

**Texas Commission On Environmental Quality**

TCEQ  
Office of Water

**EPA Federal  
Revised Total Coliform Rule (RTCR)**

Water Supply  
Division

**Level 1 and 2 Assessments**

Public Drinking  
Water Section

DWA WG

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# TCEQ Public Drinking Water Section

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# Overview

## Level 1 and Level 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**





# 1.0 - RTCR Introduction

## 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





## L1 and L2 Assessment Info

# TCEQ's RTCR Website

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

Or

Google: TCEQ RTCR





## L1 and L2 Assessment Info

- **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](http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm)





## 2.0 – Other Major Provisions

### 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.





## 2.0 – Other Major Provisions

### 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**.





## 2.0 – Other Major Provisions

### 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.





## 3.0 – Assessments and Corrective Actions

### 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.





## 3.0 - Assessments and Corrective Actions

### 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.





## 3.0 - Assessments and Corrective Actions

### 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.





## 3.0 - Assessments and Corrective Actions

### 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**.





## 3.0 - Assessments and Corrective Actions

### Level 1 Assessment Triggers

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.





## 3.0 - Assessments and Corrective Actions

### 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.**





## 3.0 - Assessments and Corrective Actions

### Level 2 Assessment Triggers

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>





## 4.0 - Elements of Assessments Summary

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)





## 5.0 - Nitrification Action Plans (NAP)

### **§290.46. Minimum Acceptable Operating Practices for Public Drinking Water Systems.**

(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)

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

<b>Routine</b>	<b>Repeat</b>
<b>EC+</b>	<b>TC+</b>
<b>EC+</b>	<b>Any missing sample</b>
<b>EC+</b>	<b>EC+</b>
<b>TC+</b>	<b>EC+</b>
<b>TC+</b>	<b>TC+ (but no <i>E. coli</i> analysis)</b>





## 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

TCR	RTCR
M&R violation (tracked together as 1 violation type)	<ul style="list-style-type: none"><li>• Monitoring violations and reporting violations will be tracked separately as <u>2 different violation types</u></li><li>• Newly specified M, R violations:<ul style="list-style-type: none"><li>– <b>M</b> - Failure to <u>take every required routine</u> or additional routine sample in a compliance period.</li><li>– <b>M</b> - Failure to <u>analyze for <i>E. coli</i></u> following a TC+ routine sample.</li><li>– <b>R</b> - Failure to <u>submit a monitoring report or completed assessment form</u> after monitoring or conducting assessment correctly/timely.</li><li>– <b>R</b> - Failure to <u>notify the state following an <i>E. coli</i>+ sample</u>.</li><li>– <b>R</b> - Failure to <u>submit certification of completion of state-approved start-up procedure</u> by a seasonal system.</li></ul></li></ul>



# 6.0 - Public Notice for MCL & TT Violations

TCR	RTCR	
TC MCL violation/acute MCL: FC+ or <i>E.coli</i> +	<b><i>E. coli</i> MCL violations</b>	Tier 1
Monthly TC MCL violation	<b>Treatment technique (TT) violations</b>	Tier 2
M&R (tracked as 1 violation type)	<b>Monitoring</b>	Tier 3
M&R (tracked as 1 violation type)	<b>Reporting</b>	Tier 3



## 6.0 - PN for L1 and L2 Recordkeeping Violation

### Public Notice for Failure to Maintain L1 and L2 Assessment Documentation

- **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*)





## 7.0 - Key Points for PWSs

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.





## 7.0 - Key Points for PWSs

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





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