

Why is maintaining my cooling tower important?

If not maintained properly, cooling towers pose a risk of Legionnaires' disease to anyone in its surrounding areas.

Cooling towers, which include evaporative condensers and fluid coolers, are often part of the centralized air-cooling system for buildings or industrial processes. Importantly, these structures contain water and fans to remove heat from the air. In this process, inadequately maintained cooling towers can create aerosols (droplets of water in the air) that contain *Legionella* bacteria. The heat-rejection fans in cooling towers then spread these bacteria. *Legionella* risks are similar for open and closed-circuit cooling tower systems.

Legionnaires' Disease is a serious respiratory illness caused by the bacteria *Legionella*, which thrives in water. Infection with *Legionella* can cause fever, cough, muscle pain and headache and can lead to pneumonia. The illness can be severe, progressing to respiratory failure and death in 10-15 % of cases. [Respiratory Diseases \(gnb.ca\)](https://www.gnb.ca/0000/respiratory_diseases.html)

What should I do?

To help keep New Brunswickers safe, it's important to:

Recognize that scale, corrosion, sediment controls, and system cleaning are critical for safe cooling tower operations.

Cleaning and disinfection should be done in accordance to manufacturer recommendations prior to commissioning, before starting up, when idling, and after shutdown. Disinfectant residual should be monitored and adjusted by an automated system.

Lowest water temperature possible should be used to operate cooling tower systems, and below the most favorable *Legionella* growth range (77–113°F, 25–45° C).

Automate mechanisms for anti-corrosion, anti-scale, blowdown (intentional discharge of system water and replacement with supply water) to maintain system water quality.

Monitor water parameters , like disinfectant residual and pH, on a regular basis.

Flush low-flow pipe runs and dead legs at least weekly

Prevent stagnation by balancing operating times among cooling towers to when multiple cooling towers or cells exist.

Off-line disinfection and cleaning should be performed at least annually.

Testing for *Legionella* should be considered at least monthly while in operation.

Water treatment professional should be consulted for guidance

Adapted from CDC Controlling *Legionella* in Cooling Towers