



# Checklist: Disinfection Profiling for the LT1ESWTR

***In 1989, EPA published the Surface Water Treatment Rule to control microbial pathogens in drinking water. On January 14, 2002, EPA finalized the Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) to improve control of microbial pathogens. Among other provisions, it requires certain public water systems to evaluate their disinfection practices (through a process called disinfection profiling). The purpose of disinfection profiling is to help ensure there is not a reduction in microbial protection if changes are made to disinfection practices to comply with new maximum contaminant levels established by the December 1998 Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR).***

This checklist will step you through the disinfection profiling requirements to help you determine what activities you must conduct and when the activity must be completed.

## **PART 1: System Type**

*Please answer the following questions to see if your system is subject to the disinfection profiling requirement.*

- |   | YES                      | NO                       |
|---|--------------------------|--------------------------|
| 1.) Does your system use surface water or ground water under the direct influence of surface water (GWUDI)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.) Is your system a community or non-transient non-community water system?                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.) Does your system serve fewer than 10,000 people?  | <input type="checkbox"/> | <input type="checkbox"/> |

☞ If you answered **NO** to one or more questions, this fact sheet does not apply to you.

☞ If you answered **YES** to all three questions in Part 1, please go to Part 2. You are subject to the disinfection profiling and benchmarking requirements unless your State determines that you have acceptable data on disinfection byproducts.

## **PART 2: Disinfection Byproduct (DBP) Sampling**

Systems that can demonstrate low DBP levels are less likely to make a change in disinfection practices to meet the Stage 1 DBPR requirements, and therefore may not have to create a disinfection profile.

*Please answer the following questions to see if your data qualifies.*

- |  | YES                      | NO                       |
|--|--------------------------|--------------------------|
| 4.) Have you collected a sample for total trihalomethanes (TTHM) <u>and</u> five haloacetic acids (HAA5) after January 1, 1998 ? | <input type="checkbox"/> | <input type="checkbox"/> |

☞ If you answered **NO** to question 4, go to Part 3.

## PART 2: Disinfection Byproduct Sampling (Continued)

YES NO

5.) Let's look at your TTHM data

- a.) Was the TTHM sample collected during the month of warmest water temperature?  YES  NO
- b.) Was the TTHM sample collected at a point where the water has remained in the distribution system for the longest time (i.e. maximum residence time)?  YES  NO
- c.) Was the TTHM sample result less than 0.064 mg/L?  YES  NO

6.) Let's look at your HAA5 data:

- a.) Was the HAA5 sample collected during the month of warmest water temperature?  YES  NO
- b.) Was the HAA5 sample collected at a point where the water has remained in the distribution system for the longest time (i.e. maximum residence time)?  YES  NO
- c.) Was the HAA5 sample result less than 0.048 mg/L?  YES  NO

☞ If you answered **NO** to one or more questions in Part 2, go to Part 3.

☞ If you answered **YES** to all the questions in Part 2, your State may determine you do not have to develop a disinfection profile. Please contact your State agency.

## PART 3: Your Options.

If you have gotten to Part 3, you are subject to the disinfection profiling requirement because you do not have TTHM and HAA5 data or the data you have does not meet all the requirements outlined in Part 2.

*Please read the following options and decide what option is best for your system.*

**OPTION 1** – Plan to collect TTHM and HAA5 samples this summer (i.e. month of warmest water temperature). Collect one TTHM sample and one HAA5 sample in your distribution system where the water remains the longest (maximum residence time) during the month of warmest water temperature.

☞ If your TTHM sample result is less than 0.064 mg/L and your HAA5 sample result is less than 0.048 mg/L, your State may determine you do not have to develop a disinfection profile. Please contact your State agency.

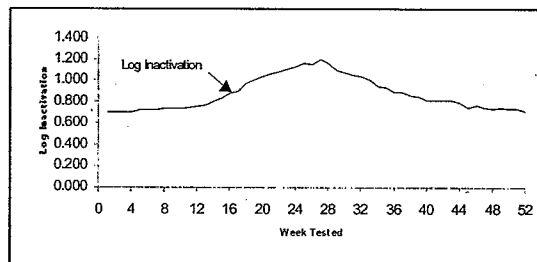
☞ If you are at or above these levels go to Part 4.

**OPTION 2** – Go straight into disinfection profiling. Disinfection profiling consists of determining your system's level of inactivation once a week for one year. See Part 4 for more detail.

## Part 4: Disinfection Profile - What you need to know

### WHAT IS A DISINFECTION PROFILE?

A disinfection profile provides a description of your system's disinfection practices. It is a graphical representation of your system's level of inactivation for *Giardia lamblia* each week for a period of one year. If your system uses chloramines, ozone or chlorine dioxide for primary disinfection, you must also calculate inactivation of viruses. The disinfection profile does not need to be submitted to the State. However, it must be available for review during a sanitary survey.



### HOW IS A DISINFECTION PROFILE DEVELOPED? WHAT DATA NEEDS TO BE COLLECTED?

Inactivation values for the disinfection profile are calculated from operational data collected on the same day each week, over the course of one year.

The following data used for inactivation calculations must be collected during peak hourly flow:

▶ **Data Collected at each sampling location**

- ▶ Disinfectant residual concentration ("C", in mg/L),
- ▶ Contact time ("T", in minutes),
- ▶ Water temperature (in degrees Celsius) and
- ▶ pH (only for systems using chlorine).

▶ **Sampling locations**

- ▶ Before or at the first customer
- ▶ Prior to each additional point of disinfection

☞ An electronic spreadsheet that calculates inactivation values is posted on the EPA website at <http://www.epa.gov/safewater/mdbp/lt1eswtr.html>.

☞ More detailed information on how to create a disinfection profile is available in EPA's LT1ESWTR Profiling and Benchmarking Guidance Manual which is posted on the EPA website at <http://www.epa.gov/safewater/mdbp/lt1eswtr.html>.

### WHEN DO I BEGIN COLLECTING DATA FOR MY DISINFECTION PROFILE?

If your system serves...	Begin your disinfection profile by...
500 to 9,999 people	July 1, 2003
fewer than 500 people	January 1, 2004

### ARE YOU CONSIDERING MAKING A CHANGE TO YOUR DISINFECTION PRACTICES?

☞ If you are thinking about making a change to your disinfection practices, you must consult with your State prior to making any changes.

Please contact the Safe Drinking Water Hotline at 1-800-426-4791 or visit <http://www.epa.gov/safewater/mdbp/lt1eswtr.html> for more information.

Your water system is expected to be affected by the requirements of the new Long Term 1 Enhanced Surface Water Treatment Rule.

*However EPA wants to let you know how you may be able to reduce your workload by planning ahead!*

## **PLEASE LOOK INSIDE**

Office of Water (4606M)

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[www.epa.gov/safewater](http://www.epa.gov/safewater)

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