Texas Commission On Environmental Quality

EPA Federal Revised Total Coliform Rule (RTCR)

Level 1 and 2 Assessments

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1.0 - RTCR Introduction

The TCEQ is developing a new rule package in order to adopt the federal **Revised Total Coliform Rule (RTCR)** into 30 Title Texas Administrative Code (TAC), Chapter 290.

The federal **RTCR** affects **ALL** public water systems (PWSs) and was effective on

**April 1, 2016**
The **RTCR establishes**

- a maximum contaminant level (MCL) for *E. coli*
- a "find and fix" approach to address fecal contamination that could enter into the distribution system
- Treatment Technique violations for certain conditions

The **RTCR requires**

- public water systems (PWSs) to perform **assessments** to **identify sanitary defects** (find), and **take corrective action** for any **identified sanitary defects** (fix)
- **seasonal** public water systems to **complete and certify** state-approved start-up procedures
TCEQ’s RTCR Website

http://www.tceq.texas.gov/goto/RTCR

Or

Google: TCEQ RTCR
• **EPA Guidance** on how to conduct Level 1 and Level 2 Assessments and how to correct sanitary defects found during the Assessments can be found at:

• **EPA RTCR Website** at:

http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm
Sample Siting Plans

- **Sample Siting Plans** - PWSs must collect coliform samples at sites which are representative of water quality throughout the distribution system according to a written **Sample Siting Plan**.

- **SSPs** are subject to state review and revision.
Routine Sampling

All public water systems must take at least the minimum number of required routine samples even if:

• The system has had an *E. coli* MCL violation
• OR
• has exceeded the coliform treatment technique triggers.
Repeat Sampling

All public water systems must continue to collect additional sets of repeat samples until either:

• total coliforms are not detected in one complete set of repeat samples

• OR

• the system triggers an assessment.

Note: If an assessment trigger is exceeded as a result of a routine sample being total coliform-positive, systems are required to conduct only one round of repeat monitoring for each total coliform-positive routine sample.
Level 1 and Level 2 Assessments

• The RTCR requires PWSs that have an indication of coliform contamination as a result of TC+ samples, *E. coli* MCL violations, OR treatment/maintenance performance failure to assess the problem and take corrective action.

• **TWO** levels of assessments
  • **Level 1** and **Level 2** - based on the severity or frequency of the problem.
3.0 - Assessments and Corrective Actions

Purpose of Level 1 and Level 2 Assessments

• To find **Sanitary Defects** at the PWS which:

  • could provide a pathway of entry for microbial contamination into the distribution system; **OR**

  • are indicative of a failure (existing or potential) of protective barriers against microbial contamination.
Examples of **Sanitary Defects** not limited to:

- Inadequate Sampling Protocol or Sample Site
- Inadequate treatment or maintenance of residual disinfection levels
- Low distribution system pressure
- No backflow protection/cross-connection control
- Line breaks
- Deteriorated water storage facilities or infrastructure
3.0 - Assessments and Corrective Actions

Deadline for Completing Assessments
40 CFR §141.859

A PWS must complete and submit a Level 1 or Level 2 assessment form to the State within 30 days after the system learns that it has exceeded a trigger.

• **Level 1 and 2 assessments** - A PWS must conduct or ensure that an assessment is conducted consistent with State requirements.

• **Level 2 assessments** - A PWS must comply with any expedited actions or additional actions required by the State in the case of an *E. coli* MCL violation.
3.0 - Assessments and Corrective Actions

Deadlines for Completing Corrective Actions (1)

Sanitary Defects identified during a Level 1 or Level 2 Assessment should be corrected as soon as possible. The PWS must complete corrective actions by one of the following timeframes:

- No later than the time the assessment form is submitted to the state, which must be within 30 days of triggering the assessment, or

- Within state-approved timeframe which was proposed in the assessment form.
3.0 - Assessments and Corrective Actions

Deadlines for Completing Corrective Actions (2)

40 CFR §141.859 – Level 1 and Level 2 Assessments

• The Assessment form may also note that no Sanitary Defects were identified.

• The Assessment form must be completed and submitted to the State within 30 days even if no Sanitary Defects were identified.
3.0 - Assessments and Corrective Actions

Deadlines for Completing Corrective Actions (3)
40 CFR §141.859

• **Corrective action** - Systems must correct sanitary defects found through either **Level 1 or 2 assessments**.

• The system **must** notify the State when each scheduled corrective action is completed.
Deadlines for Completing Corrective Actions (4)  
40 CFR §141.859

- **Consultation** - At any time during the assessment or corrective action phase, either the water system or the State may request a consultation with the other party to determine the appropriate actions to be taken.

- The system may consult with the State on all relevant information that may impact on its ability to comply with a requirement, including the method of accomplishment and an appropriate timeframe.
Level 1 Assessment

Who Conducts Level 1?

• Performed by the PWS owner or operator each time a Level 1 Assessment is triggered.

• Upon trigger of a Level 1 Assessment, the Level 1 Assessment form must be submitted to the state within 30 days.
Level 1 Assessment is triggered if **any one** of the following occurs:

- A PWS collecting **fewer than 40 samples per month** has 2 or more TC+ routine/repeat samples in the same month.

- A PWS collecting **40 or more samples per month** has greater than 5.0 percent of the routine/repeat samples in the same month that are TC+.

- A PWS fails to take every required **repeat** sample after any single TC+ sample.
Level 2 Assessment

Who Conducts Level 2?

• Performed by the State or State-Approved Entity each time a Level 2 Assessment is triggered.

• The System may conduct Level 2 assessments if the system has staff or management with the certification or qualifications specified by the State unless otherwise directed by the State.

• The PWS is responsible for ensuring that the Level 2 Assessment is conducted regardless of the entity conducting the Level 2 Assessment.

• Upon trigger of a Level 2 Assessment, the Level 2 Assessment form must be submitted within 30 days to the state.
Level 2 Assessment is triggered if any one of the following occurs:

- A PWS incurs an *E. coli* MCL violation.
- A PWS has a second Level 1 Assessment within a rolling 12-month period,
- unless the State has determined a likely reason that the samples that caused the first Level 1 treatment technique trigger were total coliform-positive and has established that the system has corrected the problem. *(40 CFR §141.859)*
3.0 - Assessments and Corrective Actions

Example of Level 1 and Level 2 Assessor Qualifications

- An understanding of the objectives and structure of the RTCR
- Familiar with bacteriological sampling practices.
- A working knowledge of how to interpret:
  - Distribution system water quality data.
  - Distribution system operational data.
  - Source of supply data.
- An understanding of disinfection practices and treatment changes
- Operator certification level appropriate to PWS type/size
3.0 - Assessments and Corrective Actions

Level 1 and 2 Assessor Qualifications

EPA - The Revised Total Coliform Rule (RTCR)
State Implementation Guidance—Interim Final

• EPA RTCR Website at:

http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/upload/epa816r14004.pdf
At a minimum, an ASSESSOR must ensure that the ASSESSMENT includes review and identification of:

- **Inadequacies** in sample sites, sampling protocol, and sample processing
- **Atypical events** that may affect distributed water quality or indicate that distributed water quality was impaired
- **Changes in distribution system Operations and Maintenance** that may affect distributed water quality, including water storage
- **Source and treatment considerations** that bear on distributed water quality
- **Existing water quality monitoring data**

40 CFR 141.859(b)(2)

(z) Nitrification Action Plan (NAP). Any water system distributing chloraminated water must create a NAP. The system must create a written NAP that:

(1) contains the system-specific plan for monitoring free ammonia, monochloramine, total chlorine, nitrite, and nitrate levels;
(2) contains system-specific action levels of the above monitored chemicals where action must be taken;
(3) contains specific corrective actions to be taken if the action levels are exceeded; and
(4) is maintained as part of the system's monitoring plan in §290.121 of this title.

Adopted November 18, 2015  Effective December 10, 2015
6.0 – Major Violations

E. coli Maximum Contaminant Level (MCL) Violation

• A PWS will receive an *E. coli* MCL violation when there is any combination of an EC+ sample result with a routine/repeat TC+ or EC+ sample result:
6.0 - Major Violations

*E. coli* Maximum Contaminant Level (MCL)

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**E. coli** MCL Violation Occurs with the Following Sample Result Combination

<table>
<thead>
<tr>
<th>Routine</th>
<th>Repeat</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC+</td>
<td>TC+</td>
</tr>
<tr>
<td>EC+</td>
<td>Any missing sample</td>
</tr>
<tr>
<td>EC+</td>
<td>EC+</td>
</tr>
<tr>
<td>TC+</td>
<td>EC+</td>
</tr>
<tr>
<td>TC+</td>
<td>TC+ (but no <em>E. coli</em> analysis)</td>
</tr>
</tbody>
</table>
6.0 - Major Violations

_E. coli_ Maximum Contaminant Level (MCL) Violation

- **Public Notice** - An _E. coli_ MCL violation requires a public water system to issue a PN under 30 TAC §290.122(a)(1) for acute violations or situations.

- **Boil Water Notice** - An _E. coli_ MCL violation requires a public water system to issue a BWN under 30 TAC §290.122(a)(2)(A) for acute microbiological or turbidity violation.
6.0 - Major Violations

Treatment Technique Violation

- Failure to conduct a **Level 1 or Level 2** Assessment within 30 days of a trigger.

- Failure to **correct all sanitary defects** from a Level 1 or Level 2 Assessment **within 30 days** of a trigger or in accordance with the state-approved timeframe.

- Failure of a **seasonal system** to complete **state-approved start-up procedures** prior to serving water to the public.
## 6.0 - Monitoring(M) & Reporting(R) Violations

<table>
<thead>
<tr>
<th>TCR</th>
<th>RTCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>M&amp;R violation (tracked together as 1 violation type)</td>
<td>Monitoring violations and reporting violations will be tracked separately as 2 different violation types</td>
</tr>
<tr>
<td></td>
<td>Newly specified M, R violations:</td>
</tr>
<tr>
<td></td>
<td>‒ M - Failure to take every required routine or additional routine sample in a compliance period.</td>
</tr>
<tr>
<td></td>
<td>‒ M - Failure to analyze for <em>E. coli</em> following a TC+ routine sample.</td>
</tr>
<tr>
<td></td>
<td>‒ R - Failure to submit a monitoring report or completed assessment form after monitoring or conducting assessment correctly/timely.</td>
</tr>
<tr>
<td></td>
<td>‒ R - Failure to notify the state following an <em>E. coli</em>+ sample.</td>
</tr>
<tr>
<td></td>
<td>‒ R - Failure to submit certification of completion of state-approved start-up procedure by a seasonal system.</td>
</tr>
</tbody>
</table>
## 6.0 - Public Notice for MCL & TT Violations

<table>
<thead>
<tr>
<th>TCR</th>
<th>RTCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC MCL violation/acute MCL: FC+ or <em>E. coli</em> +</td>
<td><em>E. coli</em> MCL violations</td>
</tr>
<tr>
<td>Monthly TC MCL violation</td>
<td>Treatment technique (TT) violations</td>
</tr>
<tr>
<td>M&amp;R (tracked as 1 violation type)</td>
<td>Monitoring</td>
</tr>
<tr>
<td>M&amp;R (tracked as 1 violation type)</td>
<td>Reporting</td>
</tr>
</tbody>
</table>

**40 CFR 141.63(b) & (d); 141.202; 141.203 & 141.860(a)-(b)**
• **Recordkeeping** - PWSs must maintain any assessment form and documentation of sanitary defects and corrective actions completed as a result of assessments for a period not less than **five years** after completion. *(40 CFR §141.861(b) - RTCR)*

• **Public Notice** - PWSs must provide public notice for **Reporting** and **Recordkeeping** violations under the RTCR. *(§141.204(a) - Tier 3 Public Notice)*
Find and correct **sanitary defects** as soon as you become aware of them

• To **help reduce** TC+ sample results, which may trigger a **Level 1** Assessment.

• To **help reduce** *E. coli* MCL violations, which trigger a **Level 2** Assessment.
Make sure to collect all routine and repeat samples as required.

Timely and correct monitoring can help reduce triggering a Level 1 or Level 2 Assessment because:

- **Failure to conduct repeat monitoring** triggers a Level 1 Assessment.

- A **Level 1 Assessment triggered twice** within a rolling 12-month period triggers a Level 2 Assessment.
8.0 - TCEQ Draft Rule Making Timeline

TCEQ Primacy Extension until February 13, 2017

- Proposal Agenda: September 21, 2016
- Rule Filed/Published/SOS: Sep 21 - Oct 7, 2016
- **Public Comment Period-Start**: October 7, 2016
- Public Hearing Date/Time: November 1, 2016
- **Public Comment Period-End**: November 7, 2016
- Adoption Agenda: March 1, 2017
- **Rule Effective Date**: March 23, 2017
9.0 - TCEQ Technical Assistance

• TCEQ is providing training to TCEQ’s Financial, Managerial, and Technical (FMT) contractor concerning Level 1 assessment requirements.

• TCEQ is making assistance available to public water systems that trigger a Level 1 assessment through TCEQ’s FMT contractor.

• TCEQ is providing on-site technical assistance to public water systems that trigger a Level 2 assessment.
Questions

Discussion Topics
TCEQ Public Drinking Water Section
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