Long Term 2 Enhanced Surface Water Treatment (LT2) Rule

A Quick Reference Guide for Schedule 1 Systems

Purposes of Rule:
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 of Rule:
The LT2 Rule 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.

Applicability of Rule:
The LT2 Rule applies to all public water systems (PWSs) that use surface water. The timeline for the rule requirements varies depending on which schedule the water system is placed into and there are a total of four schedules. Schedule 1 systems include PWSs serving 100,000 or more people OR wholesale PWSs that are part of a combined distribution system in which the largest system serves 100,000 or more people.

General Description of Rule:

Source Water Monitoring
Surface water systems shall conduct 24 months of source water monitoring for Cryptosporidium. Surface water systems shall also record source water E. coli and turbidity levels. Surface water systems will be classified into one of four “Bins” based on the results of their source water monitoring.

Surface water systems providing at least 5.5 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
Surface water systems shall provide additional treatment for Cryptosporidium based on their bin classification (average source water Cryptosporidium concentration), using treatment options from the “microbial toolbox.”

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 shall:

- Create disinfection profiles for Giardia lamblia and viruses;
- Calculate a disinfection benchmark; and,
- Consult with Ohio EPA prior to making a significant change in disinfection practice.

Bin Classification

<table>
<thead>
<tr>
<th>Cryptosporidium Concentration (oocysts/L)</th>
<th>Bin Classification</th>
<th>Conventional Treatment</th>
<th>Direct Filtration</th>
<th>Slow Sand or Diatomaceous Earth Filtration</th>
<th>Alternative Filtration</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.075</td>
<td>Bin 1</td>
<td>No additional treatment required</td>
<td>No additional treatment required</td>
<td>No additional treatment required</td>
<td>No additional treatment required</td>
</tr>
<tr>
<td>0.075 to &lt; 1</td>
<td>Bin 2</td>
<td>1 log</td>
<td>1.5 log</td>
<td>1 log</td>
<td>(1)</td>
</tr>
</tbody>
</table>
## Cryptosporidium Concentration (oocysts/L)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Conventional Treatment</th>
<th>Direct Filtration</th>
<th>Slow Sand or Diatomaceous Earth Filtration</th>
<th>Alternative Filtration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 to &lt; 3.0</td>
<td>2 log</td>
<td>2.5 log</td>
<td>2 log</td>
<td>2 log</td>
</tr>
<tr>
<td>&gt;3.0</td>
<td>2.5 log</td>
<td>3 log</td>
<td>2.5 log</td>
<td>3 log</td>
</tr>
</tbody>
</table>

(1) As determined by Ohio EPA such that the total removal/inactivation > 4.0-log.
(2) As determined by Ohio EPA such that the total removal/inactivation > 5.0-log.
(3) As determined by Ohio EPA such that the total removal/inactivation > 5.5-log.

### Rule Timeline

**Schedule 1 Systems**
(PWSs serving 100,000 or more people OR wholesale PWSs that are part of a combined distribution system in which the largest system serves 100,000 or more people)

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
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<tbody>
<tr>
<td>January 1, 2015</td>
<td>Systems shall submit:</td>
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<tr>
<td></td>
<td>Completed sampling plan which includes a schedule that specifies the dates of sample</td>
</tr>
<tr>
<td></td>
<td>collection and location of sampling for the second round of source water</td>
</tr>
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<td></td>
<td>monitoring to Ohio EPA; or</td>
</tr>
<tr>
<td></td>
<td>Notice to Ohio EPA of the system’s intent to provide at least 5.5-log of</td>
</tr>
<tr>
<td></td>
<td>treatment for Cryptosporidium. Systems should consult with Ohio EPA prior to submitting this notice.</td>
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<tr>
<td>April 2015</td>
<td>No later than this month, systems shall begin 24 months of source water</td>
</tr>
<tr>
<td></td>
<td>monitoring.</td>
</tr>
<tr>
<td>June 10, 2015</td>
<td>Systems submit results for first month of source water monitoring. (Results for monthly samples shall be submitted no later than 10 days after the end of the first month following the month when the sample is collected.)</td>
</tr>
<tr>
<td>March 2017</td>
<td>No later than this month, systems shall complete their second round of source water monitoring.</td>
</tr>
<tr>
<td>September 2017</td>
<td>No later than this month, systems shall report their initial bin classification to Ohio EPA for approval.</td>
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</tbody>
</table>

**If the second round bin classification moves the system to a bin that requires additional treatment the following is applicable:**

- Systems shall submit a general plan indicating the system's plan for complying with any additional Cryptosporidium inactivation and/or removal requirements. A timeline for project completion must be included.
- Systems shall install and operate additional treatment in accordance with their bin classification and the schedule the director approves.

### Contact

For additional information on the LT2 Rule, contact your Ohio EPA Division of Drinking and Ground Waters LT2 representative:

- **Northwest District Office**
  - Justin Bowerman
  - (419) 352-8461
- **Northeast District Office**
  - Charlotte Hammar
  - (330) 963-2442
- **Southeast District Office**
  - Russell Flagg
  - (740) 380-5229
- **Southwest District Office**
  - Dan Cloyd
  - (937) 285-6357
- **Central District Office**
  - Jose Quinones
  - (614) 728-3778
- **Central Office**
  - Judy Stottsberry
  - (614) 644-2752

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