-BASED MONITORING REQUIREMENTS

Public Water System ROUTINE Monitoring Frequencies					
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.

RTCR SAMPLING

- **Basically the same routine sampling requirements as the current TCR**
  - Based on Population; i.e.:
  - 25-1000 = 1 sample per month
  - 1001-2500 = 2 samples per month
- **DWB routine sample count multiplier**
  - 1-2 per month; x4 multiplier
  - 3-10 per month; x3 multiplier
  - 15-30 per month; x2 multiplier
  - >30 per month; x1.5 multiplier

RTCR SAMPLING

- **What happens when a routine sample is either Total Coliform or *E.Coli* Positive?**

  If one or more repeat samples are TC+, the PWS may be required to collect an additional set of repeat samples within 24 hours of being notified of the repeat sample's TC+ result

  The PWS may be required to continue to take additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples, or the PWS determines that a coliform TT trigger has been exceeded as a result of a TC+ repeat sample and the PWS has notified the state

  No additional sampling required the month after a TC+ or EC+ Result

RTCR VIOLATIONS

- **What Violations are triggered by RTCR sampling events?**

  A PWS is in violation of the *E.Coli* MCL if:

  - A PWS has an EC+ repeat sample following a TC+ routine sample
  - A PWS has a TC+ repeat sample following an EC+ routine sample
  - A PWS fails to take all required repeat samples following an EC+ routine sample

  ***E.Coli* MCLs require the PWS to issue a Tier 1 public notice which includes a Boil Water Advisory**

ASSESSMENTS

- **The RTCR requires systems to investigate and correct any "sanitary defects" found whenever monitoring results show a system may be vulnerable to contamination.**
  - There are two levels of assessments 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"

ASSESSMENTS

- **A Level 1 trigger is:**
  - >5% total coliform positive if taking 40 or more samples/month;
  - 2 or more total coliform positive samples if taking <40 samples/month; or
  - A failure to take all of the required repeat samples.

- **A Level 2 trigger is:**
  - *E. coli* Maximum Contaminant Level (MCL) violation; or
  - *E. coli* monitoring violation; or
  - Two Level 1 triggers within a rolling 12 month period

ASSESSMENTS

- **Who will be certified to conduct assessments?**
  - **Level 1 Assessments**
    - In New Mexico, the following levels of operators will automatically be certified to conduct RTCR Level 1 Assessments:
      - Small Water Advanced
      - Water Level 3
      - Water Level 4

ASSESSMENTS

- **Who will be certified to conduct assessments?**
  - **Level 2 Assessments**
    - In New Mexico, the following levels of operators will automatically be certified to conduct **RTCR Level 2 Assessments**:
      - Water Level 3
      - Water Level 4
  - **For those operators that are not automatically certified, attending an 8 hour RTCR training course developed by NMED will certify you for Level 1 & Level 2 Assessments**

ASSESSMENTS

- **Who will be certified to conduct assessments?**
  - **If a PWS does not have an operator on staff that is Certified to conduct Level 1 or 2 Assessments, the PWS will be required to contract a certified assessor to conduct the assessment and report the findings to NMED.**

ASSESSMENTS

- **Level 1**
  - Conducted by a qualified assessor
  - Primarily a simple exercise of reviewing your system for operational changes that may have caused the Coliform positive results
  - Reviews protocols and monitoring results
  - Assessment Form Developed by NMED-DWB is basically a “Yes” / “No” questionnaire
  - **Must be completed and reported to NMED within 30 days of trigger**

- **Level 2**
  - Conducted by a qualified assessor
  - Much more effort involved
  - Field inspections are likely
  - Assessment Form Developed by NMED-DWB is a more intensive form that requires much more investigation than a Level 1 Assessment.
  - **Must be completed and reported to NMED within 30 days of trigger**

LEVEL 1 ASSESSMENT - DEFINITION

- **Level 1 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment**

LEVEL 1 ASSESSMENT

- **Minimum elements include**
  - Review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired
  - Changes in distribution system maintenance and operation that could affect distributed water quality (including water storage)
  - Source and treatment considerations that could have affected distributed water quality, where appropriate (e.g., whether a ground water system is disinfected)
  - Existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing.

LEVEL 2 ASSESSMENT - DEFINITION

- **Level 2 assessment is an evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment.**

LEVEL 2 ASSESSMENT - DEFINITION

- **A Level 2 assessment provides a more detailed examination of the system (including the system's monitoring and operational practices) than does a Level 1 assessment through the use of more comprehensive investigation and review of available information**
- **Additional internal and external resources, and other relevant practices**
- **It is conducted by an individual approved by the State, which may include the system operator**

LEVEL 2 ASSESSMENT - DEFINITION

- **Minimum elements include**
  - Detailed Review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired
  - Detailed Review of changes in distribution system maintenance and operation that could affect distributed water quality (including water storage);
  - Detailed review of source and treatment considerations that could have affected the distributed water quality, where appropriate (e.g., whether a ground water system is disinfected);
  - Detailed review of existing water quality monitoring data; and inadequacies in sample sites, sampling protocol, and sample processing.
  - The system must comply with any expedited actions or additional actions required by the State in the case of an E. coli MCL violation.

SANITARY DEFECTS

"Sanitary defect is 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."

Examples of sanitary defects could include:

- Cross connection
- Breakdown in treatment
- Source problems (e.g., defective well seal or casing)
- Improper disinfection of main repairs or other appurtenances being returned to service

WHAT YOU SHOULD BE DOING NOW

- Start Updating Sampling Plans
- Familiarize yourself with Assessments and the assessment process
- Determine who will conduct your assessments
- Get certified to do your own assessments
- Seasonal Systems familiarize yourself with startup procedures

RTCR VS TCR CHANGES

- **RTCR effective April 1, 2016**

- **All TCR-related questions have been removed from all sampler & operator exams**

- **New RTCR-related questions will be included in all sampler & operator exams starting with the April 2016 exam session**

- **New RTCR Need-To-Know (NTK) criteria were added to the on-line edition of the New Mexico Water Sampling Certification Study Guide in March 2016**

RESOURCES & GUIDANCE

https://www.env.nm.gov/dwb/RTCR.htm

(Can link from Drinking Water Bureau homepage)

QUESTIONS?

FOR FURTHER INFORMATION PLEASE CONTACT

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