DECLARATION OF EMERGENCY

Department of Health and Hospitals
Office of Public Health

Minimum Disinfectant Residual Levels
in Public Water Systems

(LAC 51:XII.Chapter 3, 903, Chapter 11 and 1503)

The state health officer, acting through the Department of Health and Hospitals, Office of Public Health (DHH-OPH), pursuant to the rulemaking authority granted by R.S. 40:4(A) (8) and (13), hereby adopts the following emergency rule to prevent an imminent peril to the public health and safety. This Rule is being promulgated in accordance with the Administrative Procedure Act (R.S. 49:950, et seq.).

The state health officer, through DHH-OPH, finds it necessary to promulgate an Emergency Rule effective March 6, 2014. This Emergency Rule increases the minimum disinfection residual levels that are required for public water systems. Among other items addressed as well, the rule increases the number of residual measurements taken monthly by 25 percent. The Rule clarifies that daily residual measurements are required at the point of maximum residence time in the distribution system and records of chlorine residual measurements taken in the distribution system, besides from the treatment plant(s) itself, shall be recorded and retained by the public water system as required by the National Primary Drinking Water Regulations (as this term is defined in Part XII). This Rule is based upon scientific data and recommendations from the federal Centers for Disease Control and Prevention (CDC) relative to the control of the Naegleria fowleri (brain-eating amoeba) parasite, which has recently been found in two public water systems in Louisiana. Unless rescinded or terminated earlier, this Emergency Rule shall remain in effect for the maximum period authorized under state law. This Emergency Rule may be amended as additional research and science data becomes available.

Title 51
PUBLIC HEALTH—SANITARY CODE
Part XII. Water Supplies
Chapter 3. Water Quality Standards

§311. Records
[formerly paragraph 12:003-2]

A. Complete daily records of the operation of a public water system, including reports of laboratory control tests and any chemical test results required for compliance determination, shall be kept and retained as prescribed in the National Primary Drinking Water Regulations on forms approved by the state health officer. When specifically requested by the state health officer or required by other requirements of this Part, copies of these records shall be provided to the office designated by the state health officer within 10 days following the end of each calendar month. Additionally, all such records shall be made available for review during inspections/sanitary surveys performed by the state health officer.


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1321 (June 2002), amended LR 30:1195 (June 2004), LR 40:

§355. Mandatory Disinfection
[formerly paragraph 12:021-1]

A. Routine, continuous disinfection is required of all public water systems.

1. Where a continuous chloramination (i.e., chlorine with ammonia addition) method is used, water being delivered to the distribution system shall contain a minimum concentration of 0.5 mg/l of chloramine residual (measured as total chlorine).

2. Where a continuous free chlorination method is used, water being delivered to the distribution system shall contain a minimum concentration of free chlorine residual in accordance with the following table.

<table>
<thead>
<tr>
<th>pH Value</th>
<th>Free Chlorine Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 7.0</td>
<td>0.5 mg/l</td>
</tr>
<tr>
<td>7.0 to 8.0</td>
<td>0.6 mg/l</td>
</tr>
<tr>
<td>8.0 to 9.0</td>
<td>0.8 mg/l</td>
</tr>
<tr>
<td>over 9.0</td>
<td>1.0 mg/l</td>
</tr>
</tbody>
</table>

a. Table 355.A.2 does not apply to systems using chloramines.
b. pH values shall be measured in accordance with the methods set forth in §1105.D. of this Part.

B. - C. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1326 (June 2002), amended LR 28:2514 (December 2002), LR 35:1240 (July 2009), LR 38:2376 (September 2012), LR 40:

§357. Minimum Disinfection Residuals
[formerly paragraph 12:021-2]

A. Disinfection equipment shall be operated to maintain disinfectant residuals in each finished water storage tank and at all points throughout the distribution system at all times in accordance with the following minimum levels:

1. a free chlorine residual of 0.5 mg/l; or,
2. a chloramine residual (measured as total chlorine) of 0.5 mg/l for those systems that feed ammonia.


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002), amended LR 40:

§361. Implementation of Disinfection Requirements

A. A public water system not holding a disinfection variance on November 6, 2013 shall comply with the requirements of §355.A, §357, §367.C, and §367.G of this Part on the later of:

1. February 1, 2014; or
2. the expiration date of any additional time for compliance beyond February 1, 2014 granted by the state health officer. A request for additional time may be submitted in writing prior to February 1, 2014 only, and shall provide detailed justification and rationale for the additional time requested. The state health officer may grant such additional time if significant infrastructure improvements are required to achieve compliance with said requirements.

B. A public water system holding a disinfection variance on November 6, 2013 shall comply with one of the following options by February 1, 2014:
1. implement continuous disinfection that complies with the requirements of §355.A, §357, §367.C, and §367.G of this Part;  
2. request additional time for complying with the requirements of §355.A, §357, §367.C, and §367.G of this Part by submitting a written request, if significant infrastructure improvements are required to achieve compliance therewith or extraordinary circumstances exist with regard to the introduction of disinfection to the system. Such written request shall provide detailed justification and rationale for the additional time requested;  
3. (This option shall be available only if the public water system’s potable water distribution piping is utilized for onsite industrial processes.) notify the state health officer in writing that in lieu of implementing continuous disinfection, the PWS has provided, and will thereafter provide on a quarterly basis, notification to all system users, in a manner compliant with §1907 of this Part, that the system does not disinfect its water. The notification shall state that because the water is not disinfected, the water quality is unknown in regard to the Naegleria fowleri amoeba. A public water system selecting this option must sign an acknowledgement form, to be developed by the state health officer, stating that the public water system understands the risks presented by the lack of disinfection and that the public water system maintains responsibility for ensuring the safety of its water for end users; or  
4. (This option shall be available only if the public water system’s potable water distribution piping is utilized for onsite industrial processes.) request approval of an alternate plan providing water quality and public health protection equivalent to the requirements of §355.A and §357 of this Part. The state health officer may approve such a plan only if it is supported by peer reviewed, generally accepted research and science.


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1327 (June 2002), repealed and re-promulgated LR 40:

§367. Disinfectant Residual Monitoring and Record Keeping

[formerly paragraph 12:021-7]

A. Disinfectant Residual Monitoring in Treatment Plant. A public water system (PWS) shall measure the residual disinfectant concentration in water being delivered to the distribution system at least once per day.

B. Disinfectant Residual Monitoring in Distribution System. A PWS shall measure the residual disinfectant concentration within the distribution system:

1. by sampling at the same points in the distribution system and at the same times that samples for total coliforms are required to be collected by the PWS under this Part;
2. by sampling at an additional number of sites calculated by multiplying 0.25 times the number of total coliform samples the PWS is required under this Part to take on a monthly or quarterly basis, rounding any mixed (fractional) number product up to the next whole number. These additional residual monitoring samples shall be taken from sites in low flow areas and extremities in the distribution system at regular time intervals throughout the applicable monthly or quarterly sampling period; and
3. by sampling at the site that represents the maximum residence time (MRT) in the distribution system at least once per day.

C. A PWS shall increase sampling to not less than daily at any site in the distribution system that has a measured disinfectant residual concentration of less than 0.5 mg/l free chlorine or 0.5 mg/l chloramine residual (measured as total chlorine) until such disinfectant residual concentration is achieved at such site.

D. The records of the measurement and sampling required under Subsections A and B of this Section shall be maintained in forms approved by the state health officer and shall be retained as prescribed in the National Primary Drinking Water Regulations, and shall be made available for review upon request by the state health officer.

E. Each PWS shall submit a written monitoring plan to the state health officer for review and approval. The monitoring plan shall be on a form approved by the state health officer and shall include all the total coliform and disinfectant residual monitoring sites required under this Section and §903.A of this Part. Each PWS shall also submit a map of the distribution system depicting all total coliform and disinfectant residual monitoring sites required under this Section. The sites shall be identified along with a 911 street address (if there is no 911 street address, then the latitude/longitude coordinates shall be provided). A PWS in existence as of November 6, 2013 shall submit such a monitoring plan no later than January 1, 2014.

F. Chlorine residuals shall be measured in accordance with the analytical methods set forth in §1105.C of this Part.

G. Where a continuous chloramination (i.e., chlorine with ammonia addition) method is used, a nitrification control plan shall be developed and submitted to the state health officer. A PWS in existence as of November 6, 2013 shall submit such a nitrification control plan no later than March 1, 2014.
Chapter 9. Louisiana Total Coliform Rule

§903. Coliform Routine Compliance Monitoring

A. Public water systems shall collect routine total coliform samples at sites which are representative of water throughout the distribution system in accordance with a written monitoring plan approved by the state health officer. Each public water system (PWS) shall submit a written monitoring plan on a form approved by the state health officer. The monitoring plan shall include a minimum number of point of collection (POC) monitoring sites calculated by multiplying 1.5 times the minimum number of samples required to be routinely collected in accordance with Subsections C and D of this Section, rounding any mixed (fractional) number product up to the next whole number. The monitoring plan shall include a map of the system with each POC sampling site identified along with a 911 street address (if there is no 911 street address, then the latitude/longitude coordinates shall be provided). In accordance with requirements of Subsection E of this Section, the plan shall also indicate how the PWS will alternate routine sampling between all of the approved POC sampling sites.

B. D. …

E. Unless the state health officer specifies otherwise, the public water supply shall collect routine samples at regular time intervals throughout the month and shall alternate routine sampling between all of the approved POC sites. Routine samples shall not be collected from the same POC more than once per month.

F. - G. …

Table 1

<table>
<thead>
<tr>
<th>Residual</th>
<th>Methodology</th>
<th>Standard Methods 1</th>
<th>ASTM Methods 2</th>
<th>Other Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Chlorine</td>
<td>Amperometric Titrination</td>
<td>4500-Cl D, 4500-Cl D-00</td>
<td>D 1253-03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPD Ferrous Titrimetric</td>
<td>4500-Cl F, 4500-Cl F-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPD Colorimetric</td>
<td>4500-Cl G, 4500-Cl G-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Syringaldazine (FACTS)</td>
<td>4500-Cl H, 4500-Cl H-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>On-line Chlorine Analyzer</td>
<td></td>
<td></td>
<td>EPA 334.0 4</td>
</tr>
<tr>
<td></td>
<td>Amperometric Sensor</td>
<td></td>
<td></td>
<td>ChloroSense 4</td>
</tr>
<tr>
<td>Total Chlorine</td>
<td>Amperometric Titrination</td>
<td>4500-Cl D, 4500-Cl D-00</td>
<td>D 1253-03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(low level measurement)</td>
<td>4500-Cl E, 4500-Cl E-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPD Ferrous Titrimetric</td>
<td>4500-Cl F, 4500-Cl F-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPD Colorimetric</td>
<td>4500-Cl G, 4500-Cl G-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iodometric Electrode</td>
<td>4500-Cl I, 4500-Cl I-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>On-line Chlorine Analyzer</td>
<td></td>
<td></td>
<td>EPA 334.0 4</td>
</tr>
<tr>
<td></td>
<td>Amperometric Sensor</td>
<td></td>
<td></td>
<td>ChloroSense 4</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>Amperometric Titrination</td>
<td>4500-ClO 2 C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPD Method</td>
<td>4500-ClO 2 D</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amperometric Titritation II</td>
<td>4500-ClO 2 E, 4500-ClO 2 E-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lissamine Green Spectrophotometric</td>
<td></td>
<td></td>
<td>EPA 327.0 Rev 1.1 3</td>
</tr>
<tr>
<td>Ozone</td>
<td>Indigo Method</td>
<td>4500-O 3 B, 4500-O 3 B-97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. All the listed methods are contained in the 18th, 19th, 20th, 21st, and 22nd Editions of Standard Methods for the Examination of Water and Wastewater; the cited methods published in any of these editions may be used.

2. Annual Book of ASTM Standards, Vol. 11.01, 2004; ASTM International; any year containing the cited version of the method may be used. Copies of this method may be obtained from ASTM International, 100 Barr Harbor Drive, P.O. Box C700 West Conshohocken, PA 19428-2959.


D. - E.1. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1337 (June 2002), amended LR 28:2516 (December 2002), LR 40:

Subchapter B. Treatment Technique Requirements and Performance Standards

§1113. Treatment Technique Requirements

A. - A.3. …

4. the total reductions to be required by the DHHE may be changed and are subject to the source water concentration of Giardia lamblia, viruses, and Cryptosporidium;

5. the residual disinfectant concentration in the water delivered to the distribution system is not less than 0.5 mg/l free chlorine or 0.5 mg/l total chlorine for more than 4 hours in any 24 hour period; and

6. the residual disinfectant concentration is not less than 0.5 mg/l free chlorine or 0.5 mg/l total chlorine in more than 5 percent of the samples collected each month from the distribution system for any two consecutive months.

B. - B. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1340 (June 2002), amended LR 28:2518 (December 2002), LR 35:1241 (July 2009), LR 40:

§1117. Non-Filtering Systems

A. - C.1. …

a. A system shall demonstrate compliance with the inactivation requirements based on conditions occurring during peak hourly flow. Residual disinfectant measurements shall be taken hourly. Continuous disinfectant residual monitors are acceptable in place of hourly samples provided the accuracy of the disinfectant measurements are validated at least weekly in accordance with §1109.B or C, as applicable, of this Chapter. If there is a failure in the continuous disinfectant residual monitoring equipment, the system shall collect and analyze a grab sample every hour in lieu of continuous monitoring.

b. …

2. To avoid filtration, the system shall maintain minimum disinfectant residual concentrations in accordance with the requirements of §355 and §357 of this Part. Performance standards shall be as presented in §1119.B and C of this Chapter.

3. - 3.a. …

b. an automatic shut off of delivery of water to the distribution system when the disinfectant residual level drops below 0.5 mg/l free chlorine residual or 0.5 mg/l chloramine residual (measured as total chlorine).

D. - D.7. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:1341 (June 2002), amended LR 28:2520 (December 2002), LR 35:1242 (July 2009), LR 40:

§1119. Disinfection Performance Standards

A. …

B. Except as otherwise specified by this Section and Chapter, disinfection treatment shall comply with the minimum standards and requirements set forth in §355.A and §357 of this Part.
§1135. Monthly Report

A. - B.5. …

C. Disinfection Monitoring Results. The monthly report shall include the following disinfection monitoring results.

1. The date and duration of each instance when the disinfectant residual in water supplied to the distribution system is less than 0.5 mg/l free chlorine or 0.5 mg/l chloramine residual (measured as total chlorine) and when the DHH was notified of the occurrence.

2. The following information on samples taken from the distribution system:
   a. the number of samples where the disinfectant residual is measured; and
   b. the number of measurements where the disinfectant residual is less than 0.5 mg/l free chlorine or 0.5 mg/l chloramine residual (measured as total chlorine).

D. - F.2.a. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2525 (December 2002), amended LR 35:1244 (July 2009), LR 40:

§1139. Consumer Notification

A. Treatment Technique/Performance Standard Violations. The supplier shall notify persons served by the system whenever there is a failure to comply with the treatment technique requirements specified in §§1113 or 1141, or a failure to comply with the performance standards specified in §§1115, 1117, 1119.A or 1119.C of this Chapter. The notification shall be given in a manner approved by the DHH, and shall include the following mandatory language.

A.1. - E. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 28:2527 (December 2002), amended LR 35:485 (March 2009), LR 35:1246 (July 2009), LR 40:

Chapter 15. Approved Chemical Laboratories/Drinking Water

Subchapter A. Definitions and General Requirements

§1503. General Requirements

A. - C. …


HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Office of Public Health, LR 30:1199 (June 2004), amended LR 40:

Interested persons may submit written comments to Jake Causey, Chief Engineer, Engineering Services Section, Office of Public Health, P.O. Box 4489, Baton Rouge, LA 70821-4489. He is responsible for responding to inquiries regarding this Emergency Rule.