



# CT Determination for Groundwater Rule Systems

More than 1 Disinfectant/Sampling Point

GWR  
CT-3

### I. PWS INFORMATION:

PWSID#:  PWS Name:  PWS Town:

Treatment Plant Name:  Reporting Period → Month:  Year:

Disinfectant<sup>1</sup>:  Sequence of Application:  1<sup>st</sup>  2<sup>nd</sup>  3<sup>rd</sup>  4<sup>th</sup>  5  6<sup>th</sup>

### II. DAILY REPORTING: All measurements taken during peak hourly flow.

Day	Peak Hourly Flow <sup>2</sup> (gpm)	Disinfectant Concentration <sup>3</sup> C (mg/L)	Disinfectant Contact Time <sup>4</sup> T (min.)	CT calc (= C x T)	pH <sup>5</sup>	Water Temp <sup>6</sup> (°C)	CT <sup>7</sup> 99.9	Inactivation Ratio <sup>8</sup> (CT calc / CT 99.9)	Inactivation Ratio <sup>9</sup> < 1.0
1									<input type="checkbox"/> Yes
2									<input type="checkbox"/> Yes
3									<input type="checkbox"/> Yes
4									<input type="checkbox"/> Yes
5									<input type="checkbox"/> Yes
6									<input type="checkbox"/> Yes
7									<input type="checkbox"/> Yes
8									<input type="checkbox"/> Yes
9									<input type="checkbox"/> Yes
10									<input type="checkbox"/> Yes
11									<input type="checkbox"/> Yes
12									<input type="checkbox"/> Yes
13									<input type="checkbox"/> Yes
14									<input type="checkbox"/> Yes
15									<input type="checkbox"/> Yes
16									<input type="checkbox"/> Yes
17									<input type="checkbox"/> Yes
18									<input type="checkbox"/> Yes
19									<input type="checkbox"/> Yes
20									<input type="checkbox"/> Yes
21									<input type="checkbox"/> Yes
22									<input type="checkbox"/> Yes
23									<input type="checkbox"/> Yes
24									<input type="checkbox"/> Yes
25									<input type="checkbox"/> Yes
26									<input type="checkbox"/> Yes
27									<input type="checkbox"/> Yes
28									<input type="checkbox"/> Yes
29									<input type="checkbox"/> Yes
30									<input type="checkbox"/> Yes
31									<input type="checkbox"/> Yes

1. Use a separate form for each disinfectant/sampling point/sequence. Enter disinfectant and sequence position, e.g. "gaseous chlorine/1<sup>st</sup>" or "ClO<sub>2</sub>/3<sup>rd</sup>". If more than one disinfectant sampling point, you must also complete GWR Form CT-4 and calculate the cumulative inactivation ratio SUM (CTcalc/CT99.9) to determine compliance.
2. Peak hourly flow means the highest pumpage *hour* during the day, not the absolute peak flow at any instant.
3. The residual disinfectant concentration(s) ("C") of the water before or at the first customer must be measured each day during peak hourly flow, before or at the first customer, after the required contact time, and at a location approved by MassDEP.
4. The disinfectant contact time(s) ("T") must be determined for each day during peak hourly flow. The time *T* used in calculating *CT*, is the time it takes the water, during peak hourly flow, to move between the point of disinfection application and the point at which the residual is measured.
5. The pH of the disinfected water must be measured at least once per day at each chlorine residual disinfectant concentration sampling point during peak hourly flow.
6. The temperature of the disinfected water must be measured at least once per day at each residual disinfectant concentration sampling point during peak hourly flow.
7. Use Inactivation Tables in 1999 August EPA Guidance Manual for Disinfection Profiling and Benchmarking.
8. The inactivation ratio (CTcalc/CT99.9) is determined before or at the first customer during peak hourly flow and if the SUM (CTcalc/CT99.9) < 1.0, the 4-log inactivation requirement has not been achieved. One or more "Yes" responses above indicates a potential GWR Treatment Technique violation. Call your regional office within 24 hours. If the continuous monitoring equipment fails, the PWS must conduct grab sampling every 4 hours until the equipment is returned to service; continuous monitoring must be restored within 14 days. Failure to achieve the required CT within 4 hours is a Treatment Technique violation (Tier 2).

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: \_\_\_\_\_

Date: \_\_\_\_\_ Title: \_\_\_\_\_

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.