

## Information Needed for Disinfection CT Evaluation

(Seeking Exemption from the Triggered Source Monitoring Requirements by Ground Water Rule)

The Ground Water Rule allows a water system with ground water sources meeting certain criteria to be exempt from source water sampling (“triggered source monitoring”) should they have a coliform positive sample result from their TCR sampling within the distribution system. The criteria are:

- Each ground water source provides 4-log removal/inactivation of viruses before any consumer’s service connection.
- The water system monitors daily and reports monthly the disinfectant residuals at the designated sampling point (as evidence of the effectiveness of virus inactivation or removal).

If a water system wishes to be exempt from “triggered source monitoring” and if its sources are not treated per surface water requirements, the water system has the option of making the request and providing the relevant information to the Division of Drinking Water (the Division) for evaluation.

The Division uses CT (“disinfectant concentration” times “contact time”) to determine whether a water system’s disinfection process meets the goal of 4-log virus inactivation. In order for the Division to make such evaluation, we need, as a minimum, the following information:

1. A schematic of the portion of the system, including components that will be used for contact time and disinfectant concentration sampling points.
2. The chosen disinfectant or treatment technique.
3. Minimum disinfectant residual that would be maintained at the sampling location (located at the end of each contact time segment).
4. Volume and configuration of all components used for contact time.
  - a. Pipe: diameter and length for any pipeline segment utilized for contact time, how full the pipe is during low flow, etc.
  - b. Tank: Minimum operating volume of storage tank & tank configuration (location of inlet/outlet, baffles, mixer, overflow level, minimum tank level, etc.).
5. Anticipated flow rates in contact time components & supporting information. Peak instantaneous demand should be used for flows that are demand driven.
6. The coldest temperature of the water.
7. The highest pH of the water.
8. The method of disinfectant injection and other factors that may affect mixing.
9. The population served by the system.
10. The monitoring equipment and method of sampling disinfectant concentration.
11. Other information relevant to CT calculation, if applicable.

The Division has developed a spreadsheet for CT calculation. We will be glad to share it with water systems or consultants. If you have any questions about the information needed for engineering evaluation, please contact Ying-Ying Macauley at [ymacauley@utah.gov](mailto:ymacauley@utah.gov) or (801) 536-4188. If you would like the GWR Calculation Worksheet electronically please contact John Oakeson at (801) 536-0057 or [joakeson@utah.gov](mailto:joakeson@utah.gov).