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## Revised Total Coliform Rule And Total Coliform Rule

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### Rule Summary

The Environmental Protection Agency (EPA) published the Revised Total Coliform Rule (RTCR) in the Federal Register (FR) on February 13, 2013 (78 FR 10269) and minor corrections on February 26, 2014 (79 FR 10665). The RTCR is the revision to the 1989 Total Coliform Rule (TCR) and is intended to improve public health protection.

All public water systems (PWSs), except aircraft PWSs subject to the Aircraft Drinking Water Rule (ADWR) (40 CFR 141 Subpart X), must comply with the RTCR starting April 1, 2016, or an earlier state effective date. Until then, PWSs must continue complying with the 1989 TCR.

Total coliforms are a group of related bacteria that are (with few exceptions) not harmful to humans. A variety of bacteria, parasites, and viruses, known as pathogens, can potentially cause health problems if humans ingest them. EPA considers total coliforms a useful indicator of other pathogens for drinking water. Total coliforms are used to determine the adequacy of water treatment and the integrity of the distribution system.

For more information about total coliforms, please go to the webpage [Basic Information about Pathogens and Indicators in Drinking Water](#)

#### Key provisions of the RTCR include:

- Setting a maximum contaminant level goal (MCLG) and maximum contaminant level (MCL) for E. coli for protection against potential fecal contamination.
- Setting a total coliform treatment technique (TT) requirement.
- Requirements for monitoring total coliforms and E. coli according to a sample siting plan and schedule specific to the PWS.
- Provisions allowing PWSs to transition to the RTCR using their existing Total Coliform Rule (TCR) monitoring frequency, including PWSs on reduced monitoring under the existing TCR.
- Requirements for seasonal systems (such as, Non-Community Water Systems not operated on a year-round basis) to monitor and certify the completion of a state-approved start-up procedures.
- Requirements for assessments and corrective action when monitoring results show that PWSs may be vulnerable to contamination.

- Public notification (PN) requirements for violations.
- Specific language for CWSs to include in their Consumer Confidence Reports (CCRs) when they must conduct an assessment or if they incur an E. coli MCL violation.

## Quick Reference Guides

- [Revised Total Coliform Rule: A Quick Reference Guide \(PDF\)](#), (3 pp, 450 K, [About PDF](#)) EPA 815-B-13-001, September 2013
- [Total Coliform Rule: A Quick Reference Guide \(PDF\)](#), (2 pp, 114 K, [About PDF](#)) EPA 816-F-01-035, September 2001

## Guidance for People with Severely Weakened Immune Systems

- [A joint EPA and CDC guidance document for people who are immunocompromised \(PDF\)](#), (2 pp, 21 K, [About PDF](#)) EPA 816-F-99-005, June 1999
- Spanish version – [“Guía Para Individuos Con El Sistema Inmunológico Severamente Debilitado” \(PDF\)](#), (2 pp, 36 K, [About PDF](#)) EPA 815-F-00-005, April 2000

## Rule History

### Revised Total Coliform Rule (RTCR)

The Environmental Protection Agency (EPA) published the Revised Total Coliform Rule (RTCR) in the Federal Register (FR) on February 13, 2013 (78 FR 10269) and minor corrections on February 26, 2014 (79 FR 10665). The RTCR revises the 1989 Total Coliform Rule (TCR) and is intended to improve public health protection.

- [The Federal Register Final RTCR](#)

Minor corrections to the final RTCR became effective on April 28, 2014. No comments were received on the Direct Final Rule published on February 26, 2014. The corrections therefore became effective without further notice.

- [The \*Federal Register\* notice of the minor corrections](#)

All public water systems (PWSs), except aircraft PWSs subject to the Aircraft Drinking Water Rule (ADWR) (40 CFR 141 Subpart X), must comply with the RTCR starting April 1, 2016, or an earlier state effective date. Until then, PWSs must continue complying with the 1989 TCR.

- [Revised Total Coliform Webinar- April 10, 2013](#)

### RTCR Federal Register Notice and Supporting Documents

- [National Primary Drinking Water Regulations: Revisions to the Total Coliform Rule; Final Rule.](#)
- [National Primary Drinking Water Regulations: Revisions to the Total Coliform Rule; Proposed Rule](#)

- [Fact Sheet: Announcement of Revisions to the Total Coliform Rule \(PDF\)](#) (3 pp, 44 K, [About PDF](#)) EPA 815-F-12-007, December 2012
- [Economic Analysis for the Final Revised Total Coliform Rule, including Appendices \(PDF\)](#) (609 pp, 4.1 MB, [About PDF](#)) EPA 815-R-12-004, February 2013

EPA established the Total Coliform Rule Distribution System Advisory Committee (TCRDSAC) under the Federal Advisory Committee Act. The purpose was to make recommendations to the Agency on revisions to the 1989 TCR. For more information about the Federal Advisory Committee that recommended changes to the 1989 TCR, please review [Total Coliform Rule Distribution System Advisory Committee \(TCRDSAC\)](#).

## **Total Coliform Rule (TCR)**

The Total Coliform Rule (TCR), a National Primary Drinking Water Regulation (NPDWR), was published in 1989 and became effective in 1990. The rule set both a health goal (Maximum Contaminant Level Goal (MCLG)) and legal limits (Maximum Contaminant Levels (MCLs)) for the presence of total coliforms in drinking water.

EPA set the MCLG for total coliforms at zero because there have been waterborne disease outbreaks in which researchers found very low levels of coliforms. The MCL levels are based on the positive sample tests for total coliforms (monthly MCL), or for total coliforms and *Escherichia coli* (*E. coli*) or fecal coliforms (acute MCL).

The purpose of the 1989 TCR is to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbial contamination.

The rule requires all public water systems (PWSs) to monitor for the presence of total coliforms in the distribution system at a frequency proportional to the number of people served.

[TCR Federal Register Notice](#)

## **Compliance**

### **TCR Key Provisions**

To comply with the monthly MCL for total coliforms (TC), PWSs must not find coliforms in more than five percent of the samples they take each month to meet EPA's standards. If more than five percent of the samples contain coliforms, PWS operators must report this violation to the state and the public.

If a sample tests positive for TC, the system must collect a set of repeat samples located within 5 or fewer sampling sites adjacent to the location of the routine positive sample within 24 hours.

When a routine or repeat sample tests positive for total coliforms, it must also be analyzed for fecal coliforms or E. coli, which are types of coliform bacteria that are directly associated with fresh feces. A positive result for fecal coliforms or E. coli can signify an acute MCL violation, which necessitates rapid state and public notification because it represents a direct health risk.

At times, an acute violation due to the presence of fecal coliform or E. coli may result in a “boil water” notice. The system must also take at least 5 routine samples the next month of operation if any sample tests positive for total coliforms.

| <b>RTCR Key Provisions</b> |  |
|----------------------------|--|
| <b>Provision Category</b>  | <b>Key Provisions</b>  |
| <b>Contaminant Level</b>   | <ul style="list-style-type: none"> <li>• Addresses the presence of total coliforms and E. coli in drinking water.</li> <li>• For E. coli (EC), the Maximum Contaminant Level Goal (MCLG) is set at zero. The Maximum Contaminant Level (MCL) is based on the occurrence of a condition that includes routine and repeat samples.</li> <li>• For total coliforms (TC), PWSs must conduct a Level 1 or Level 2 assessment of their system when they exceed a specified frequency of total coliform occurrences.</li> <li>• An MCL violation or failure to take repeat samples following a routine total coliform-positive sample will trigger a Level 1 or Level 2 assessment.</li> <li>• Any sanitary defect identified during a Level 1 or Level 2 assessment must be corrected by the PWS. These are the treatment technique requirements of the RTCR.</li> </ul> |

| <b>RTCR Key Provisions</b>                                    |  |
|---|--|
| <b>Monitoring</b>   | <ul style="list-style-type: none"> <li>• Develop and follow a sample siting plan that designates the PWS's collection schedule. This includes location of routine and repeat water samples.</li> <li>• Collect routine water samples on a regular basis (monthly, quarterly, annually). Have samples tested for the presence of total coliforms by a state certified laboratory.</li> <li>• Analyze all routine or repeat samples that are total coliform positive (TC+) for E. coli.</li> <li>• Collect repeat samples (at least 3) for each TC+ positive routine sample.</li> <li>• For PWSs on quarterly or annual routine sampling, collect additional routine samples (at least 3) in the month after a TC+ routine or repeat sample.</li> <li>• Seasonal systems must monitor and certify the completion of a state-approved start-up procedures.</li> </ul> |
| <b>Level 1 and Level 2 Assessments and Corrective Actions</b> | <ul style="list-style-type: none"> <li>• PWSs are required to conduct a Level 1 or Level 2 assessment if conditions indicate they might be vulnerable to contamination. PWSs must fix any sanitary defects within a required timeframe.</li> </ul>   |
| <b>Reporting and Recordkeeping</b>                            | <ul style="list-style-type: none"> <li>• PWSs are required to report certain items to their states. These reporting and recordkeeping requirements are essentially the same as under TCR. The addition to the Requirements is the Level 1 and Level 2 requirements.</li> </ul>   |

| <b>RTCR Key Provisions</b>  |   |
|---|---|
| <p><b>Violations, Public Notification (PN) and Consumer Confidence Report (CCR)</b></p> | <ul style="list-style-type: none"> <li>• PWSs incur violations if they do not comply with the requirements of the RTCR. The violation types are essentially the same as under the TCR with few changes. The biggest change is no acute or monthly MCL violation for total coliform positive samples only.</li> <li>• PN is required for violations incurred. Within required timeframes, the PWS must use the required health effects language and notify the public if they did not comply with certain requirements of the RTCR. The type of PN depends on the severity of the violation.</li> <li>• Community water systems (CWSs) must use specific language in their CCRs when they must conduct an assessment or if they incur an E. coli MCL violation.</li> </ul> |

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