

**§ 141.531**

**40 CFR Ch. I (7-1-02 Edition)**

**§ 141.531 What criteria must a State use to determine that a profile is unnecessary?**

States may only determine that a system's profile is unnecessary if a system's TTHM and HAA5 levels are below 0.064 mg/L and 0.048 mg/L, respectively. To determine these levels, TTHM and HAA5 samples must be collected after January 1, 1998, during the month with the warmest water temperature, and at the point of maximum residence time in your distribution system.

**§ 141.532 How does my system develop a disinfection profile and when must it begin?**

A disinfection profile consists of three steps:

- (a) First, your system must collect data for several parameters from the plant as discussed in §141.533 over the course of 12 months. If your system serves between 500 and 9,999 persons you must begin to collect data no later than July 1, 2003. If your system serves fewer than 500 persons you must begin to collect data no later than January 1, 2004.
- (b) Second, your system must use this data to calculate weekly log inactivation as discussed in §§141.534 and 141.535; and
- (c) Third, your system must use these weekly log inactivations to de-

velop a disinfection profile as specified in §141.536.

**§ 141.533 What data must my system collect to calculate a disinfection profile?**

Your system must monitor the following parameters to determine the total log inactivation using the analytical methods in §141.74 (a), once per week on the same calendar day, over 12 consecutive months:

- (a) The temperature of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;
- (b) If your system uses chlorine, the pH of the disinfected water at each residual disinfectant concentration sampling point during peak hourly flow;
- (c) The disinfectant contact time(s) ("T") during peak hourly flow; and
- (d) The residual disinfectant concentration(s) ("C") of the water before or at the first customer and prior to each additional point of disinfection during peak hourly flow.

**§ 141.534 How does my system use this data to calculate an inactivation ratio?**

Calculate the total inactivation ratio as follows, and multiply the value by 3.0 to determine log inactivation of *Giardia lamblia*:

If your system * * *	Your system must determine * * *
(a) Uses only one point of disinfectant application.	(1) One inactivation ratio (CT <sub>calc</sub> /CT <sub>99.9</sub> ) before or at the first customer during peak hourly flow or (2) Successive CT <sub>calc</sub> /CT <sub>99.9</sub> values, representing sequential inactivation ratios, between the point of disinfectant application and a point before or at the first customer during peak hourly flow. Under this alternative, your system must calculate the total inactivation ratio by determining (CT <sub>calc</sub> /CT <sub>99.9</sub> ) for each sequence and then adding the (CT <sub>calc</sub> /CT <sub>99.9</sub> ) values together to determine (3CT <sub>calc</sub> /CT <sub>99.9</sub> ).
(b) Uses more than one point of disinfectant application before the first customer.	The (CT <sub>calc</sub> /CT <sub>99.9</sub> ) value of each disinfection segment immediately prior to the next point of disinfectant application, or for the final segment, before or at the first customer, during peak hourly flow using the procedure specified in paragraph (a)(2) of this section.

**§ 141.535 What if my system uses chloramines, ozone, or chlorine dioxide for primary disinfection?**

If your system uses chloramines, ozone, or chlorine dioxide for primary disinfection, you must also calculate the logs of inactivation for viruses and develop an additional disinfection profile for viruses using methods approved by the State.

**§ 141.536 My system has developed an inactivation ratio; what must we do now?**

Each log inactivation serves as a data point in your disinfection profile. Your system will have obtained 52 measurements (one for every week of the year). This will allow your system and the State the opportunity to evaluate how microbial inactivation varied over the course of the year by looking