

REGULATORY UPDATE

Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

March 30, 2007

The LT2ESWTR was promulgated in January of 2006 in an effort to improve drinking water quality and to provide additional protection from disease-causing microorganisms and contaminants that can form during drinking water treatment. The rule requires source water monitoring which may result in additional treatment requirements for systems using surface water sources and groundwater sources under the direct influence of surface water (GWUDI).

BACKGROUND

The LT2ESWTR provides a means to regulate removal of *Cryptosporidium* from high risk water systems. High risk water systems include all unfiltered systems and filtered systems with *Cryptosporidium* in their source water. Monitoring requirements for the LT2ESWTR began in October 2006 for Schedule 1 systems (>100,000 people) and will begin in October 2008 for Schedule 4 systems (<10,000 people). EPA estimates that the rule will affect approximately 14,000 water systems and that the average annual household cost will be \$1.07 to \$1.68 per year.¹

MONITORING REQUIREMENTS

Two years of monthly source water monitoring is required to determine which "risk bin" applies to a water system. Monitoring includes *E. coli* followed by *Cryptosporidium* if test results for *E. coli* are above specified concentrations.

Exclusions from the monitoring may be granted if a water system meets one of the following conditions:

- 1) Equivalent, previously collected monitoring data are available; or 2) The water system provides the maximum level of treatment required by the LT2ESWTR.

TREATMENT CATEGORIES

After completion of monitoring, water systems that filter water will be classified into one of the following "risk bins":

Risk Bin No.	Average <i>Cryptosporidium</i> Concentration (oocysts/L)
1	<i>Cryptosporidium</i> < 0.075
2	$0.075 \leq \textit{Cryptosporidium} < 1.0$
3	$1.0 \leq \textit{Cryptosporidium} < 3.0$
4	<i>Cryptosporidium</i> ≥ 3.0

TREATMENT REQUIREMENTS

The additional treatment requirements for systems with conventional treatment that are in full compliance with Interim Enhanced Surface Water Treatment Rule (IESWTR) are:

Risk Bin No.	Additional Treatment Beyond Conventional Filtration
1	No Action
2	1-log removal, using any combination of technologies.
3	2-log removal, with at least 1-log removal from advanced filtration/disinfection
4	2.5-log removal, with at least 1-log using advanced filtration/disinfection

EPA has prepared a Toolbox Guidance Manual outlining different treatment technologies. Toolbox options include: Source Water Protection; Pretreatment; Improved Filtration Treatment; and Improved Disinfection Treatment.

ADDITIONAL PROVISIONS

Water systems will also be required to profile their disinfection performance to assure that adequate disinfection is provided while water systems attempt to meet the requirements of the Stage 2 Disinfection By-products Rule.

TIMELINE

System	Size (persons)	Begin Monitoring
Schedule 1	100,000 or more	October-06
Schedule 2	50,000 to 99,999	April-08
Schedule 3	10,000 to 49,999	April-08
Schedule 4	Less than 10,000	October-08

For the Standard Monitoring Compliance Information, visit www.epa.gov/safewater/disinfection/lt2/compliance.html.

For formal training on this new regulation, visit www.cdph.state.co.us/wq/drinkingwater/index.html

FOR MORE INFORMATION

Arber Associates is currently celebrating over 25 years of water, wastewater and water reuse engineering service. For more information on the LT2ESWTR, please contact Steve Ravel at 303-831-4700 or visit www.arber.com.

¹Information from www.epa.gov and EPA Fact Sheet