

§ 141.520

prior to March 15, 2002 are not subject to this requirement.

ADDITIONAL WATERSHED CONTROL REQUIREMENTS FOR UNFILTERED SYSTEMS

§ 141.520 Is my system subject to the updated watershed control requirements?

If you are a subpart H system serving fewer than 10,000 persons which does not provide filtration, you must continue to comply with all of the filtration avoidance criteria in §141.71, as well as the additional watershed control requirements in §141.521.

§ 141.521 What updated watershed control requirements must my unfiltered system implement to continue to avoid filtration?

Your system must take any additional steps necessary to minimize the potential for contamination by *Cryptosporidium* oocysts in the source water. Your system's watershed control program must, for *Cryptosporidium*:

- (a) Identify watershed characteristics and activities which may have an adverse effect on source water quality; and
- (b) Monitor the occurrence of activities which may have an adverse effect on source water quality.

§ 141.522 How does the State determine whether my system's watershed control requirements are adequate?

During an onsite inspection conducted under the provisions of §141.71(b)(3), the State must determine whether your watershed control program is adequate to limit potential contamination by *Cryptosporidium* oocysts. The adequacy of the program must be based on the comprehensiveness of the watershed review; the effectiveness of your program to monitor and control detrimental activities occurring in the watershed; and the extent to which your system has maximized land ownership and/or controlled land use within the watershed.

40 CFR Ch. I (7-1-12 Edition)

DISINFECTION PROFILE

§ 141.530 What is a disinfection profile and who must develop one?

A disinfection profile is a graphical representation of your system's level of *Giardia lamblia* or virus inactivation measured during the course of a year. If you are a subpart H community or non-transient non-community water system which serves fewer than 10,000 persons, your system must develop a disinfection profile unless your State determines that your system's profile is unnecessary. Your State may approve the use of a more representative data set for disinfection profiling than the data set required under §§141.532-141.536.

[67 FR 1839, Jan. 14, 2002, as amended at 69 FR 38856, June 29, 2004]

§ 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. Your State may approve a more representative TTHM and HAA5 data set to determine these levels.

[67 FR 1839, Jan. 14, 2002, as amended at 69 FR 38856, June 29, 2004]

§ 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.

Environmental Protection Agency

§ 141.540

(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 develop 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?

Use the tables in §141.74(b)(3)(v) to determine the appropriate CT99.9 value. 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 (CTcalc/CT99.9) before or at the first customer during peak hourly flow or (2) Successive CTcalc/CT99.9 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 (CTcalc/CT99.9) for each sequence and then adding the (CTcalc/CT99.9) values together to determine (ΣCTcalc/CT99.9).
(b) Uses more than one point of disinfectant application before the first customer.	The (CTcalc/CT99.9) 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.

[67 FR 1839, Jan. 14, 2002, as amended at 69 FR 38856, June 29, 2004]

§ 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 at all 52 measurements (your Disinfection Profile). Your system must retain the Disinfection Profile data in graphic form, such as a spreadsheet, which must be available for review by the State as part of a sanitary survey. Your system must use this data to calculate a benchmark if you are considering changes to disinfection practices.

DISINFECTION BENCHMARK

§ 141.540 Who has to develop a disinfection benchmark?

If you are a subpart H system required to develop a disinfection profile under §§141.530 through 141.536, your system must develop a Disinfection Benchmark if you decide to make a significant change to your disinfection