pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Safe Drinking Water

Proposed Revised Total Coliform Rule (RTCR)

Technical Advisory Committee for Small Water Systems Meeting

June 18, 2014

Meeting Objectives

- Review key provisions of the pre-proposed Revised Total Coliform Rule (RTCR) regulations, including clarifications to other sections of Chapter 109 for primacy
- Answer questions from TAC
- Solicit comments from TAC

RTCR Basics

- EPA published the RTCR in the Federal Register (78 FR 10269) on Feb. 13, 2013
- All public water systems (PWSs) will be required to comply with RTCR beginning April 1, 2016
- The 1989 Total Coliform Rule remains effective until March 31, 2016
- February 2017 is DEP's deadline to finalize regulations

RTCR Basics

- Acute MCL violation based on *E. coli*
- Treatment technique requirements based on total coliform and *E. coli*
- Routine monitoring based on system size
- Public Notice required for acute MCL violation and for failure to conduct assessment or complete corrective actions

RTCR Basics

- Defines “seasonal systems” and requires them to have start-up procedures and sample during high vulnerability periods
- New assessment requirement – Systems must conduct a basic self-assessment (Level 1) or a more detailed assessment (Level 2) depending on the severity and frequency of contamination
- Failure to conduct assessment or complete corrective actions is a treatment technique violation

RTCR - Monthly Monitoring

Require monthly monitoring for all systems

- Under TCR, NCWS monitor quarterly
- More protective of public health for NCWS to monitor monthly
- Under federal rule, many NCWS would trigger (and remain on) monthly monitoring

RTCR - Reporting Requirements

- One hour reporting for e-coli positive samples (vs. end of the day in federal rule)
- Tier 2 (PA) vs. Tier 3 (federal) violation for assessments
- One hour reporting for failure to conduct assessment
- One hour reporting for seasonal system not conducting start-up procedure

RTCR - Sample Siting Plans

- May not use more than one location in a month
- Define representative locations:
  - Dead ends, first service connection, finished water storage facilities, interconnections with other public water systems and areas of high water age.
- Include check sample locations in plan
- Not allow option for alternate check sample locations

RTCR - Assessments

- DEP may require a PWS to conduct an assessment
- Require operator appropriately certified for system to conduct Level 2 Assessments
- Fourteen day requirement for assessment consultation

Other Revisions - Filtration

- Update turbidity standards
  - Instantaneous maximum of 1.0 NTU
  - Add PLR of 0.15 NTU in 95 percent measurements for membrane plants
- Require continuous turbidity monitoring for CFE and require continuous IFE monitoring (and reporting) for **all** filtration types
- Require continuous turbidity monitoring of source water for unfiltered SW/GUDI sources and require *E. coli* analysis instead of fecal coliform

Other Revisions - Filtration

- Require 24-hour notification to DEP of equipment failure and 5 days to repair for all systems
- Delete the option for reduced (once/day) turbidity and EP residual monitoring
- Require filter-to-waste after backwash before putting a filter into service until
  - One full filter volume
  - Turbidity of < 0.30 NTU (or < 0.15 for membranes)

Other Revisions - Filtration

Mandate alarm and shut-down capabilities for all filter plants

- Raw water characteristics can change rapidly requiring immediate action to adjust chemical feeds to maintain finished water quality
- Not all plants are adequately staffed 24/7 and some plants are operated remotely

Other Revisions - Filtration

- Require annual filter bed evaluation program for all filtration types (currently required for C&D technologies)
- Add reporting requirement for LT2 Round 2 source sampling to include concentration of oocysts/L

Other Revisions - Disinfection

- Clarify that 1-log inactivation for giardia is 90.0%
  - Require that CT be calculated at least once/day
  - Clarify that failure to maintain 1-log is a Tier 1 violation
- Require 24-hour notification to DEP of equipment failure and 5 days to repair for all systems
- Clarify that all PWSs with filtration for SW/GUDI sources must develop a disinfection profile
- Clarify disinfection residual requirements for CWS using purchased water sources

Other Revisions - Disinfection

- Mandate minimum EP disinfection residual of 0.50 mg/L free chlorine (or 1.00 mg/L total chlorine) for all CWSs and any NCWS with filtration
- Mandate minimum disinfection residual of 0.30 mg/L free chlorine (or 1.00 mg/L total chlorine) throughout distribution system for all CWSs and any NCWS with 4-log treatment
- Failure to maintain minimum disinfectant residual throughout distribution system for more than 4 hours is a Tier 2 violation

Other Revisions - Disinfection

Increased disinfectant residual levels will:

- Provide additional public health protection from pathogens associated with treatment breakthrough and distribution system/premise plumbing deficiencies (e.g. *Legionella, Mycobacterium, Acanthamoeba and Naegleria fowleri*)
- Bring Pennsylvania in line with 10 states' standards
- Make Pennsylvania consistent with other states

Other Revisions - Disinfection

State	EP Residual (mg/L)	DS Residual (mg/L)
Alabama		0.2 (free)
Delaware		0.3 (free)
Florida		0.2 (free), 0.6 (total)
Illinois		0.3 (free), 0.5 (total)
Iowa		0.3 (free), 1.5 (total)
Kentucky		0.2 (free), 0.5 (total)
Louisiana	0.5 – 1.0 (free), 0.5 (total)	0.5 (free or total)
Ohio		0.2 (free), 1.0 (total)
Oklahoma	0.2 or 1.0 (free), 2.0 (total)	0.2 (free), 1.0 (total)
Tennessee		0.2 (free)
Texas		0.2 (free), 0.5 (total)
West Virginia		0.2 (total)

Other Revisions – Resiliency

Require auxiliary power for all CWSs

- Several severe weather events since 2011 have shown lack of resiliency and caused prolonged water outages
- Clarify what is already required under 109.4(4) for ensuring safe and potable water is continuously supplied to users

Other Revisions - Miscellaneous

- Require all PWSs to develop and maintain a water system map
- Update time-frames for responding to significant deficiencies to be consistent for systems with GW and SW sources
- Require CWSs to get permit for any CCT
- Require corrective action for any source water *E. coli*-positive sample

Other Revisions – Source Protection

- Expand WHPP to be source water protection (to include SW sources)
- New definitions for: *source water assessment*, *source water protection*, *source water protection program*, *surface water intake protection area* and *surface water intake protection program*
- Require source water monitoring if a potential source of contamination is identified or significant land used changes occur within source water protection area

Other Revisions – Source Protection

- Require pre-drilling plan, including source water assessment, and where necessary, SWIP testing *prior to* source approval for new GW sources
- Require updated source water assessment by PWS if annual system evaluation identifies changes to potential source(s) of contamination

Timeline

- The Federal RTCR becomes effective April 1, 2016.
- DEP's target date for final rulemaking is summer 2016.

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QUESTIONS?

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