

a. *Applicability and schedule.* Proposed disinfection profiling and benchmarking requirements apply to surface water systems only. Systems serving only ground water are not subject to the requirements of the LT2ESWTR. The determination of whether a surface water system is required to develop a disinfection profile is based on whether DBP levels (TTHM or HAA5) exceed specified values, described later in this section, and whether a system is required to monitor for *Cryptosporidium*. These criteria trigger profiling because they identify systems that may be required to make treatment changes under the Stage 2 DBPR or LT2ESWTR. Note that it is not practical to wait until a system has completed *Cryptosporidium* monitoring to identify which systems should prepare a disinfection profile. A completed disinfection profile should be available at the point when a system is classified in a treatment bin and must begin developing plans to comply with any additional treatment requirements.

Unless the system developed a disinfection profile under the IESWTR or LT1ESWTR, all systems required to

monitor for *Cryptosporidium* must develop *Giardia lamblia* and virus disinfection profiles under the LT2ESWTR. This includes all surface water systems except (1) systems that provide 5.5 log total treatment for *Cryptosporidium*, equivalent to meeting the treatment requirements of Bin 4 and (2) small systems (<10,000 people served) that do not exceed the *E. coli* trigger (see section IV.A for details). Systems not required to monitor for *Cryptosporidium* as a result of providing 5.5 log of treatment are not required to prepare disinfection profiles. However, small systems that do not exceed the *E. coli* trigger are required to prepare *Giardia lamblia* and virus disinfection profiles if one of the following criteria apply, based on DBP levels in their distribution systems:

(1)* TTHM levels in the distribution system, based on samples collected for compliance with the Stage 1 DBPR, are at least 80% of the MCL (0.064 mg/L) at any Stage 1 DBPR sampling point based on a locational running annual average (LRAA).

(2)* HAA5 levels in the distribution system, based on the samples collected

for compliance with the Stage 1 DBPR, are at least 80% of the MCL (0.048 mg/L) at any Stage 1 DBPR sampling point based on an LRAA.

*These criteria only apply to systems that are required to comply with the DBP rules, i.e., community and non-transient non-community systems.

Table IV–22 presents a summary schedule of the required deadlines for disinfection profiling activities, categorized by system size and whether a small system is required to monitor for *Cryptosporidium*. The deadlines are based on the expectation that a system should have a disinfection profile at the time the system is classified in a *Cryptosporidium* treatment bin under LT2ESWTR and/or has determined the need to make treatment changes for the Stage 2 DBPR. Systems have three years from this date, with a possible two year extension for capital improvements if granted by the State, within which to complete their evaluation, design, and implementation of treatment changes to meet the requirements of the LT2ESWTR and the Stage 2 DBPR.

TABLE IV–22.—SCHEDULE OF IMPLEMENTATION DEADLINES RELATED TO DISINFECTION PROFILING ¹

Activity	Systems serving ≥10,000 people ²	Systems serving <10,000 people	
		Required to monitor for <i>Cryptosporidium</i>	Not required to monitor for <i>Cryptosporidium</i> ^{2 3 6}
Complete 1 year of <i>E. coli</i> monitoring	NA	42	42
Determine whether required to profile based on DBP levels and notify State ⁶	NA	NA	42
Begin disinfection profiling ⁴	24	54	42
Complete <i>Cryptosporidium</i> monitoring	30	60	NA
Complete disinfection profiling based on at least one year's data ⁵	36	66	54

¹ Numbers in table indicate months following promulgation of the LT2ESWTR.

² Systems providing a total of 5.5 log *Cryptosporidium* treatment (equivalent to meeting Bin 4 treatment requirements) are not required to develop disinfection profiles.

³ Systems serving fewer than 10,000 people are not required to monitor for *Cryptosporidium* if mean *E. coli* levels are less than 10/100 mL for systems using lake/reservoir sources or less than 50/100 mL for systems using flowing stream sources.

⁴ Unless system has existing disinfection profiling data that are acceptable.

⁵ This deadline coincides with the start of the 3 year period at the end of which compliance with the LT2ESWTR and Stage 2 DBPR is required.

⁶ Not required to conduct profiling unless TTHM or HAA5 exceeds trigger values of 80% of MCL at any sampling point based on LRAA.

As described in the next section, systems can meet profiling requirements under the proposed LT2ESWTR using previously collected data (i.e., grandfathered data). Use of grandfathered data is allowed if the system has not made a significant change in disinfection practice or changed sources since the data were collected. This will permit most systems that prepared a disinfection profile under the IESWTR or the LT1ESWTR to avoid collecting any new operational data to develop profiles under the LT2ESWTR.

The locational running annual average (LRAA) of TTHM and HAA5 levels used by small systems that do not monitor for *Cryptosporidium* to determine whether profiling is required must be based on one year of DBP data collected during the period following promulgation of the LT2ESWTR, or as determined by the State. By the date indicated in Table IV–22, these systems must report to the State on their DBP LRAAs and whether the disinfection profiling requirements apply. If either DBP LRAA meets the criteria specified previously, the system must begin

disinfection profiling by the date proposed in Table IV–22.

b. *Developing the disinfection profile and benchmark.* Under the LT2ESWTR, a disinfection profile consists of a compilation of *Giardia lamblia* and virus log inactivation levels computed at least weekly over a period of at least one year, as based on operational and water quality data (disinfectant residual concentration(s), contact time(s), temperature(s), and, where necessary, pH). The system may create the profile by conducting new weekly (or more frequent) monitoring and/or by using