



Public Drinking Water Regulations: Recent Changes for Small Water Systems

January 2019

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Important Acronyms and Symbols

DWQ	Rhode Island Department of Health, Center for Drinking Water Quality
MCL	Maximum Contaminant Level
PWS	Public Water System
RTCR	Revised Total Coliform Rule
TC	Total Coliform
TC+	Total Coliform Present
TCR	Total Coliform Rule



All PWS



Transient Non-Community PWS



Non-Transient Non-Community PWS



Community PWS



Transient Non-Community Seasonal PWS

Rules and Regulations Pertaining to Public Drinking Water



- Rhode Island's updated public drinking water regulations became effective Oct. 31, 2018.
- The following is an overview of the major changes applicable to “small” public water systems (serving $\leq 1,000$ consumers).*
- DWQ will begin to enforce these changes on March 1, 2019, unless otherwise noted.
- Citations listed throughout this document reference sections of the regulations and are listed at the end of the document (pages 31-33).

*See the Regulations [\[216-RICR-50-05-1\]](#) for the full set of requirements

Coverage and Contact Information¹



- New PWS are required to attend an in-person meeting with DWQ prior to activation.
- All PWS must provide DWQ with email addresses for owner, administrative contact, and where applicable, the Designated Operator. At least one of these emails should be checked at least once per day (Mon-Fri) for messages from DWQ.
- All PWS must provide DWQ with emergency contact information (phone/email) that will be responded to 24 hours a day, 7 days a week.
- Report contact info. changes to DWQ within 72 hrs.

Approval of Water Sources²



- See Section 1.4 for important updates to construction and modification of wells, protective radii, and well head protection areas.
- All new and reconstructed wells must be sampled for IOCs, SOCs, and VOCs.
- New or renovated infrastructure must be above the 500-year floodplain or flood-proofed.³



Cross Connections⁴



- Community and Non-Community Non-Transient PWS must submit annual report regarding cross connection program to DWQ on State forms.
- Due January 15 each year, beginning in 2020.



Flushing⁵



- Community and Non-Community Non-Transient PWS serving at least 1,000 consumers must maintain a written flushing schedule, procedure, and log.



Pressure⁶



- All PWS must maintain minimum pressure of 20 psi.
- Pressure must be monitored at critical locations and areas with known low-pressure problems (pressure alarms may be used).
- A plan must be established to address and/or resolve frequent pressure problems.
- PWS must report when system pressure drops below 20 psi (dewatered); DWQ must be notified within 24 hours and a precautionary boil water advisory is required.



Auxiliary Power⁷



- Community PWS (by April 2020) and Non-Transient PWS (by April 2021) that are schools, daycare centers, institutions, or medical facilities must have auxiliary power to maintain pressure in power loss.



Emergencies⁸



- All PWS must report operational status to DWQ in emergency event within 24 hrs.
- All PWS must develop, maintain, and carry out emergency response plans (by December 2020 for Transient PWS and July 2020 for Community and Non-Transient PWS). See Section 1.9.9 for details.



Well Labeling⁹



- Wells must be labeled with PWS ID and Facility ID by December 31, 2019.
- DWQ will contact you soon about how to meet this requirement.



Reporting Priority Results¹⁰



- The following priority results must be reported within 24 hours or next business day on State forms:
 - E. coli present,
 - total coliform present,
 - nitrate: greater than the MCL (10 mg/L),
 - nitrite: greater than the MCL (1 mg/L), and
 - Lead: greater than 15 ppb (or 0.015 mg/L).

- Compliance sampling reports (microbiological, IOC, VOC, SOC, radionuclides, lead and copper) must be on State forms when submitted to DWQ. The logo for "All PWS", consisting of a blue water drop shape with the text "ALL PWS" inside.
- Within 180 days of being notified by DWQ, all compliance sampling reports and monthly operating reports must be submitted to DWQ electronically from the lab. Reports must be submitted in a manner compatible with DWQ's computer system.
- If not using the State lab, PWS must enter into a written agreement with their lab to have results submitted electronically.

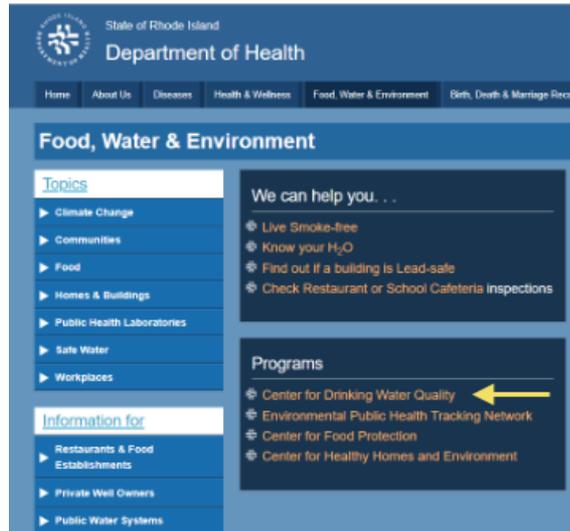
Location of State Reporting Forms



1. Go to health.ri.gov/foodwaterenvironment/

2. Click on *Center for Drinking Water Quality*

3. Click on *Public Drinking Water Program* and scroll down to *Reporting*



Microbiological/Revised Total Coliform Rule (RTCR)



- Total Coliform Rule (TCR) was replaced by Revised Total Coliform Rule (RTCR). PWS are required to comply with all aspects of this rule (no grandfathering or waivers).
- RTCR started April 1, 2016, but replaced TCR in the Rhode Island regulations on October 31, 2018.

Coliform Rule – Summary of What’s New (more details provided in slides 18-30)



More than one TC+ sample triggers a Level 1 or Level 2 Assessment (“Treatment Technique Trigger”) rather than an MCL violation.

No 5 samples required the month after TC+ sample; instead, 3 samples if on quarterly sampling or normal monthly schedule if on monthly sampling.

Level 1 and Level 2 Assessment triggers established. Level 1 must be submitted to DWQ within 10 days of learning of a trigger; Level 2 within 30 days of trigger.

DWQ must be notified of any E. coli positive sample, an E. coli MCL violation, or any Treatment Technique Trigger by the end of that day.

PWS need up-to-date sampling plans; plans to be evaluated during sanitary surveys.

Seasonal systems must certify completion of state-approved start-up procedure.

Monitoring increased to monthly or reduced to quarterly if certain criteria met.

Treatment Technique violations established.

E. Coli MCL, monitoring, and reporting violations: criteria changed.

Public Notice: No longer required for TC MCLs but required for Treatment Technique, E. coli MCL, routine monitoring, and reporting violations.

Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Positive Total Coliform:</p> <ul style="list-style-type: none">• Triggers a violation for the following:<ul style="list-style-type: none">– MCL exceedance if more than one sample is TC+• Additional Sampling:<ul style="list-style-type: none">– 4 repeats (including well)– 5 routine samples the month after	<p>Positive Total Coliform:¹²</p> <ul style="list-style-type: none">• Triggers a Level 1 or Level 2 Assessment (“Treatment Technique Trigger”)<ul style="list-style-type: none">– No MCL violation• Additional Sampling:<ul style="list-style-type: none">– 3 repeats + 1 triggered well sample for each well (required by the Groundwater Rule)– 3 routine samples the month after (if on quarterly sampling)– Normal monthly schedule the month after (if on monthly sampling)

Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>E. Coli MCL Violation:</p> <ul style="list-style-type: none">• E. coli/fecal positive repeat sample following a TC+ routine sample• TC+ repeat sample following an E. coli/fecal positive routine sample	<p>E. Coli MCL Violation:¹³</p> <ul style="list-style-type: none">• Any repeat is E. coli positive• Any repeat is TC+ following an E. coli positive sample• Complete set of repeats not taken following E. coli positive routine sample• No E. coli analysis is performed on a repeat sample <p><i>E. coli MCLs require the PWS to issue a Tier 1 public notice, which includes a Boil Water Advisory.</i></p>

Coliform Rule - continued



TCR (Old)	RTCR (New)
Level 1 Assessment Trigger: <ul style="list-style-type: none">• NONE	Level 1 Assessment Trigger: ¹⁴ <ul style="list-style-type: none">• Two or more samples in a month is TC+ (monthly sampling)• Two or more samples in a quarter is TC+ (quarterly sampling)• Failure to collect complete set of repeats following TC+ routine result
Level 2 Assessment Trigger: <ul style="list-style-type: none">• NONE	Level 2 Assessment Trigger: ¹⁴ <ul style="list-style-type: none">• Two Level 1 triggers in a rolling 12-month period• E. coli MCL violation

Coliform Rule - continued



TCR (Old)

Notification:

- DWQ must be notified of any TC or E. coli MCL violation by the end of day on which the system learns of the violation or by the end of the next business day if State offices are closed

RTCR (New)

Notification:¹⁵

- DWQ must be notified of any routine or repeat E. coli positive sample,* any E. coli MCL and/or of any Treatment Technique trigger, by the end of the day on which the PWS learns of the issue or by the end of the next business day if State offices are closed



**See slide 13 for other priority result reporting requirements*

Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Level 1 Assessment:</p> <ul style="list-style-type: none">• NONE	<p>Level 1 Assessment:¹⁶</p> <ul style="list-style-type: none">• Can be completed by PWS or someone knowledgeable of the system• Must be completed and submitted to DWQ within 10 days of learning of trigger• PWS must correct all “sanitary defects” found during the Assessment with corrective actions• Failure to submit an assessment by a due date or failure to correct a sanitary defect on time results in a Treatment Technique violation• DWQ Circuit Rider is available to assist with the Level 1 Assessment, by phone, email, or on-site.



Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Level 2 Assessment:</p> <ul style="list-style-type: none">• NONE	<p>Level 2 Assessment:¹⁶</p> <ul style="list-style-type: none">• Must be completed and submitted to DWQ within 30 days of the trigger• Conducted by the State or State-approved assessor• A more in-depth examination of the water system and operational practices• PWS must correct all “sanitary defects” found during the Assessment with corrective actions• Failure to submit an assessment by a due date or failure to correct a sanitary defect on time results in a Treatment Technique violation

Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Sampling Plan:</p> <ul style="list-style-type: none">• Sampling sites that are representative of the distribution system are identified and the monitoring periods according to a sample siting plan	<p>Sampling Plan:¹⁷</p> <ul style="list-style-type: none">• Must have up-to-date coliform sampling plan on file and follow the plan when sampling• Primary sampling locations, repeat locations (upstream and downstream of each primary site), and well location must be reflected in the plan• Monitoring schedules will be evaluated by DWQ during sanitary surveys to determine if monitoring frequency is appropriate¹⁸

Coliform Rule - continued



TCR (Old)	RTCRC (New)
<p>Seasonal Systems:</p> <ul style="list-style-type: none">• Same requirements as other systems of same size and type	<p>Seasonal Systems:¹⁹</p> <ul style="list-style-type: none">• Must certify completion of a state-approved start-up procedure• If on quarterly monitoring, sampling must occur in first month of each quarter (state-designated vulnerable period/period of high demand)



Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Increase to Monthly Monitoring:</p> <ul style="list-style-type: none">• NONE	<p>Increase to Monthly Monitoring:²⁰</p> <p>Increase from quarterly to monthly monitoring if:</p> <ul style="list-style-type: none">• Level 2 assessment is triggered within a rolling 12-month period of triggering a Level 1 Assessment• E. coli MCL violation• Coliform Treatment Technique violation• 2 coliform monitoring violations within a rolling 12-month period• 1 coliform monitoring violation and triggered Level 1 within a rolling 12-month period• Loss of a certified operator

Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Reduced Monitoring:</p> <ul style="list-style-type: none">• NONE	<p>Reduced Monitoring:²¹</p> <p>May go back on quarterly monitoring (from monthly) if the PWS has all of the following:</p> <ul style="list-style-type: none">• Clean compliance history for 12 months• Sanitary survey or voluntary Level 2 Assessment showing no sanitary defects (or has approved plan and schedule to correct them and is in compliance with the plan and schedule)• Protected water source <p><i>OR</i></p> <ul style="list-style-type: none">• A State-certified operator is hired (only applicable for systems that solely lost a certified operator)

Coliform Rule - continued



TCR (Old)	RTCR (New)
Treatment Technique Violations: <ul style="list-style-type: none">• NONE	Treatment Technique Violations: ²² <ul style="list-style-type: none">• When a PWS triggers a Level 1 or Level 2 Assessment but fails to conduct the assessment or complete corrective actions within required timeframe• When a seasonal PWS fails to complete a State-approved start-up procedure
Monitoring Violations: <ul style="list-style-type: none">• Failure to take required/additional routine samples or repeat samples in a compliance period	Monitoring Violations: ²³ <ul style="list-style-type: none">• Failure to take required or additional routine samples in a compliance period or failure to analyze for E. coli following a TC+ routine sample

Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Reporting Violations:</p> <ul style="list-style-type: none">• Failure to submit a monitoring report on time• Failure to notify DWQ following a TC+ or E. coli positive sample by end of business day• Failure to report to State in 10 days after monitoring violation• Failure to report to the State any violation within 48 hours	<p>Reporting Violations:²⁴</p> <ul style="list-style-type: none">• Failure to submit a monitoring report or completed assessment form on time• Failure to notify DWQ following an E. coli positive sample within 24 hours• Failure to submit certification of completion of State-approved start-up procedure on time (seasonal PWS)• Failure to report all sample results within required timeframes



Coliform Rule - continued



TCR (Old)	RTCR (New)
<p>Public Notice:</p> <ul style="list-style-type: none">• Required for MCL and monitoring violations	<p>Public Notice:²⁵</p> <ul style="list-style-type: none">• Not required for TC MCLs• Required for a Treatment Technique violations (e.g., failure to conduct assessment or take corrective action)• Required for E. coli MCL violations• Required for reporting violations



Citations



- 1 Coverage – Section 1.3
- 2 Approval of Water Sources – Section 1.4
- 3 Approval of Treatment Works, Storage and Pumping Facilities – Section 1.5
- 4 Cross-Connection Control – Section 1.9.4
- 5 Flushing of Distribution Systems – Section 1.9.5
- 6 Minimum Pressure Requirements – Section 1.9.6
- 7 Auxiliary Power – Section 1.9.7
- 8 Notification Involving Emergency Events – Section 1.9.8; Emergency Response Plans 1.9.9
- 9 Well Labeling – Section 1.9.10
- 10 Reporting Requirements – Section 1.11.2
- 11 Microbiological/Revised Total Coliform Rule (RTCR) – Sections 1.16.4 (Community PWS Requirements) and 1.17.1 (Non-community PWS Requirements)

- 12 Maximum Contaminant Levels (MCLs) and Treatment Technique (TT) for Microbiological Contaminants
– Sections 1.16.4(A)(6) and 1.17.1(A)(4)(b)(1)(DD) and Microbiological/Repeat Monitoring – Sections 1.16.4(A)(8) and 1.17.1(A)(4)(b)(1)(FF)
- 13 Microbiological/Violation Types
– Sections 1.16.4(A)(15) and 1.17.1(A)(4)(b)(1)(JJ)
- 14 Maximum Contaminant Levels (MCLs) and Treatment Technique (TT) for Microbiological Contaminants
– Sections 1.16.4(A)(6) and 1.17.1(A)(4)(b)(1)(DD)
- 15 Maximum Contaminant Levels (MCLs) and Treatment Technique (TT) for Microbiological Contaminants
– Sections 1.16.4(A)(6)(i) and 1.17.1(A)(4)(b)(1)(DD)
- 16 Microbiological/Assessments and Corrective Action
– Sections 1.16.4(A)(7) and 1.17.1(A)(4)(b)(1)(EE)
- 17 Routine Monitoring – Sections 1.16.4(A)(4) and 1.17.1(A)(4)(b)(1)(BB)

- 18 Sanitary Surveys – Sections 1.16.4(A)(14) and 1.17.1(A)(4)(b)(1)(II)
- 19 Sampling Plan – Section 1.17.1(A)(3)
- 20 Return to Routine Monitoring for Community PWS – Section 1.16.4(A)(12) and Increased Monitoring for Non-Community PWS – Section 1.17.1(A)(6)
- 21 Return to Reduced Monitoring After Being Triggered to Increased Monitoring for Community PWS – Section 1.16.4(A)(13) and Reduced Monitoring – Section 1.17.1(A)(5)
- 22 Treatment Technique Violation – Section 1.16.4(A)(15)(b) and Violation Types – Section 1.17.1(A)(4)(b)(1)(JJ)
- 23 Monitoring Violation – Section 1.16.4(A)(15)(c) and Violation Types – Section 1.17.1(A)(4)(b)(1)(JJ)
- 24 Reporting Violation – Section 1.16.4(A)(15)(d) and Violation Types – Section 1.17.1(A)(4)(b)(1)(JJ)
- 25 Public Notification – Sections 1.16.6 and 1.17.6