



## How to report bacteria detections in the Consumer Confidence Report

### Introduction (revised)

The Consumer Confidence Report (CCR) is a water quality report that all public community water systems must produce annually under the law (16 Del. C. § 4462). Beginning January 1, 2016, Delaware adopted and implemented the federal Revised Total Coliform Rule (RTCR). This document provides guidance on publishing bacteria detections in your CCR. Guidance for reporting Level 1 and Level 2 assessments as a result of *E. coli* bacteria detections are also included in this document.

### Bacteria monitoring and reporting changes under the RTCR (revised)

The federal RTCR eliminated the Maximum Contaminant Level (MCL) for total coliform (TC) bacteria. Under the revised rule, TC is regulated as a Treatment Technique (TT) and public water systems must continue to monitor for TC. However, TC detections are not reported in the CCR table unless that water system failed to conduct a Level 1 assessment triggered by multiple TC detections. The regulated status of *E. coli* did not change under the RTCR, and *E. coli* effectively has an MCL of one detection. All *E. coli* detections must be reported in the CCR.

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### New CCR reporting requirement: Level 1 and Level 2 assessments

A system that triggered a Level 1 or Level 2 assessment must:

1. include a definition of the appropriate assessment.
2. inform customers of the number of assessments required and completed.
3. inform customers of corrective actions required and completed.
4. inform customers about the reasons for conducting assessments and corrective actions.
5. report whether the system failed to complete any required assessments or corrective actions.

### Assessment definitions

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

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### Required language for all Level 1 and Level 2 assessments not due to an *E. coli* MCL violation

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

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### Required language for a Level 1 or Level 2 assessment not due to an *E. coli* MCL violation

Use the appropriate language below:



- During the past year we were required to conduct [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s). [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.
- During the past year [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were required to be completed for our water system. [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

For a treatment technique (TT) violation for failure to complete all required assessments or correct all identified sanitary defects, include one or both of the following statements, as appropriate:

- During the past year we failed to correct all identified defects that were found during the assessment.
- During the past year we failed to conduct all of the required assessment(s). (This TT violation must be reported in the Table of Regulated Contaminants, see below.)

**Example that demonstrates how to report TC in the Table of Regulated Contaminants due to the failure to complete a Level 1 assessment due to multiple TC detections:**

Contaminant	MCL / TT	MCLG	Value	Date	Violation?	Typical Source
Total Coliform Bacteria	TT	0	positive	mm/dd/yyyy	Yes	Naturally present in the environment

**Required language for a Level 2 assessment due to an *E. coli* MCL violation**

- *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.
- We were required to complete a Level 2 assessment because we found *E. coli* in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

For a treatment technique (TT) violation for failure to complete all required assessments or correct all identified sanitary defects, include one or both of the following statements, as appropriate:

- During the past year we failed to conduct all of the required assessment(s).
- During the past year we failed to correct all identified defects that were found during the assessment.



### Required language for an *E. coli* positive sample result

- The total number of positive samples in the table of detected contaminants.
- The health effects language: *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.
- Note: If the system detected *E. coli* but did not have an *E. coli* MCL violation, the system must include a statement that explains that although they have detected *E. coli*, they are not in violation of the *E. coli* MCL.

In addition to the language above, choose one statement from the following:

- We had an *E. coli* positive repeat sample following a total coliform positive routine sample.
- We had a total coliform positive repeat sample following an *E. coli* positive routine sample.
- We failed to take all required repeat samples following an *E. coli* positive routine sample.
- We failed to test for *E. coli* when any repeat sample tests positive for total coliform.

### Example that demonstrates how to report *E. coli* in the CCR to customers (revised)

ODW recommends using the following method to report *E. coli* bacteria and assessments in your CCR:

Microbial Contaminants (revised)							
Bacteria	MCL	MCLG	Your Water	Range Detected	Sample Year	Violation	Likely source of contamination
<i>E. coli</i>	One positive sample	0	1 positive sample in March*	Not applicable	2017	yes	Human or animal fecal waste
Chlorine Residual	MRDL = 4 ppm <sup>~</sup>	MRDLG = 4 ppm	1.2 ppm	1.2 to 0.3 ppm	2017	no	Water additive used to control microbes

\* We had an *E. coli* positive repeat sample following a total coliform positive routine sample.

<sup>~</sup>ppm = parts per million

MRDL = Maximum Residual Disinfectant Level

MRDLG = Maximum Residual Disinfection Level Goal

MCLG = Maximum Contaminant Level Goal

### Violation

In March 2017, we had an *E. coli* violation during our routine and repeat sampling for total coliform bacteria. The health effects for *E. coli* are: *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found *E. coli* bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.



In March and April 2017, we were required to complete a Level 2 assessment<sup>1</sup> because we found *E. coli* in our water system. In addition, we were required to take two corrective actions and we completed both of these actions.

**<sup>1</sup>Level 2 assessment definition**

A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.