



State of Utah

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Governor

Department of  
Environmental Quality

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Executive Director

DIVISION OF DRINKING WATER  
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Director

February 2, 2016

Dear Laboratory Personnel:

The Revised Total Coliform Rule (RTCR) becomes effective April 1, 2016. This rule requires laboratories to test all total coliform positive (TC+) samples specifically for *E coli*. **If you are not testing for *E coli*, you will need to do so.** Please let us know if this is a problem for your lab. Also, because of increased federal oversight for the RTCR, we would like to request that **lab reports are sent to the DDW each week.** This will provide that violations can be issued in the required time frame.

Briefly, other changes which will affect your laboratory concerning the RTCR include:

- a. All public water systems, regardless of source, will be required to take one total coliform sample each month.
- b. Three repeat samples are required within 24 hours of being notified of a TC+ sample.
- c. If any repeat sample is TC+ the system is required to perform a Level 1 Assessment.
- d. If any routine or repeat sample is *E coli* + (EC+) a Level 2 Assessment must be performed by the DDW or DDW approved third party.
- e. Five additional routine samples the month following a TC+ are no longer required.
- f. Seasonal systems must complete a DDW approved startup procedure before serving water to the public.

**Remember that a TC+ or EC+ sample(s) require meeting the requirements of BOTH the RTCR and the Groundwater Rule (GWR).** The GWR requires that a source sample is collected within 24 hours from: 1. Each source in use at the time of the positive sample, or 2. A DDW approved representative site (SSG01).

The Division of Drinking Water (DDW) is providing training throughout the State for water system owners, operators and interested parties. **If you would like our staff to come to your location for specific training, provide materials and explanations of the RCTR and GWR, and answer any questions concerning bacteriological sampling or processing, please contact Janet Lee at 801-536-0088 or David Hansen at 801-536-4203.**

As in the past, the DDW would like to take this opportunity to thank you for your efforts in providing critical services and technical information to those who supply clean safe drinking water to citizens in our State. We appreciate your partnership in this great effort!

In general, please:

1. **Report all *E coli* positive samples to the DDW and Local Health Departments within 24 hours of determining a positive test.** This may be done by contacting Janet Lee at 801-536-0088, Kim Dyches at 801-536-4202, Patti Fauver at 801-536-4196, or Ken Bousfield at 801-536-4207. The DDW reception number is: 801-536-4200. This number will also provide an after hour notification number.
2. **Provide a copy of the sampling requirements to systems as you report a positive test result.** Several examples are included with this letter. Some laboratories have developed their own. Informing your clients of the requirements could help avoid costly and stressful violations.
3. **Ensure that samples reports have the proper sample identification which includes sample TYPE and sample LOCATION.**
  - **Sample Type:** TCR routine compliance samples should be marked "Routine or RT." TCR additional routine samples should be marked "Routine or RT." TCR repeat samples should be marked "Repeat or RP." GWR source samples should be marked "Triggered Source or TG." Do not report GWR triggered source samples as "routine" or "repeat." The DDW computer system will not recognize these combinations and your clients could receive violation letters.
  - **Sample Location:** All faucets, hydrants, tanks (samples collected in the distribution system) - identify by location name and code: **DS001**. All springs, wells, and representative source locations - identify by name and code: **WS001, WS002, WS003.... or SSG01**. These codes are located on each system's inventory report. Samplers must label which source the samples are collected from. Laboratory reports must identify the sampling location using these codes. (ie: RT DS001, RP DS001, TG WS001, TG SSG01)
4. **Access [www.waterlink.utah.gov](http://www.waterlink.utah.gov) for water system numbers, source numbers, and monitoring schedules.** You can enter the source name or number to view the water system reports. These reports include: Bacterial Summary, Inventory, IPS, Water Monitoring, and System Summary. It site contains a list of all sources registered with the Sate so samplers and laboratories can label the sample with the correct source code.

Enclosed are the following references for the RTCR and GWR:

**PROCEDURES for a POSITIVE COLIFORM SAMPLE:** Outlines the requirements for collecting and analyzing samples for both the TCR and GWR.

**State of Utah Bacteriological Flow Chart:** Gives step-by-step sampling requirements for both the TCR and GWR. All sampling is triggered by a positive coliform routine TCR sample.

**www.waterlink.utah.gov:** Visual representation of how to use the State website for accessing Bacterial Summary, Inventory, IPS, Water Monitoring, and System Summary for Utah Water Systems.

**EPA Factsheet – Requirements for Small Systems on Monthly Monitoring :** Outlines sampling requirements for the RTCR.

**EPA Factsheet – Repeat Monitoring Requirements for Small Systems:** Outlines repeat sampling requirements for RTCR

**EPA Factsheet – Level 1 & level 2 Assessments and Corrective Actions:** Overviews site assessment and corrective actions for the RTCR.

**EPA Factsheet – Requirements for Seasonal Systems:** Overviews the startup procedure for Seasonal Systems for the RTCR.

If you have any questions, don't hesitate to contact Janet Lee of my staff at 801-536-0088.

Sincerely,



Patti Fauver  
Rules Program Manager

# PROCEDURES for a POSITIVE COLIFORM SAMPLE

## Step 1. Collect REPEAT samples (RTCR)

A set of three repeat samples after each TC+ routine sample within 24 hours of being notified of a positive sample or, as soon as can be received by the lab.

1. At the original location,
2. Within 5 collections upstream,
3. Within 5 connections downstream.

**If the routine sample was E coli + and a repeat sample cannot be collected within 24 hours, systems should issue a “Boil Advisory” and inform all water uses. Several laboratories can be available after hours and weekends.**

## Step 2. Collect TRIGGERED source samples (GWR)

Samples must be collected within 24 hours of being notified of a positive sample or, as soon as can be received by the lab. Samples must be collected before treatment and/or disinfection.

1. One sample from EACH groundwater source(s) in use at the time of the positive sample, or from a
2. DDW approved representative monitoring location (SSG01)

### If a REPEAT sample is TC+

1. **Conduct a Level 1 Assessment** and submit the assessment form to the DDW within 30 days. Level 1 Assessments may be performed by the water system.
2. Provide public notice within 30 days by posting, hand/direct delivery, or mail.
3. **A Level 2 Assessment must be conducted** by the DDW or DDW approved third party if TWO level 1 triggers in a rolling 12 month period have occurred. **Contact the DDW for a Level 2 Assessment.**

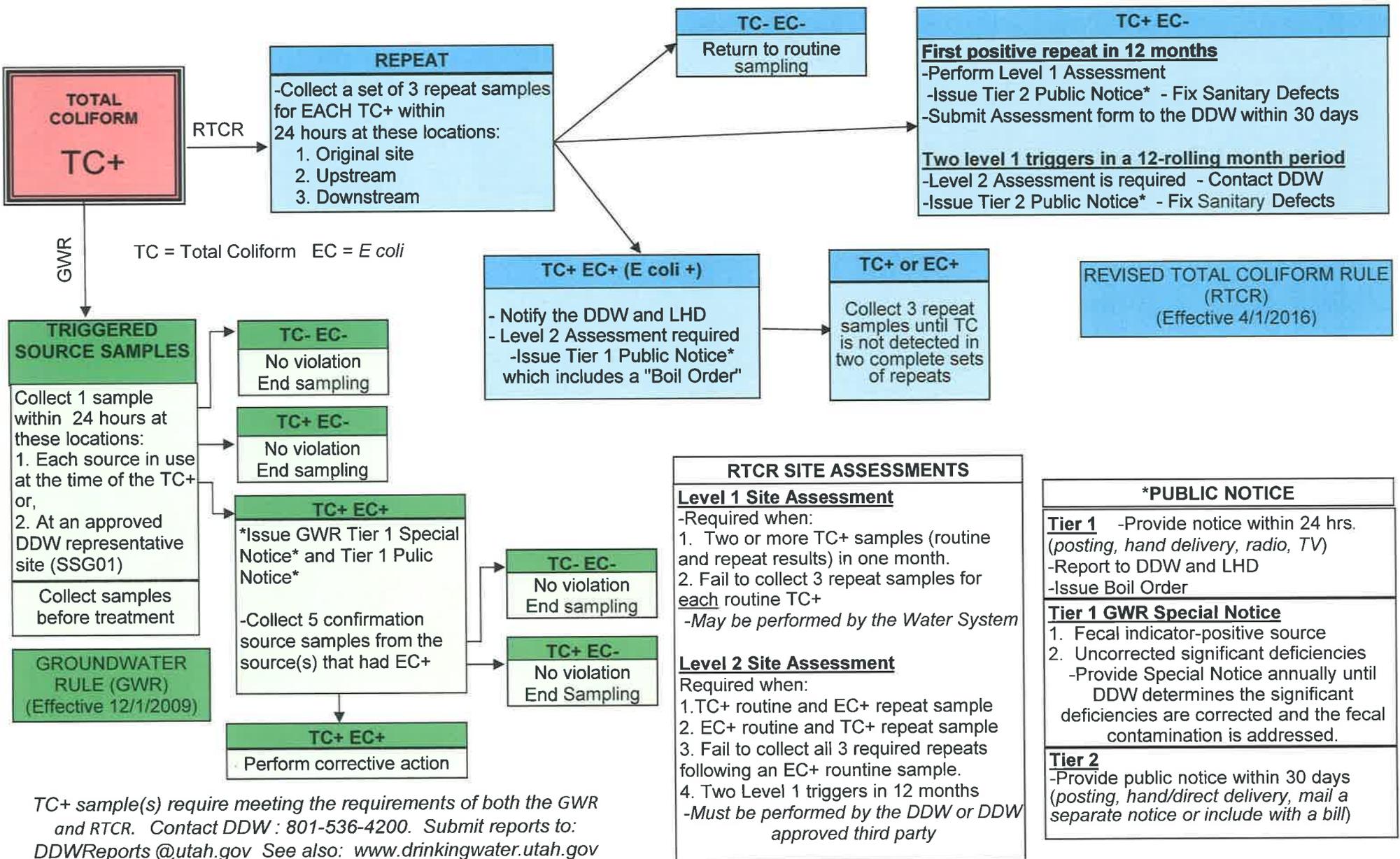
### If a REPEAT or TRIGGERED source sample is EC+

1. Report to the DDW at 801-536-4200 and Local Health Department. **A “BOIL ORDER” will be issued.**
2. **Provide public notice** by radio, television, hand or direct delivery, and posting in conspicuous locations to all users as soon as practical but within 24 hours after you are informed. Describe the corrective actions you are taking and include the standard EPA required information (see Boil Order Template).
3. **Provide Boil Water Order – FAQ** or a link to this information.
4. **If the triggered source sample is E coli positive, you must collect 5 confirmation samples from the source with the positive sample.**

### **After issuing the BOIL ORDER**

1. **A Level 2 Assessment is required.** Level 2 Assessment must be performed by the DDW or DDW approved third party.
2. Determine and implement corrective action and sampling follow-up in cooperation with the local health department and DDW.
3. **Collect a minimum of 3 follow-up samples**, and Cl2 residuals, if applicable.
4. **Collect a second set of 3 follow-up samples after the system has returned to the standard operating standards.**
5. Issue a “Boil Order Release” when the issue has been resolved.

# State of Utah Bacteriological Flow Chart



TC+ sample(s) require meeting the requirements of both the GWR and RTCR. Contact DDW : 801-536-4200. Submit reports to: DDWReports @utah.gov See also: www.drinkingwater.utah.gov

**DIVISION OF DRINKING WATER**

ENGINEERING SOURCE PROTECTION PUBLIC REPORTING CERTIFICATIONS BACKFLOW

**SEARCH BY COUNTY/WATER SYSTEM**  
DAVIS COUNTY/SYRACUSE CITY WATER SYS...

**CREATE A CUSTOM REPORT**

- Bacteriological Monitoring
- Disinfection Byproduct Stage 2 Monitoring
- Other Distribution Monitoring
- Monitoring Requirements By Facility
- Grouped Source Sampling Stations
- Open Compliance Schedules

**WATER SYSTEM REPORTS**

[Bacteriological Monitoring Inventory \(B\) Water Monitoring System Summary](#)

DE12 | Drinking Water

**Public Water System Water Monitoring Report**

Last sample taken: 12/20/2018 REGIONAL WATER QUALITY LAB (RW)

**LIST OF SOURCES**

ID	Source Name	Status	Source Type	Water Type	Period of Operation
WS001	WELL 2	Inactive	Well	Groundwater	
WS002	WELL 3	Inactive	Well	Groundwater	
WS003	SPARKWOOD WEEB TADY WELLS - CENTRAL	Active	Cooperative Connection	Surfacewater	1/1 - 12/31
WS004	WELL 2 REPLACEMENT	Active	Well	Groundwater	6/1 - 9/30

Total Sources: 4

**SERVICE CONNECTIONS**

Type	Water Type	Market Size	Number of Connections
Residential	Unknown	0	7196
Commercial	Unknown	0	100
Agricultural	Unknown	0	2

Total Service Connections: 7198

**TREATMENT PLANTS**

ID	Plant Name	Ein	Status	Date	Design Cap	Share	Treatment Purpose
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Total Treatment Plants: 0

**STORAGE**

**1 Source Number**  
Click System Summary to find your WS or SS number

**2 List of Source**  
Will contain a list of all sources registered with the State that serve the distribution system

Make sure you use the source name as your sample name

DIVISION OF DRINKING WATER

ENGINEERING SOURCE PROTECTION PUBLIC REPORTING CERTIFICATIONS BACKFLOW

SEARCH BY COUNTY/WATER SYSTEM

DAVIS COUNTY/SYRACUSE CITY WATER SYS...

CREATE A CUSTOM REPORT

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- Open Compliance Schedules

**WATER SYSTEM REPORTS**

[Bacteriological Summary](#) [Inventory](#) [ES - Water Monitoring System Summary](#)

DEQ | Drinking Water

Public Water System Water Monitoring Report

3

**Monitoring Schedule**  
Click Water Monitoring tab to see your monitoring requirements and when they are due

3

**OTHER DISTRIBUTION MONITORING**

Facility Name	ID	Name	Sample Count	Type	Frequency	Last Sampled	Next Sample Due
LEAD AND COPPER	D5001	...	30	Residue	3 Years	2013	06/01/2016 - 09/30/2016

**MONITORING REQUIREMENTS BY FACILITY**

WS004 WELL 3 REPLACEMENT

Name	Sample Count	Type	Frequency	Last Sample	Next Sample Due
BODICANES & METALS	1	Residue	3 Years	06/12/2013	01/01/2014 - 12/31/2014
NITRATE	1	Residue	Yearly	03/19/2015	01/01/2016 - 12/31/2016
RESIDUE	2	Residue	3 Years	06/12/2013	01/01/2014 - 12/31/2014
LEAD - COMPLIANCE	1	Residue	4 Years	05/29/2014	01/01/2020 - 12/31/2020
SULFATES/SULFIDES	1	Residue	3 Years	06/12/2013	01/01/2014 - 12/31/2014
VOLATILE ORGANICS	1	Residue	Yearly	05/19/2015	01/01/2016 - 12/31/2016

**GROUPED SOURCE SAMPLING STATIONS**

Sample Group ID	Sample Group	Facility Details
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**OPEN COMPLIANCE SCHEDULES**

Type	Required Activities	Severity	Created	Due
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## Requirements for Small Systems on Monthly Monitoring

### WHO DOES THIS FACTSHEET APPLY TO?

ALL PUBLIC WATER SYSTEMS (PWSs), REGARDLESS OF SOURCE, THAT SERVE 1,000 PEOPLE OR FEWER and collect at least one routine total coliform (TC) SAMPLE MONTHLY.

### RTCR

#### What to Do?

##### Step 1

Develop/update your sample siting plan.

##### Step 2

Collect your drinking water samples.

##### Step 3

Conduct required actions.



#### Additional RTCR Factsheets:

- Requirements for Small Systems on Quarterly/ Annual Monitoring
- Requirements for Seasonal Systems
- Repeat Monitoring Requirements for Small Systems
- Level 1 & Level 2 Assessments and Corrective Actions

#### ATTENTION!

All PWSs must comply with the RTCR requirements starting April 1, 2016.

✓ Are you a Public Water System? Contact Utah DDW at 801-536-4200

### STEP 1: DEVELOP/UPDATE YOUR SAMPLE SITING PLAN\*

Contact Utah Division of Drinking Water for assistance.

- **DEVELOP A SAMPLE SITING PLAN AND HAVE IT READY FOR USE BY APRIL 1, 2016.** If you already have a sample siting plan for the Total Coliform Rule (TCR), update this plan to meet the requirements of the RTCR.
  - **LIST THE LOCATIONS WHERE YOU WILL TAKE YOUR SAMPLES (ROUTINE AND REPEAT):** Any repeat sampling location that is also used for GWR triggered source water monitoring must be included.
  - **INCLUDE YOUR ROUTINE COLLECTION SCHEDULE:** For example, "[UTAH System #] will collect one routine total coliform sample every first Monday of the calendar month."
  - **UPDATE TO REFLECT CHANGES AT YOUR PWS:** The sample siting plan is a living document and should be updated to reflect changes at your PWS such as: major changes in population; a new or additional water source; infrastructure changes, such as a change in the distribution system (i.e. extended/abandoned lines) or pressure zones; or changes in disinfection or other treatment.

### STEP 2: COLLECT YOUR DRINKING WATER SAMPLES

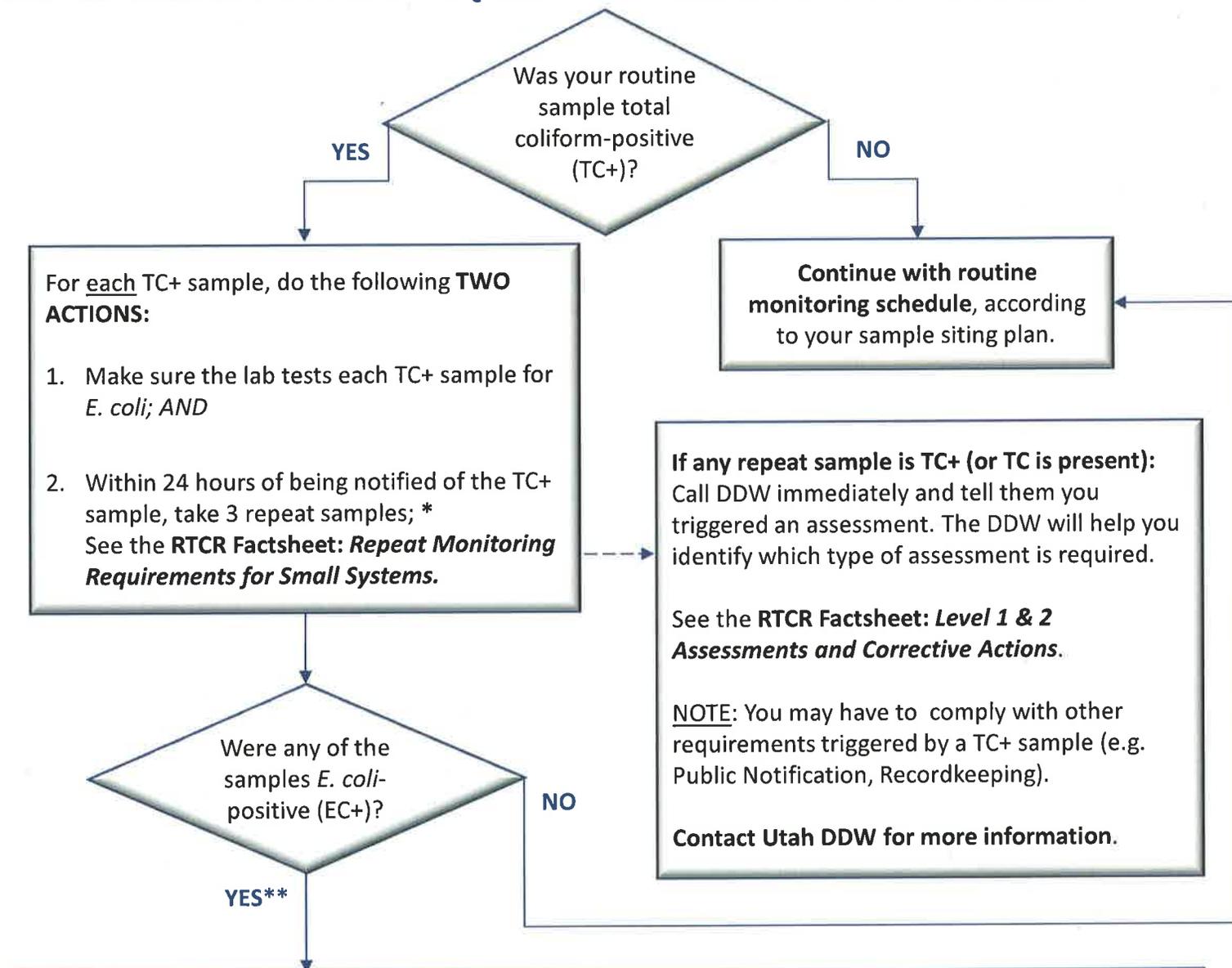
Know your RTCR routine sampling requirements.

- **COLLECT AT LEAST ONE 100 ML** routine drinking water sample every calendar month.
- **IMMEDIATELY SEND YOUR SAMPLE TO A UTAH STATE-CERTIFIED LAB** that performs total coliform drinking water analyses.
  - Remember the lab must begin analyzing the drinking water sample no later than the 30th hour from the collection time.
  - If necessary, ship the sample overnight and refrigerate or ice the sample using "blue" ice (cooled to about 4° to 10° C).

#### **NOTE**

\* The sample siting plan is subject to review and revision by Utah DDW. Submit Sample Siting Plans to: DDWREPORTS@UTAH.GOV

## STEP 3: CONDUCT ACTIONS REQUIRED AS A RESULT OF YOUR SAMPLING



**Call the DDW!** You have to perform a Level 2 Assessment if the PWS has any of the following occurrences:

- TC+ Routine and EC+ Repeat sample;
- EC+ Routine and TC+ Repeat sample;
- The PWS fails to take and analyze all 3 required repeat samples following an EC+ routine sample; or,
- The PWS fails to test for *E. coli* when any repeat sample is TC+.

Within 30 days after you learned your PWS has triggered an assessment, a completed assessment form must be submitted to the state. Download the state form at [Placeholder for state URL info]. See the **RTCR Factsheet: Level 1 & 2 Assessments and Corrective Actions**.

### NOTES

\* If you are missing any routine or repeat sample, contact the DDW.

\*\* Call the DDW at 801-536-4200 and the Local Health Department on the same day you learn of the EC+ result, or by the end of the next business day and tell each entity you received an EC+ result.

## Repeat Monitoring Requirements For Small Systems

### WHO DOES THIS FACTSHEET APPLY TO?

ALL PUBLIC WATER SYSTEMS (PWSs) SERVING 1,000 OR FEWER PEOPLE that are required to conduct repeat monitoring when a water sample is POSITIVE FOR TOTAL COLIFORM (TC+) BACTERIA.

## RTCR

### What to Do?

#### Step 1

Collect 3 repeat samples after each TC+ routine sample

#### Step 2

Conduct required actions after collecting repeat samples



#### Additional RTCR Factsheets:

- Requirements for Small Systems on Monthly Monitoring
- Requirements for Small Systems on Quarterly/ Annual Monitoring
- Requirements for Seasonal Systems
- Level 1 & Level 2 Assessments and Corrective Actions

### ATTENTION!

April 1, 2016, all public water systems (PWSs) must comply with the RTCR.

✓ Are you a Public Water System? Contact the Utah DDW at 801-536-4200

### STEP 1: COLLECT 3 REPEAT SAMPLES FOR EACH ROUTINE TC+ SAMPLE

YOU MUST COLLECT A SET OF 3 REPEAT SAMPLES AFTER EACH TC+ ROUTINE SAMPLE. You must continue to collect a set of 3 repeat samples until either TC is not detected in one complete set of repeat samples or you trigger an assessment.

#### Repeat Sampling Locations

You must collect at least 3 repeat samples at the locations described in your sample siting plan: (1) 1 repeat sample at the original routine location, (2) 1 repeat sample within five service connections upstream, and (3) 1 repeat sample within five service connections downstream of the TC+ sample. You may choose alternative repeat sampling locations on a situational basis—contact the DDW for more information.



**Site B = 1 repeat upstream**



**Site A = 1 repeat Original routine location that tested TC+**



**Site C = 1 repeat downstream**

### ATTENTION!

**COLLECT ALL 3 REPEAT SAMPLES.** If you do not collect and analyze at least 3 repeat samples (for each routine TC+) you will have to perform a Level 1 or Level 2 assessment. See the **RTCR Factsheet: Level 1 & Level 2 Assessments and Corrective Actions.**

### Frequency & Timing

**REMEMBER: ANALYZE ALL REPEAT TC+ SAMPLES FOR E. COLI.\***

Collect all 3 repeat samples **WITHIN 24 HOURS\*\* AFTER RECEIVING NOTIFICATION FROM THE STATE-CERTIFIED LAB OF THE TC+ SAMPLE RESULT.** The repeat samples must be taken on the same day.



- Remember the lab must begin analyzing the drinking water sample no later than the 30<sup>th</sup> hour from the collection time.
- If necessary, ship the sample overnight and refrigerate or ice the sample using “blue” ice (cooled to about 4° to 10° C).

### NOTES

\*CALL the DDW at 801-536-4200 and your Local Health Department on the same day you learned of the *E. coli*-positive (EC+) result, or by the end of the next business day if the result came in after business hours and tell each entity you received an EC+ result.

\*\*Contact the DDW if logistical problems prevent collection within 24 hours.

## STEP 2: CONDUCT ACTIONS REQUIRED AS A RESULT OF YOUR REPEAT SAMPLING

- **TC+** = Total coliform-positive or present; **TC-** =Total coliform-negative or absent
- **EC+** = *E. coli*-positive or present; **EC-** = *E. coli*-negative or absent; **EC?** = *E. coli* not analyzed

You must **COMPLETE AN ASSESSMENT AND SUBMIT THE FORM TO THE DDW WITHIN 30 DAYS** after you learned your PWS has triggered an assessment. See the **RTCR Factsheet: Level 1 & Level 2 Assessments and Corrective Actions**.

If Routine Sample Is:	And	Any Repeat Sample Is:	Action: What do your sample results mean?	Violation
<b>TC+</b> <b>EC-</b>	<b>&amp;</b>	<b>TC+</b> <b>EC-</b>	The presence of total coliform bacteria in both your original routine sample and in your follow-up repeat sample suggests there could be a problem and your water may not be safe to use. <b>1. CONDUCT A LEVEL 1 OR LEVEL 2 ASSESSMENT.</b> Contact the DDW for help determining which type of assessment is required. <b>2. ISSUE A PUBLIC NOTICE (PN).</b>	No MCL violation
<b>TC+</b> <b>EC-</b>	<b>&amp;</b>	<b>TC+</b> <b>EC?</b>	The presence of total coliform bacteria in both your original routine sample and in your follow-up repeat sample suggests there could be a problem and because <i>E. coli</i> was not tested, it is unknown whether or not the water is safe to use. <b>1. NOTIFY THE DDW / LHD</b> within 24 hours of receiving sample results <b>2. CONDUCT A LEVEL 2 ASSESSMENT.</b> <b>3. ISSUE A PUBLIC NOTICE (PN).</b>	<i>E. coli</i> MCL violation*
<b>TC+</b> <b>EC-</b>	<b>&amp;</b>	<b>TC+</b> <b>EC+</b>	The presence of <i>E. coli</i> bacteria in your water is an indicator of fecal contamination and your water may not be safe to use. <b>1. NOTIFY THE DDW / LHD</b> within 24 hours of receiving sample results <b>2. CONDUCT A LEVEL 2 ASSESSMENT.</b> <b>3. ISSUE A PUBLIC NOTICE (PN).</b>	<i>E. coli</i> MCL violation*
<b>TC+</b> <b>EC-</b>	<b>&amp;</b>	Any or all repeat samples missing	The presence of total coliform bacteria in your original routine sample suggests there could be a problem and because repeat samples were not tested, it is unknown whether or not the water is safe to use. <b>1. CONDUCT A LEVEL 1 OR LEVEL 2 ASSESSMENT.</b> Contact the DDW for help determining which type of assessment is required <b>2. ISSUE A PUBLIC NOTICE (PN)</b>	No MCL violation
<b>TC+</b> <b>EC+</b>	<b>&amp;</b>	<b>TC+</b>	The presence of <i>E. coli</i> bacteria in your water is an indicator of fecal contamination and your water may not be safe to use. <b>1. NOTIFY THE DDW / LHD</b> within 24 hours of receiving sample results <b>2. CONDUCT A LEVEL 2 ASSESSMENT.</b> <b>3. ISSUE A PUBLIC NOTICE (PN).</b>	<i>E. coli</i> MCL violation*
<b>TC+</b> <b>EC+</b>	<b>&amp;</b>	Any or all repeat samples missing	The presence of <i>E. coli</i> bacteria in your water is an indicator of fecal contamination and your water may not be safe to use. <b>1. NOTIFY THE DDW / LHD</b> within 24 hours of receiving sample results <b>2. CONDUCT A LEVEL 2 ASSESSMENT.</b> <b>3. ISSUE A PUBLIC NOTICE (PN).</b>	<i>E. coli</i> MCL violation*

### NOTE

\* You are required to provide Tier 1 public notice within 24 hours in response to an *E. coli* MCL violation.

## Level 1 & Level 2 Assessments and Corrective Actions

### WHO DOES THIS FACTSHEET APPLY TO?

PUBLIC WATER SYSTEMS (PWSs) SERVING 1,000 OR FEWER PEOPLE that must conduct a Level 1 or Level 2 assessment.

### RTCR

#### What to know?

- What is an Assessment?
- Throughout the Assessment Process.
- What to do if you are triggered to conduct an assessment.



#### Additional RTCR Factsheets:

- Requirements for Small Systems on Monthly Monitoring
- Requirements for Small Systems on Quarterly/Annual Monitoring
- Requirements for Seasonal Systems
- Repeat Monitoring Requirements for Small Systems

#### ATTENTION!

April 1, 2016, all public water systems (PWSs) must comply with the RTCR.

✓ Are you a Public Water System? Contact the Utah DDW at 801-536-4200.

### WHAT IS AN ASSESSMENT?

When sampling results show that your PWS may be vulnerable to contamination, PWSs must perform an assessment (Level 1 or Level 2) and **FIND AND FIX ANY "SANITARY DEFECTS."** A sanitary defect can provide a pathway of entry for microbial contamination into the distribution system or indicate imminent failure in an existing barrier (e.g. cracked tank, rat droppings on wellheads, or broken seals).

#### THERE ARE 5 BASIC ELEMENTS TO INVESTIGATE DURING AN ASSESSMENT:

- Atypical events that may affect distributed water quality or indicate that distributed water quality was impaired;
- Changes in distribution system maintenance and operation, including water storage;
- Water source and treatment methods that affect distributed water quality;
- Inadequacies in sample sites, sampling protocol and sample processing; and
- Existing water quality monitoring data.

**A LEVEL 2 ASSESSMENT IS A MORE COMPREHENSIVE AND IN-DEPTH EXAMINATION COMPARED TO A LEVEL 1 ASSESSMENT** because the cause of the Level 2 assessment is more critical and likely to result in a direct public health impact.

- A Level 2 assessment must be conducted by the DDW or a party approved by the DDW. A Level 1 assessment is typically conducted by the PWS.
- You have 30 days (after learning that you triggered the assessment) to have the Level 2 assessment completed and correct sanitary defects found. For sanitary defects found but NOT fixed within the 30 days, you must obtain a DDW-approved schedule for all incomplete corrective actions. **AFTER COMPLETING EACH SCHEDULED CORRECTIVE ACTION, YOU MUST NOTIFY THE DDW TO AVOID VIOLATIONS.** Throughout the Assessment Process **CONSULT WITH THE DDW** to discuss progress.

Examples of Common Causes of Contamination	Example Common Corrective Action(s)
Loss of system pressure	<ul style="list-style-type: none"> <li>✓ Maintenance of adequate pressure</li> <li>✓ Valve maintenance</li> <li>✓ Addition or upgrade of on-line monitoring &amp; control</li> </ul>
Cross connections	<ul style="list-style-type: none"> <li>✓ Maintenance of adequate pressure</li> <li>✓ Installation of backflow prevention assembly/device</li> <li>✓ Implementation/upgrade of cross connection control program</li> </ul>
Cracks in well seal, casing, etc.	<ul style="list-style-type: none"> <li>✓ Replacement/repair of well components</li> </ul>

## WHAT TO DO IF YOU TRIGGERED AN ASSESSMENT?

WITHIN 30 DAYS OF LEARNING THAT YOUR PWS TRIGGERED AN ASSESSMENT, a completed DDW assessment form must be submitted to the DDW. The process for completing and submitting the required form depends on the type of assessment. In both cases, the DDW will review the completed assessment form to determine if the likely cause of the trigger has been identified and to ensure the problem is corrected.

### Level 1 Assessment

You have to do a Level 1 Assessment if you:

1. Fail to collect and analyze at least 3 repeat samples for each routine TC+; or
2. Have two or more TC+ samples (use routine and repeat results in your calculation) in one month.



Your system conducts the assessment.

**STEP 1:** Call the DDW, and verify the appropriate person to conduct the assessment (the assessor).

**STEP 2:** Ask the DDW for the Level 1 assessment form and determine the process for submission.

**STEP 3:** Perform the assessment.

**STEP 4:** If sanitary defect(s) are found, fix them or propose and gain a DDW-approved schedule for fixing, if the sanitary defect(s) cannot be corrected within 30 days of triggering the assessment.

- After completing each scheduled corrective action you must notify the DDW.
- The PWS or DDW (at any time) may consult with each other to discuss progress or the corrective action(s) identified.

**STEP 5:** Submit the completed assessment form to the DDW within 30 days of learning that your system triggered the assessment.

**NOTES—Your PWS will get a treatment technique violation if you:**

- Fail to perform an assessment or take corrective action; or,
  - Fail to submit the completed assessment form to the state within 30 days of learning that it triggered the assessment.
- You are required to provide Tier 2 public notice within 30 days in response to a treatment technique violation.

### Level 2 Assessment

You have to do a Level 2 Assessment if you have either:

1. *E. coli* MCL violation:

Routine	Repeat
TC+ & EC-	<i>E. coli</i> -positive (EC+)
TC+ & EC-	TC+ but not analyzed for EC
TC+ & EC+	TC+
TC+ & EC+	One or more samples is missing

2. Two Level 1 triggers in a rolling 12-month period.

The DDW approves the party that will conduct the assessment.

**STEP 1:** Call the DDW to select the appropriate person to conduct the assessment (the assessor).

— Assessors may be the DDW or DDW approved third party.

**STEP 2:** Communicate with the DDW to schedule the Level 2 assessment .

**STEP 3:** Participate in the assessment.

**STEP 4:** If sanitary defect(s) are found, fix them or propose and gain a DDW-approved schedule for fixing, if the sanitary defect(s) cannot be corrected within 30 days of triggering the assessment.

- After completing each scheduled corrective action you must notify the DDW.
- The PWS or DDW (at any time) may consult with each other to discuss progress or the corrective action(s) identified.

**STEP 5:** Ensure the completed assessment form is submitted to the DDW within 30 days of learning that your system triggered the assessment.

## Requirements for Seasonal Systems

### WHO DOES THIS FACTSHEET APPLY TO?

**SEASONAL SYSTEMS** – A seasonal system is defined as a non-community water system that is not operated as a public water system (PWS) on a year-round basis and starts-up and shuts-down at the beginning and end of each operating season. Examples include campgrounds, fairgrounds, seasonal food service facilities, and ski areas.

### RTCR

#### What to Do?

##### Step 1

Conduct start-up procedures

##### Step 2

Complete certification forms

##### Step 3

Maintain good water quality

##### Step 4

Complete shutdown procedures



NEW!

#### ATTENTION!

**STARTING APRIL 1, 2016**, all seasonal systems must complete the state required startup procedures before serving water to the public. Your water system must complete and submit the state certification form confirming completion of these start-up procedures.

#### STEP 1: CONDUCT START-UP PROCEDURES

You must conduct your start-up procedures before delivering drinking water to your customers. Start-up procedures help reduce the presence of harmful bacteria in water. The checklist is available on our website at [www.drinkingwater.utah.gov](http://www.drinkingwater.utah.gov).

#### Flush all pipes until the water is clear

Flushing the pipe lines in all areas of your water system helps remove buildup and dirty water that has gathered during the off season. Flushing the pipes helps the disinfectant work more effectively to kill bacteria and inactivate viruses.

#### Clean all water storage tanks

Drain and clean the tanks before delivering water to your customers. Harmful sediments may build up over time inside and along the walls of the water tanks. It is recommended that the tank be inspected and cleaned regularly. Contact the DDW for information about proper procedures for inspecting a tank.

#### Disinfect

Kill harmful bacteria and inactivate viruses by adding a disinfectant or by making sure the adequate disinfectant residual is present in all areas of your water pipes. Your system should be flushed thoroughly. Be sure to keep the highly chlorinated water away from surface water bodies such as lakes, streams, and ponds, as well as septic systems. Remember, you may not deliver water to your customers until proper disinfecting and flushing of your system is completed.

Check our website at [www.drinkingwater.utah.gov](http://www.drinkingwater.utah.gov) or call the DDW at 801-536-4200 to get more information about how to disinfect your water system.

#### Inspect and Repair

Consider having a qualified water system professional inspect and repair your water system before you deliver water to your customers. Some parts of your water system may have broken down or become worn out during the off season. This can create a situation where bacteria can enter the drinking water. You can find a list of state certified water system professionals to help with finding any defects at your water system at our website: [www.drinkingwater.utah.gov](http://www.drinkingwater.utah.gov)

#### Collect Samples

Collect water samples and have them tested for the presence of bacteria and chlorine residuals at a state certified lab, after flushing, cleaning, disinfecting, and repairing your water system. Also, sample and test to determine if the adequate amount of disinfectant residual is present to help provide safer drinking water. You should find out your sample results before delivering water to your customers.

Check our website at [www.drinkingwater.utah.gov](http://www.drinkingwater.utah.gov) or call the DDW at 801-536-4200 to get more information about disinfectant residual levels.

#### Additional RTCR Factsheets:

- Requirements for Small Systems on Monthly Monitoring
- Requirements for Small Systems on Quarterly/ Annual Monitoring
- Repeat Monitoring Requirements for Small Systems
- Level 1 & Level 2 Assessments and Corrective Actions

## STEP 2: COMPLETE CERTIFICATION FORMS EACH YEAR BEFORE DELIVERING WATER TO YOUR CUSTOMERS

**CONTACT DDW** if you need help understanding or following the Start-Up Procedures.

- **PERFORM** the items in the start-up procedures checklist. The checklist is available on our website at [drinkingwater.utah.gov](http://drinkingwater.utah.gov)
- **COMPLETE** the Start-Up Procedures Certification Form. The form is available on our website at: [drinkingwater.utah.gov](http://drinkingwater.utah.gov)
- **SUBMIT** Start-Up Procedures Certification Form to the DDW at [DDWReports@utah.gov](mailto:DDWReports@utah.gov)

[State Drinking Water Contact Name]	
[Department]	
[Street Address]	
[City]	[Postal code]
[State]	

**WHEN YOU SIGN AND SUBMIT** this form, you are certifying that you have completed all of the start-up procedures, including:

- Flushed all pipes.
- Cleaned all water storage tanks (if applicable).
- Disinfected entire water system.
- Inspected water system.
- Repaired water system (if applicable).
- Collected samples to test for bacteria and disinfectant residual.



## STEP 3: MAINTAIN GOOD WATER QUALITY AND A GOOD REPUTATION WITH YOUR CUSTOMERS

If your water system does not complete all of the start-up procedures, you must notify your customers that your water system had a drinking water violation for failure to complete start-up procedures and tell them of any possible health risks.

**CONTACT DDW** for information on the proper public notification procedures (including language you must use), and timing.

## STEP 4: COMPLETE SHUTDOWN PROCEDURES

Similar to start-up procedures, completing shutdown procedures at the end of your business season will help you minimize repairs to the water system when your water system opens up again next season. To determine appropriate shutdown procedures for your water system, contact your state. In general, you should:

- Inspect your entire system and look for problems and damage that need attention or repairs.
- Turn off the power to your water supply pump and all treatment systems.
- If there is potential for your pressure tank or storage tank to freeze, drain it. If there is no potential for your tanks to freeze, you may choose to leave them full.
- Drain all of the water from your internal plumbing.
- Protect your distribution system by not leaving taps open in the off season.

## Instructions for Fecal Coliform or *E. Coli* Notice – Community (Tier 1)

### Template on Reverse

Since exceeding the fecal coliform or *E. coli* maximum contaminant level is a Tier 1 violation, you must provide public notice to persons served as soon as practical but within 24 hours after you learn of the violation (R309-220-5(2)). During this time, you must also contact the Division of Drinking Water (801-536-4200). You should also coordinate with your local health department. You may also have to modify the template if you also have high nitrate levels or other coliform MCL violations. You must use one or more of the following methods to deliver the notice to consumers (R309-220-5(3)):

- X Radio
- X Television
- X Hand or direct delivery
- X Posting in conspicuous locations

You may need to use additional methods (e.g., newspaper, delivery of multiple copies to hospitals, clinics, or apartment buildings), since notice must be provided in a manner reasonably calculated to reach all persons served.

The notice on the reverse is appropriate for hand delivery or a newspaper notice. However, you may wish to modify it before using it for a radio or TV notice. If you do, you must still include all required elements and leave the health effects language in italics unchanged. This language is mandatory (R309-220-8(4)). If you post or hand deliver, print your notice on letterhead, if you have it.

### Population Served

Make sure it is clear who is served by your water system--you may need to list the areas you serve.

### Corrective Action

In your notice, describe corrective actions you are taking. Listed below are some steps commonly taken by water systems with fecal coliform or *E. coli* violations. Use one or more of the following actions, if appropriate, or develop your own:

- X We are chlorinating and flushing the water system.
- X We are switching to an alternate drinking water source.
- X We are increasing sampling for coliform bacteria to determine the source of the contamination.
- X We are repairing the wellhead seal.
- X We are repairing the storage tank.
- X We are restricting water intake from the river/lake/reservoir to prevent additional bacteria from entering the water system and restricting water use to emergencies.

### After Issuing the Notice

Send a copy of each type of notice and a certification that you have met all the public notice requirements to the Division of Drinking Water (PO Box 144830, SLC, UT 84114-4830) within ten days from the time you issue the notice (R309-105-16(3)).

It is recommended that you notify health professionals in the area of the violation. People may call their doctors with questions about how the violation may affect their health, and the doctors should have the information they need to respond appropriately. In addition, health professionals, including dentists, use tap water during their procedures and need to know of contamination so they can use bottled water.

It is a good idea to issue a "problem corrected" notice when the violation is resolved. Call the Division (801-536-4200) for further information.

## DRINKING WATER WARNING

[System] water is contaminated with [fecal coliform] or [*E. coli*]

### BOIL YOUR WATER BEFORE USING

Fecal coliform [or *E. coli*] bacteria were found in the water supply on [date]. These bacteria can make you sick, and are a particular concern for people with weakened immune systems.

#### What should I do?

- § **DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST.** Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and food preparation **until further notice**. Boiling kills bacteria and other organisms in the water.
- X *Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly and people with severely compromised immune systems.*
- § The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice. People at increased risk should seek advice about drinking water from their health care providers.

#### What happened? What is being done?

Bacterial contamination can occur when increased run-off enters the drinking water source (for example, following heavy rains). It can also happen due to a break in the distribution system (pipes) or a failure in the water treatment process.

[Describe corrective action.] We will inform you when tests show no bacteria and you no longer need to boil your water. We anticipate resolving the problem within [estimated time frame].

For more information, please contact [name of contact] at [phone number] or [mailing address]. General guidelines on ways to lessen the risk of infection by microbes are available from the EPA Safe Drinking Water Hotline at 1(800) 426-4791.

*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.*

This notice is being sent to you by [system].

Water System ID#: \_\_\_\_\_ Date distributed:

## **Boil Water Order - FAQ**

Why must I boil my water?

How can I make my water safe?

Is it necessary to boil all water in the home during an advisory or order?

How should tap water be boiled properly?

I have a water treatment device; do I still need to boil my drinking water?

Can I use bottled water?

During a boil order, can I wash my hands using tap water?

During a boil order, can my family take showers or baths using tap water?

During a boil order, can I wash dishes using tap water?

Can I use my coffee maker, ice machine, water or soda dispenser?

Can I give my pets tap water?

What are the symptoms of water-borne illness?

What if I drank the water already?

How long will the boil order remain in effect?

What should I do when the boil water advisory or order has been lifted?

### **Why must I boil my water?**

A boil order has been issued to your water system because either recent testing has shown the presence of organisms that could cause illness (e.g. fecal or E. coli bacteria), or technical/physical problems in the water system have significantly increased the possibility of bacterial contamination.

### **How can I make my water safe?**

Boiling the water is the best way to ensure that it is free of illness-causing organisms. Bring water to a rolling boil for a minimum of one minute. When it cools, refrigerate the water in clean containers. (A pinch of salt per quart may improve the rather flat taste of boiled water). If you do not want to boil your water, you can disinfect it by adding 1/8 teaspoon of bleach (common household bleach containing 5.25 percent sodium hypochlorite) per gallon of water. Do not use bleach containing perfume, dyes, or other additives.

### **Is it necessary to boil all water in the home during an advisory or order?**

During boil water advisories or boil water orders, you should boil all water used for drinking, preparing food, beverages, ice cubes, washing fruits and vegetables, or brushing teeth. Severely immuno-compromised individuals should always boil their tap water for the purposes noted above. Infant formulas should be prepared using boiled tap water, at all times. In the event that boiling is not practical, the PWS may recommend an alternative supply known to be safe (e.g., bottled water) or may direct you to disinfect the water using household bleach.

It is not necessary to boil tap water used for other household purposes, such as showering, laundry, or bathing. Adults, teens, and older children can wash, bathe, or shower; however, they should avoid swallowing the water. Toddlers and infants should be sponge-bathed.

### **How should tap water be boiled properly?**

Water should be placed in a heat-resistant container or in an electric kettle without an automatic shut-off and brought to a rolling boil for 1 minute to kill all disease-causing organisms.

Water can also be boiled in a microwave oven using a microwave-safe container, but it is advisable to include a glass rod or wooden or plastic stir stick in the container to prevent the formation of superheated water (water heated above its boiling point, without the formation of steam). The water should then be cooled and poured into a clean container or refrigerated until you are ready to use it.

At elevations over 6,500 feet (2,000 meters) water boils at a slightly lower temperature and should therefore be boiled for at least two minutes to kill all disease-causing organisms.

### **I have a water treatment device; do I still need to boil my drinking water?**

If the device is designed to improve the taste and odor or chemical quality of the water, such as activated carbon filters, it is still necessary to boil the water. Check with the manufacturer if you are not certain.

### **Can I use bottled water?**

Buying bottled water may be a feasible alternative to boiling water. Bottled water operations are routinely inspected, and samples are periodically analyzed to ensure they meet health standards.

### What can I do with my tap water?

Drinking	No
Ice Cubes	No, and existing ice cubes should be thrown out. See below for information on ice machines.
Brushing Teeth	No
Baby's Formula	No
Washing Fruit/Vegetables	No
Preparing Food	No
Coffee, Tea, Lemonade, etc.	No. See below for information on soda dispensers and coffee makers.
Laundry	Yes
Watering Grass or Garden	Yes, but fruits/vegetables must be washed using boiled or bottled water before consumption.
Washing Hands	See below
Showers or Baths	See below
Washing Dishes	See below

**During a boil order, can I wash my hands using tap water?**

It is recommended that you wash your hands using soap and either bottled water or boiled water. An alcohol-based hand sanitizer may also be used.

**During a boil order, can my family take showers or baths using tap water?**

The risk of bathing in tap water is uncertain and so should be avoided particularly by people with open wounds or who are immuno-compromised. For those people who choose to shower or bathe in the tap water, minimize the time spent in the water and be sure to keep your eyes and mouth closed. Babies and young children should not bathe or shower in tap water because they often swallow some water accidentally.

**During a boil order, can I wash dishes using tap water?**

You may use a dishwasher if it has a sanitizing cycle. If it does not have a sanitizing cycle, or you are not sure if it does, you may hand wash dishes and utensils by following these steps:

1. Wash the dishes as you normally would.
2. As a final step, immerse the dishes for at least one minute in lukewarm water to which a teaspoon of bleach per gallon of water has been added.
3. Allow the dishes to completely air dry.

**Can I use my coffee maker, ice machine, water or soda dispenser?**

None of these devices should be used if they are directly connected to your water supply. Also, filters are unacceptable for removing bacteria. Once you have been notified that the boil order has been lifted, these devices should be cleaned and sanitized according to the operator's manual for the device.

**Can I give my pets tap water?**

Although pets are not normally affected by the same diseases as humans, caution suggests giving pets boiled or bottled water.

**What are the symptoms of water-borne illness?**

Disease symptoms may include diarrhea, cramps, nausea and possible jaundice and associated headaches and fatigue. Symptoms may appear as early as a few hours to several days after infection and may last more than two weeks. These symptoms, however, are not just associated with disease-causing organisms in drinking water; they may also be caused by a number of other factors. If you are ill with these symptoms, contact your health care provider.

**What if I drank the water already?**

There is nothing you can do about the exposure you have already received. If you become ill, contact your health care provider. Follow the above recommendations about using your water until you are told the water is safe again.

**How long will the boil order remain in effect?**

Each boil order situation is different, making it impossible to predict how long the boil order will remain in effect. It will not be lifted until testing shows that the water meets public health standards. Boil water advisories or boil water orders are lifted when the water is considered safe and no longer poses a threat to public health.

**What should I do when the boil water advisory or order has been lifted?**

The public water system may provide specific instructions. Consumers should flush water pipes within the home. When flushing it is important to carefully follow the instructions provided. Some types of water treatment devices may need to be disinfected and flushed to remove any contaminated water before being used. Depending on the type of water treatment device, the device may need to be replaced. Check with the manufacturer for details.

**A note about *E. coli* bacteria:**

*E. coli* is a sub-group of the fecal coliform bacteria group. There are many strains of *E. coli*, most of which are harmless, but some strains can cause illness. *E. coli* outbreaks receive much media coverage. Most outbreaks have been related to food contamination (not water) caused by a specific strain of *E. coli* known as *E. coli* O157:H7. When a drinking water sample is reported as "E. coli positive", it does not mean that this specific strain is present and in fact, it is probably not present. However, it does indicate recent fecal contamination. Boiling or treating contaminated drinking water with a disinfectant destroys all forms of *E. coli*, including O157:H7.