

Reopening Buildings After Prolonged Shutdown or Reduced Operation FAQs:

Q: Why is shutting down or partially shutting down a building a bad thing?

A: The reduce operation or temporary shutdown of a building can cause water in unused systems to create hazards for returning occupants including Legionella. Especially, when proper building-layup procedures are not followed or are skipped during a sudden building shut down.

Stagnant or standing water in the buildings system can increase the risk for growth and spread of Legionella and other biofilm-associated bacteria. Often water heaters in unoccupied buildings are shut off or temperatures are lowered because of the reduced use. However, decreased water temperatures in systems can increase Legionella growth especially if water temperatures fall to (77–108°F, 25–42°C), the range in which the bacteria thrive. Also, stagnant water can potentially cause undetectable levels of disinfectant, such as chlorine.

As example, under normal circumstances and with proper monitoring, a building's potable water system with extensive dead-legs that may not be an immediate safety hazard. However, during an abrupt shutdown, without proper lay-up procedures, the disinfectant levels may decrease, water temperatures may be reduced, and only a minimal water flow may go through the systems. These factors could cause the levels of any Legionella present in biofilm to growth and multiply and spread during the days, weeks, or months of a shutdown.

Q: Where can Legionella grow?

A: Legionella bacteria are present very low or undetectable concentrations, in most natural water sources and grows best in stagnant water temperatures between (77–108°F, 25–42°C). Legionella can become a health risk when it gets into building water systems.

Areas include (but not limited to)

- Hot and cold water storage tanks
- Water heaters
- Water hammer arrestors
- Expansion tanks
- Water filters
- Electronic and manual faucets
- Aerators
- Faucet flow restrictors
- Showerheads and hoses
- Pipes, valves, and fittings
- Centrally installed misters, atomizers, air washers, and humidifiers
- Nonstream aerosol-generating humidifiers
- Infrequently used equipment including eyewash stations
- Ice machines
- Hot tubs
- Decorative fountains
- Cooling towers
- Medical equipment (such as CPAP machines, hydrotherapy equipment, bronchoscopes)



More Reopening FAQs

Q: What steps should be taken to reduce Legionella Risk when opening a building that has been shut down?

A: Your best defense is being prepared. Review the most up-to-date water management program (WMP) for your water system and all devices that use water. Use your WMP to identify and locate control points and confirm that ALL of your defined control measures are being employed. If you don't have a WMP this is the time to prepare one. The likelihood of having to shutdown increases as the pandemic continues unchecked. Other steps include (but are not limited to).

- Follow your water management program (WMP), document activities, and promptly intervene when issues are discovered.
- Ensure your water heater is working properly and the temperature is correctly set.
- Flush your water system AND address the presence of biofilm in your buildings system. If Legionella is living within biofilms attached to pipe walls and in the small crevices of valves, fixtures, and fittings, flushing may not remove it.
- Clean all decorative water features, such as fountains both indoor and outdoor.
- Ensure hot tubs/spas are safe for use
- Ensure cooling towers are clean and well-maintained

- Check safety equipment including fire sprinkler systems, eye wash stations, and safety showers are clean and well-maintained
- Continue to Maintain your water system
- Develop a plan for the next shutdown

Q: Isn't flushing the water system enough?

A: If Legionella is present and living within biofilms attached to pipe walls and in the small crevices of valves, fixtures, and fittings, flushing will not remove it. Biofilm provides a layer of protection for Legionella and flushing alone will not remove biofilm or the waterborne pathogens within its protective layers.

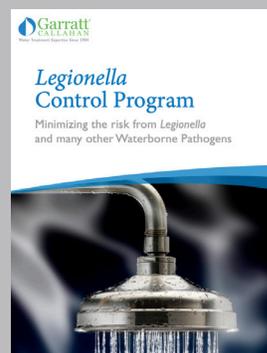
Q: Who can I call to help with this?

A: You can benefit from our experience! Call us when you are ready to discuss how to safely reopen your buildings and plan for the possibility of a shut-down. If you are not ready to give us a call you can contact us for more information about Legionellosis risk management and WMPs.

Phone: 650.697.5811
Email: watersafetygroup@g-c.com

For more information about Legionella please email us at watersafetygroup@g-c.com for additional brochures:

- ASHRAE Standard 188 for Legionellosis Risk Management for Building Water Systems (SM1072)
- Legionella Control Program Minimizing the risk from Legionella and many other Waterborne Pathogens (SM1071)
- Best Practice Recommendation for Risk Minimization of Legionella, Mycobacteria, & Other Waterborne Pathogens (SM1075)



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