

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

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Environmental Health and Drinking Water Branch

DWS Circular Letter #2021-57

TO: Public Water Systems Serving Over 1000 Persons

FROM: Lori Mathieu, Branch Chief, Environmental Health and Drinking Water Branch 

DATE: July 30, 2021

RE: Reducing the Risk of Legionella Growth in Water Distribution System

According to the CDC, the most commonly reported cause of waterborne outbreaks in drinking water is by the bacterium Legionella, which causes Legionellosis, a respiratory disease. The Legionella bacteria infect the lungs and can cause a severe pneumonia called Legionnaires' disease. The bacteria can also cause a less serious infection that causes mild flu-like symptoms called Pontiac fever. Legionella is found naturally in aquatic and moist environments like lakes, rivers, ground water and soil, and can be detected at low levels in treated drinking water, but it's important to note that the presence of Legionella is not always associated with a case of Legionnaires' disease. The biggest threat of Legionnaires' disease comes from the water in distribution and building water systems when the organisms proliferate and become aerosolized.

Several regulatory requirements are in place in CT to minimize the presence of Legionella and other opportunistic microorganisms in the source water, finished water and within the water distribution system. The Department wants to bring these regulatory requirements to your attention and urge you to be vigilant about your role in reducing the risk of Legionella growth and proliferation within the water distribution system.

- 1) **RCSA Sec. 19-13-B32. Sanitation of watersheds.** This regulation prohibits sewage disposal or manure storage on a drinking water supply watershed.
- 2) **RCSA Sec. 19-13-B102(b) Watershed survey.** A public water system (PWS) using surface water as an active source of supply shall make a sanitary survey of the watershed to the intake at least annually. A report on the survey shall be submitted to the CT DPH by March 1 each year covering the preceding calendar year. This annual comprehensive survey by the PWS will ensure that the sanitation laws and requirements on the watershed are met.



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- 3) **RCSA Sec. 19-13-B102(c) Standards for quality of untreated water prior to treatment.** This regulation sets standards for coliform bacteria in raw water prior to any treatment.
- 4) **RCSA Sec. 19-13-B102(j) Treatment techniques.** This regulation mandates the disinfection and filtration of all surface water and groundwater that are influenced by surface water to ensure that the treatment is inactivating and removing cysts, viruses and bacteria prior to drinking water entering the distribution network.
- 5) **RCSA Sec. 19-13-B102(j)(3)(B)(iii)** - The Residual disinfectant concentration (RDC) in the distribution system, measured as free chlorine, combined chlorine, or chlorine dioxide, as specified in 40 CFR 141.74(a)(2), as amended from time to time, and subsection (e)(7)(S)(ii) of this section, shall not be undetectable in more than 5 percent of the samples each month for any 2 consecutive months that the system serves water to the public. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/ml, measured as heterotrophic plate count (HPC) as specified in 40 CFR 141.74(a)(1), as amended from time to time, is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement in subsection (j)(3)(B)(iii) of this section.
- 6) **RCSA Sec. 19-13-B102(f)(5) Finished water storage tanks, basins and clearwells.** All atmospheric finished water storage tanks, basins and clearwells must be protected from contaminants & pollution and shall be inspected at a minimum of once every ten years for sanitary conditions and structural integrity. The inspection report shall be retained for reference and submitted to the CT DPH upon request. Uncovered finished water clearwells, tanks and basins are prohibited in CT.
- 7) **RCSA Sec. 19-13-B102(f)(6) An annual distribution system flushing program** shall be conducted to maintain the distribution system free from excessive accumulation of sediment, organic growths, products of corrosion and erosion, and other extraneous matter.
- 8) **RCSA Sec. 19-13-B102(f)(1) Protection of distribution system (minimum pressure).** All service connections shall have a water pressure at the main of at least 25 psi under normal conditions. Where pressure is normally less than 25 psi, special provision as approved by the department, shall be made to furnish adequate service to the consumer.
- 9) **RCSA Sec. 19-13-B102(f)(2) Protection of distribution system (cross-connection survey).** Each public water system shall annually inspect/survey facilities where toxic or objectionable chemical or biological substances are used in water solution on public, commercial or industrial premises, there is a water storage tank, public swimming pool or water filter, for other than residential use, water pressure is raised, there is known to be a sprinkler system for either fire protection or irrigation.
- 10) **RCSA Sec. 19-13-B38a(c)** describes the required backflow prevention device on boilers, storage tanks, heat exchangers and solar systems.
- 11) **RCSA Sec. 19-13-B47. Disinfection of water mains, valves and structures.** This regulation sets the disinfection requirement for a new or repaired water line to protect from contamination.

We encourage you, in addition to maintaining compliance with the afore-noted requirements, to consider the following:

- i) Maintain a minimum residual disinfectant of no less than 0.2 ppm throughout the water distribution system
- ii) Locate all Healthcare facilities (HCFs) within your water service area and offer them your contact information

- iii) Take periodic (quarterly when feasible) water samples for residual chlorine, pH, turbidity and temperature at the entry point to the HCFs
- iv) Report to DPH and inform the HCFs of any water interruptions or low water pressure in the pressure zone serving a HCF
- v) Report to DPH when three or more complaints of the same nature are logged within one week from the same pressure zone

Your compliance with the regulatory requirements and your cooperation with the encouraged considerations will play crucial role in reducing the risk associated with the Legionella bacteria to our most vulnerable population at the HCFs. Please reach out to me at Lori.Mathieu@ct.gov if you have any questions.

c: Deputy Commissioner Heather Aaron, MPH, LNHA, Department of Public Health
Local Health Directors
Certified Water Operators