Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation.

As Michiganders begin to return to work, building owners and operators must be prepared to ensure that their water systems are safe to use after a prolonged shutdown to minimize the risk of Legionnaires’ disease and other disease causes by waterborne pathogens. With no or lower water consumption, hot water temperatures in stagnant water can decrease to the *Legionella* growth range (77–108°F, 25–42°C) and the levels of disinfected, such as chlorine are reduced.

To help avoid an increase in Legionnaires’ disease as Michiganders return to work, the Centers for Disease Control and Prevention have updated their online *Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation*. The guidance outlines the steps to take during and before reopening a building in 8 steps:

1. Develop a comprehensive water management program (WMP) for your water system and all devices that use water. Guidance to help with this process is available from CDC and others.
   - **Water Management Program Toolkit**: This toolkit is designed to help people understand which buildings and devices need a *Legionella* water management program to reduce the risk of Legionnaires’ disease, what makes a good program, and how to develop it. [https://www.cdc.gov/legionella/wmp/toolkit/index.html](https://www.cdc.gov/legionella/wmp/toolkit/index.html)
   - **Hotel Guidance**:
     - Reduce Risk from Water: Plumbing to Patients: Water management programs in healthcare facilities are an important way to help protect vulnerable patient populations as well as staff and visitors. [https://www.cdc.gov/hai/prevent/environment/water.html](https://www.cdc.gov/hai/prevent/environment/water.html)

2. Ensure your water heater is properly maintained and the temperature is correctly set.
• Determine if your manufacturer recommends draining the water heater after a prolonged period of disuse. Ensure that all maintenance activities are carried out according to the manufacturer’s instructions or by professionals.
• Make sure that your water heater is set to at least 140°F.
• Higher temperatures can further reduce the risk of *Legionella* growth, but ensure that you take measures to prevent scalding.

3. Flush your water system

• Flush hot and cold water through all points of use (e.g., showers, sink faucets). Flushing may need to occur in segments (e.g., floors, individual rooms) due to facility size and water pressure. The purpose of building flushing is to replace all water inside building piping with fresh water.
• Flush until the hot water reaches its maximum temperature.
• Care should be taken to minimize splashing and aerosol generation during flushing.
• Other water-using devices, such as ice machines, may require additional cleaning steps in addition to flushing, such as discarding old ice. Follow water-using device manufacturers’ instructions.

4. Clean all decorative water features, such as fountains

• Be sure to follow any recommended manufacturer guidelines for cleaning.
• Ensure that decorative water features are free of visible slime or biofilm.
• After the water feature has been re-filled, measure disinfectant levels to ensure that the water is safe for use.

5. Ensure hot tubs/spas are safe for use

• Check for existing guidelines from your local or state regulatory agency before use
• Ensure that hot tubs/spas are free of visible slime or biofilm before filling with water
• Perform a hot tub/spa disinfection procedure before use
  • Facilities may decide to test the hot tub/spa for *Legionella* before returning to service if previous device maintenance logs, bacterial testing results, or associated cases of Legionnaires’ disease indicate an elevated level of risk to occupants. All *Legionella* testing decisions should be made in consultation with facility water management program staff along with relevant public health authorities.

6. Ensure cooling towers are clean and well-maintained
• Ensure that cooling towers are maintained (including start-up and shut-down procedures) per manufacturer’s guidelines and industry best practices.
• Guidance on start-up and shut-down procedures from the Cooling Technology Institute (CT 159): [https://cti.org/pub/cticode.php](https://cti.org/pub/cticode.php)
• Ensure that the tower and basin are free of visible slime, debris, and biofilm before use. If the tower appears well-maintained, perform an online disinfection procedure.

7. Ensure safety equipment including fire sprinkler systems, eye wash stations, and safety showers are clean and well-maintained

• Regularly flush, clean, and disinfect these systems according to manufacturers’ specifications.

8. Maintain your water system

• Consider contacting your local water utility to learn about any recent disruptions in the water supply. This could include working with the local water utility to ensure that standard checkpoints near the building or at the meter to the building have recently been checked or request that disinfectant residual entering the building meets expected standards.
• After your water system has returned to normal, ensure that the risk of *Legionella* growth is minimized by regularly checking water quality parameters such as temperature, pH, and disinfectant levels.
• Follow your water management program, document activities, and promptly intervene when unplanned program deviations arise.

People at increased risk of developing Legionnaires’ disease, such as those with weakened immune systems, should consult with a medical provider regarding participation in flushing, cooling tower cleaning, or other activities that may generate aerosols. Wearing a half-face air-purifying respirator equipped with an N95 filter, or an N95 filtering facepiece, may be appropriate in enclosed spaces where aerosol generation is likely. Respirators must be used in accordance with a comprehensive respiratory protection program, which includes fit testing, training, and medical clearance ahead of their use (see [OSHA standard 29 CFR 1910.134](https://www.osha.gov/SLTC/chemicalexposure/respiratoryequipment/index.html) and [OSHA Legionellosis](https://www.osha.gov/SLTC/chemicalexposure/respiratoryequipment/index.html)). For more information about N95 respirators, visit the NIOSH National Personal Protective Technology Laboratory (NPPTL) website.