Long Term 2 Enhanced Surface Water Treatment Rule: A Quick Reference Guide For Schedule 3 Systems

**Overview of the Rule**

**Title**
Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) 71 FR 654, January 5, 2006, Vol. 71, No. 3

**Purposes**
Improve public health protection through the control of microbial contaminants by focusing on systems with elevated Cryptosporidium risk. Prevent significant increases in microbial risk that might otherwise occur when systems implement the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR).

**General Description**
The LT2ESWTR requires systems to monitor their source water, calculate an average Cryptosporidium concentration, and use those results to determine if their source is vulnerable to contamination and may require additional treatment.

**Utilities Covered**
- Public water systems (PWSs) that use surface water or ground water under the direct influence of surface water (GWUDI).
- Schedule 3 systems include PWSs serving 10,000 to 49,999 people OR wholesale PWSs that are part of a combined distribution system in which the largest system serves 10,000 to 49,999 people.

**Major Provisions**

**Control of Cryptosporidium**

**Source Water Monitoring**
Filtered and unfiltered systems must conduct 24 months of source water monitoring for Cryptosporidium. Filtered systems must also record source water E. coli and turbidity levels. Filtered systems will be classified into one of four “Bins” based on the results of their source water monitoring. Unfiltered systems will calculate a mean Cryptosporidium level to determine treatment requirements. Systems may also use previously collected data (i.e., Grandfathered data).

Filtered systems providing at least 5.5 log of treatment for Cryptosporidium and unfiltered systems providing at least 3-log of treatment for Cryptosporidium and those systems that intend to install this level of treatment are not required to conduct source water monitoring.

**Installation of Additional Treatment**
Filtered systems must provide additional treatment for Cryptosporidium based on their bin classification (average source water Cryptosporidium concentration), using treatment options from the "microbial toolbox.”

Unfiltered systems must provide additional treatment for Cryptosporidium using chlorine dioxide, ozone, or UV.

**Uncovered Finished Water Storage Facility**
Systems with an uncovered finished water storage facility must either:
- Cover the uncovered finished water storage facility; or,
- Treat the discharge to achieve inactivation and/or removal of at least 4-log for viruses, 3-log for Giardia lamblia, and 2-log for Cryptosporidium.

**Disinfection Profiling and Benchmarking**
After completing the initial round of source water monitoring any system that plans on making a significant change to their disinfection practices must:
- Create disinfection profiles for Giardia lamblia and viruses;
- Calculate a disinfection benchmark; and,
- Consult with the state prior to making a significant change in disinfection practice.

**Bin Classification For Filtered Systems**

<table>
<thead>
<tr>
<th>Cryptosporidium Concentration (oocysts/L)</th>
<th>Bin Classification</th>
<th>Additional Cryptosporidium Treatment Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Conventional Filtration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No additional treatment required</td>
</tr>
<tr>
<td>&lt; 0.075</td>
<td>Bin 1</td>
<td>1 log</td>
</tr>
<tr>
<td>0.075 to &lt; 1.0</td>
<td>Bin 2</td>
<td>2 log</td>
</tr>
<tr>
<td>1.0 to &lt; 3.0</td>
<td>Bin 3</td>
<td>3 log</td>
</tr>
<tr>
<td>≥ 3.0</td>
<td>Bin 4</td>
<td>2.5 log</td>
</tr>
</tbody>
</table>

(1) As determined by the state (or other primacy agency) such that the total removal/inactivation > 4.0-log.
(2) As determined by the state (or other primacy agency) such that the total removal/inactivation > 5.0-log.
(3) As determined by the state (or other primacy agency) such that the total removal/inactivation > 5.5-log.
For additional information on the LT2ESWTR
Call the Safe Drinking Water Hotline at 1-800-426-4791; visit the EPA web site at www.epa.gov/safewater/disinfection/lt2; or contact your state drinking water representative.