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Surface Water Treatment Rules

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Rule Summary

This site provides information about the suite of the Surface Water Treatment Rules (SWTRs).

The purpose of the Surface Water Treatment Rules (SWTRs) is to reduce illnesses caused by pathogens in drinking water. The disease-causing pathogens include *Legionella*, *Giardia lamblia*, and *Cryptosporidium*.

The SWTRs requires water systems to filter and disinfect surface water sources. Some water systems are allowed to use disinfection only for surface water sources that meet criteria for water quality and watershed protection.

The following is a brief overview of the major components of each rule. This combination of rules is designed to provide protection from microbial pathogens. Simultaneously, the rules minimize health risks to the population from disinfection byproducts.

Surface Water Treatment Rule (SWTR) – June 1989:

- Applies to all public water systems (PWSs) using surface water sources or ground water sources under the direct influence of surface water (GWUDI)
- Requires most water systems to filter and disinfect water from surface water sources or GWUDI
- Establishes maximum contaminant level goals (MCLGs) for viruses, bacteria and *Giardia lamblia*
- Includes treatment technique (TT) requirements for filtered and unfiltered systems to protect against adverse health effects of exposure to pathogens

Interim Enhanced Surface Water Treatment Rule (IESWTR) – December 1998:

- Applies to all public water systems using surface water, or GWUDI, that serve 10,000 or more persons
- Sets a maximum contaminant level goal (MCLG) of zero for *Cryptosporidium*
- Sets a 2-log *Cryptosporidium* removal requirements for systems that provide filtration
- Requires that watershed protection programs address *Cryptosporidium* for system that are not required to provide filtration
- Requires certain public water systems to meet strengthened filtration requirements
- Establishes requirements for covers on new finished water reservoirs
- Requires sanitary surveys, conducted by states, for all surface water systems regardless of size
- Requires systems to calculate levels of microbial inactivation to address risk trade-offs with disinfection byproducts

Filter Backwash Recycling Rule (FBRR) – June 2001:

- Applies to all public water systems using conventional or direct filtration to treat surface water, or GWUDI, regardless of size
- Requires public water systems (PWSs) to review their backwash water recycling practices to ensure that they do not compromise microbial control
- Requires recycled filter backwash water to go through all processes of a system's conventional or direct filtration treatment.

Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) – January 2002:

- Applies to all public water systems using surface water, or GWUDI, serving fewer than 10,000 persons
- Sets a maximum contaminant level goal (MCLG) of zero for *Cryptosporidium*
- Sets a 2-log *Cryptosporidium* removal requirements for systems that filter
- Requires that watershed protection programs address *Cryptosporidium* for system that are not required to provide filtration
- Requires certain public water systems to meet strengthened filtration requirements
- Requires systems to calculate levels of microbial inactivation to address risk trade-offs with disinfection byproducts

Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) – January 2006:

- Applies to all PWSs that use surface water or GWUDI
- Targets additional *Cryptosporidium* treatment requirements to higher risk systems
- Requires provisions to reduce risks from uncovered finished water storage facilities

- Provides provisions to ensure that systems maintain microbial protection as they take steps to reduce the formation of disinfection byproducts

SWTRs Quick Reference Guides

- [Comprehensive Surface Water Treatment Rules Quick Reference Guide: Systems Using Conventional or Direct Filtration](#) (PDF) (4 pp, 254 K, [About PDF](#)) EPA 816-F-04-003)
- [Comprehensive Surface Water Treatment Rules Quick Reference Guide: Systems Using Slow Sand, Diatomaceous Earth, or Alternative Filtration](#) (PDF) (4 pp, 130 K, [About PDF](#)) EPA 816-F-04-002
- [Comprehensive Surface Water Treatment Rules Quick Reference Guide: Unfiltered Systems](#) (PDF) (4 pp, 248 K, [About PDF](#)) EPA 816-F-04-001
- [Interim Enhanced Surface Water Rule: A Quick Reference Guide](#) (PDF) (2 pp, 65 K, [About PDF](#)) EPA 816-F-01-001
- [Long Term 1 Enhanced Surface Water Treatment Rule: A Quick Reference Guide](#) (PDF) (2 pp, 298 K, [About PDF](#)) EPA 816-F-02-001
- [Long Term 2 Enhanced Surface Water Treatment Rule: A Quick Reference Guide For Schedule 1 Systems](#) (PDF) (2 pp, 173 K, [About PDF](#)) EPA 816-F-06-005
- [Long Term 2 Enhanced Surface Water Treatment Rule: A Quick Reference Guide For Schedule 2 Systems](#) (PDF) (2 pp, 173 K, [About PDF](#)) EPA 816-F-06-006
- [Long Term 2 Enhanced Surface Water Treatment Rule: A Quick Reference Guide For Schedule 3 Systems](#) (PDF) (2 pp, 173 K, [About PDF](#)) EPA 816-F-06-007
- [Long Term 2 Enhanced Surface Water Treatment Rule: A Quick Reference Guide For Schedule 4 Systems](#) (PDF) (2 pp, 173 K, [About PDF](#)) EPA 816-F-06-008

Rule History

EPA has developed the Surface Water Treatment Rules (SWTRs) to improve your drinking water quality. The regulations provide protection from disease-causing pathogens, such as *Giardia lamblia*, *Legionella*, and *Cryptosporidium*. The regulations also protect against contaminants that can form during drinking water treatment.

Pathogens, such as *Giardia*, *Cryptosporidium* and *Legionella*, are often found in water. If consumed, these pathogens can cause gastrointestinal illness (e.g., diarrhea, vomiting, cramps) and other health risks. These illnesses may be severe and sometimes fatal for people with weakened immune systems. *Cryptosporidium* is a significant concern in drinking water because it is resistant to chlorine and other disinfectants.

The Surface Water Treatment Rules were established to protect against these pathogens. To protect public health, drinking water from lakes, rivers streams and some other sources needs to be treated. This treatment includes disinfection and, in most cases, filtration.

Federal Register Notices:

- [Interim Enhanced Surface Water Treatment Rule; Final Rule](#) (December 16, 1998) | [Interim Enhanced Surface Water Treatment Rule, Final Rule](#) ([PDF](#)) (44 pp, 500 K, [About PDF](#))
- [Revisions to the Interim Enhanced Surface Water Treatment Rule \(IESWTR\), the Stage 1 Disinfectants and Disinfection Byproducts Rule \(Stage 1DBPR\), and Revisions to State Primacy Requirements to Implement the Safe Drinking Water Act \(SDWA\) Amendments Final Rule](#) ([PDF](#)) (11 pp, 278 K, [About PDF](#)) (January 16, 2001)
- [Long Term 1 Enhanced Surface Water Treatment Rule](#) ([PDF](#)) (33 pp, 300 K, [About PDF](#)) Final Rule (67 FR 1812, January 14, 2002)
- [Filter Backwash Recycling Rule Federal Register Notice](#) (20 pp, 241 K, [About PDF](#)) (June 8, 2001)
- [Long Term 2 Enhanced Surface Water Treatment Rule; Final Rule](#) (133 pp, 4.4 MB, [About PDF](#)) (January 5, 2006)
- [Correction to January 5, 2006 LT2 FR Notice](#) (January 30, 2006)
- [Correction to January 5, 2006 LT2 FR Notice](#) (February 6, 2006)

Compliance

EPA provides guidance documents to help states and public water systems implement the Surface Water Treatment Rules (SWTRs).

- [State Implementation Guidance](#)
- [Treatment Guidance Manuals for Surface Water Treatment Rules](#)
- [Long Term 2 Enhanced Surface Water Treatment Rule Documents](#)
- [Long Term 1 Enhanced Surface Water Treatment Rule Documents](#)
- [Filter Backwash Recycling Rule Documents](#)
- [Interim Enhanced Surface Water Treatment Rule Documents](#)
- [Surface Water Treatment Rule Documents](#)

[Information about Disinfectant Byproducts](#)

