



THERE'S A **PARTY** IN YOUR **PIPES**

Preventing Legionnaires' Disease
During COVID-19

Steps to Reopen Buildings



**SPECIAL
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Introduction

Safely reopening building water systems after an extended shutdown or period of low water use can prevent outbreaks of Legionnaires' disease. Stagnant or standing water cause conditions that can increase risk for the growth and spread of *Legionella* and other biofilm-associated bacteria. When water is stagnant, the water within the building piping and distribution systems will change.

In *Steps to Reopen Buildings* you get a quick guide on actions to minimize risk for *Legionella* so you and your occupants can stay safe after this prolonged shutdown. These include:

- Operating Potable Water Systems During Low or No Occupancy
- Reopening Buildings During COVID-19
- When and Where to Test for *Legionella*

Legionella bacteria grow well in the company of other microbes. This is called synergy, or what we call the “party in your pipes.” The proximity of these other bacteria that are now growing exponentially can provide *Legionella* with nutrients it needs to grow.



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Operating Potable Water Systems During Low or No Occupancy

- ❑ Keep cold water temperatures as cold as possible, below 68°F / 20°C, if possible, including all cold-water storage. This might require flushing (see below).
- ❑ Keep hot water systems circulating and as hot as possible without risking scalding.
- ❑ Flush distal outlets (sinks and showers) on a weekly basis.
 - Create a schedule to rotate room locations to ensure rooms are flushed each week.
 - Flush cold water for two minutes, then flush the hot water line until maximum temperature is reached followed by a two-minute flush.
 - Check and record temperatures at 30 and 60 seconds.
- ❑ Prevent stagnant water by flushing oversized storage tanks and infrequently used equipment attached to system at least once a week.
- ❑ Drain and shutdown rarely used ice machines.
- ❑ Contact your water treatment provider to discuss treatment and equipment needs during low occupancy, including cooling towers and decorative fountains. This includes shut down procedures.
- ❑ Continue operating supplemental disinfection.
- ❑ Discuss with the operator of the supplemental disinfection systems how to operate during this period. Refer to manufacturer's guidelines.
- ❑ Check disinfection residual levels as previously performed or weekly.
- ❑ Refer to the manufacturer for service instructions.
- ❑ Document changes to water system operations.
- ❑ Maintain documentation for flushing and maintenance procedures as evidence of corrective action.



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Reopening Buildings Checklist

- Develop a re-occupancy plan that includes a timeline for what areas and buildings will reopen.
- Contact your water treatment provider to discuss treatment and equipment needs, especially start-up procedures.
- Continue flushing regimen until occupancy; maintain documentation for flushing.
- Inspect mechanical equipment (backflow prevention, pumps, etc.) to determine if there are operation issues.
- Inspect and clean aerators with scale buildup to prevent failure or inefficient operation.
- Drain, disconnect, and clean ice machines if ice machines not used for seven consecutive days. Refer to manufacturer's guidelines.
- Change filters in ice machines, drinking fountains, etc. Refer to manufacturer's guidelines.
- Evaluate the state of supplemental disinfection for maintenance needs. Review system logs for evidence of system malfunctions. Refer to manufacturer for service instructions.
- Check disinfection residual to confirm disinfectant levels are within normal control limits. Choose 10 representative distal outlets (two per floor at outlets both near and far from the central distribution point).
- Document necessary actions.
- Test for *Legionella* and other bacteria.
- Consult with your water treatment professional and a *Legionella* expert.



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When and Where to Test for *Legionella*

Testing to address no or low occupancy and no or low flow conditions is a special circumstance. This requires a sampling plan especially designed to assess risk in the affected area before corrective actions are implemented. This round of tests determines whether potentially expensive corrective actions are even necessary.

The selection of outlets to test is determined in consultation with the program team and those knowledgeable in *Legionella* risk management. The worse that can happen is not choosing the appropriate locations for assessing risk or the sampling process is incorrect. If the risk is undetected cases can occur.

Collect Samples Before Occupancy

1. Identify the sampling locations. Choose representative outlet types and include high-risk areas (high-risk occupants and exposures).
2. Sample at least two to three weeks prior to occupancy. This allows time for *Legionella* test results to be received (normally about seven days), discussed, and disinfection implemented, if necessary.
3. Collect first draw hot water samples from outlets.
4. Collect samples from equipment and devices such as cooling tower basins (each cell), decorative water features, and ice machines.

Collect Samples after Occupancy

Results from the testing will either indicate the need for remediation or not.

Remediation not needed: If results do not indicate increased risk due to the period of dormancy (results demonstrate that preventive measures were effective) continue routine proactive monitoring as described in your water safety and management plan.

Remediation needed: If the results are positive and corrective action is indicated, do the following:

- Retest the same locations you tested prior to occupancy, as described above, to validate remediation efficacy.
- Review results with the water management team and consultants.



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