

CORONAVIRUS: LEGIONELLA AND MOLD CONCERNS WHEN RESUMING OPERATIONS

ALLIANZ RISK CONSULTING



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Temporary shut-down or even reduction in the building operations for only days, weeks or months could cause serious health conditions. Building inactivity makes for opportunistic microbial proliferation, including legionella bacteria and mold.

Legionella can cause Legionnaires disease. If an outbreak was to occur, this could be deadly to your employees, clients and tenants. According to the US Center for Disease Control (CDC), we have seen the number of cases increase with the growth of recreational water facilities nationwide. Legionella disease rates have increased nine-fold since 2000¹.

A variety of internal and external factors can contribute to the proliferation, including stagnant water, biofilm, pH fluctuations (low or no disinfectant) and water temperature fluctuations. It is when the affected water becomes airborne and the person inhales the droplets with the legionella bacteria, that they could become infected.

The keys to addressing Legionella growth include:

1. Making sure disinfectant levels and water temperatures are within acceptable ranges per CDC guidelines and local codes. Assistance can be provided by the CDC legionella toolkit under the references listed
2. Properly maintaining building and operational equipment
3. Evaluating potential sources of exposure
4. Implementing and maintaining a reliable control plan

The basis for managing Legionella exposures begins with establishing a water management program for all of your water systems. Control measures and plans are detailed in the CDC Water Management Program including their tool kit under the references listed below.

¹.CDC, Water management programs for hotel owners and managers, August 2019

Cooling Towers: Low or no disinfectant level can create biofilm on the water surface. This can create an environment for legionella bacteria proliferation. The cooling tower fan(s) can spray contaminated aerosolized water into an air handling duct or allow it to drift into the breathing zone of individuals. Prior to start-up, the water chemistry should be thoroughly examined by the trained operator of the cooling tower system. Maintenance engineers should be trained to maintain the optimum biocides to kill off the harmful microbial including the biofilm along with preventing mineral deposits that can clog the cooling vanes, water lines and build up on other equipment parts. Total water flushing and/or “chemical shock treatment” should be undertaken to eliminate any accumulated biofilm. If the maintenance team is unable to perform the required maintenance and testing, utilize a licensed, reputable and properly vetted contractor. Validate that the manufacturer’s recommendation on the proper disinfectant level is maintained through in-house testing or utilization of an outside licensed and reputable testing provider.

Unoccupied Floors: When a building is partially shut down, unoccupied floors or areas are sometime susceptible to microbial growth. Decreased or stagnant water in the plumbing lines can be a harboring area for microbial including legionella. A water flushing plan should be completed prior to occupancy along with checking the water temperature and optimum chlorine level. The flushing plan is designed to remove any stagnant water from all plumbing lines prior to reopening to normal conditions.

Water Supply Interruptions: Supply interruptions could be caused by many situations, including a city water main breakage. It is important to follow all water advisory alerts. Once provided with the clearance to continue operations, implement your water management plan with water flushing of the domestic lines, checking the chlorine level and monitoring water temperature settings.

Decorative Water Fountains or other standing water conditions: Warm temperature, low disinfectant level and stagnant water supports growth and proliferation of harmful microbial. An effective water flushing plan needs to be deployed along with checking for the chlorine level and proper water temperature prior to occupancy. Make adjustments to the temperature, chlorine and pH levels as appropriate.

Pool/Jacuzzi/Hot Tubs: Hot tubs and Jacuzzis should be completely flushed, water filters replaced and water chemistry and pH levels checked and adjusted until they are within the required levels. If the pool cannot be totally flushed, it should receive a “shock” treatment along with checking for the chlorine and/or other disinfectant chemical. The pH level will also need to be tested and adjusted as appropriate.

Validation: Another important part of an effective water management plan is validation. Confirm procedures are in place to effectively control the prevention of harmful microbial growth. This includes testing for Legionella bacteria on a set schedule and reviewing documentation that testing results for chemical and pH levels are within the acceptable levels per CDC guidelines.

MOLD

When a building remains unoccupied for a period of time the potential for mold growth increases significantly. This can be due to unnoticed roof leaks, water penetration through the building envelope or even the increased humidity levels caused by inactive heating, ventilation and air conditioning (HVAC) systems. The health ramifications can be severe, especially to anyone with asthma or other respiratory ailments, mold allergy or a weakened immune system. It is best to have a plan of routine inspection and maintenance of the building and roof during the building closure as well operating the HVAC systems enough to prevent elevated humidity levels. Resuming normal use of the building should include detailed monitoring of moisture sources, humidity levels, and signs of mold. If any potential concerns are noted, an appropriate contractor should be used to address the exposures, confirm the presence of mold and perform remediation measures.

Early Hazard Recognition: If the presence of moisture is noted where it is not expected, there are elevated humidity levels, or if there are possible indicators for mold growth and proliferation, a licensed and insured building inspection specialist should be used. Once the building is deemed safe for internal maintenance and appointed specialists to conduct a thorough review, several important factors should be deployed. All areas of the building including basement and crawl space areas should be reviewed and tested for humidity levels reading below 50% over a period of several days before and in the early days of re-opening.

HVAC System: Once a building has been confirmed to have no existing moisture or mold issue, CDC recommends that the HVAC system that has not been active over a prolong period of time should operate at least 48 to 72 hours. Please refer to the CDC Building-Water-Systems resource for more details and reference to the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) guidelines. The HVAC system should be on a more pronounced schedule for inspection, cleaning and filter replacement during the early stages of re-opening.

Remediation: If mold is identified, a hazard assessment should be conducted. If any mold is identified, a qualified, licensed, reputable and properly vetted contractor should be used to remediate the situation and remove the mold.

RISK TRANSFER

Ensure that proper risk transfer management practices are implemented including formal, written contracts. Some of the key components of this contract include, but are not limited to:

- Favorable hold harmless/indemnification
- Additional named insured status
- Appropriate insurance coverages and limits
- An effective administrative control program which includes legal review by your general counsel

For additional information, please refer to the Allianz risk transfer bulletins. Bulletins may be found here:

<https://www.agcs.allianz.com/content/dam/onemarketing/agcs/agcs/pdfs-risk-advisory/ARC-RiskTransfer.pdf>

WHAT IF I NEED ASSISTANCE?

For more information on Legionella prevention, contact your insurance agent/broker or call the Allianz Risk Consulting Help Desk toll-free at 1 888 527 6872.

RESOURCES

Allianz Risk Consulting Technical Bulletin "EMERGING ISSUE WITH HOSPITALITY BUSINESSES: LEGIONELLA, DEADLY WATER-BORNE BACTERIA!"

CDC Waterborne Disease Outbreak Surveillance System, United States

Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation: <https://www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html>

Indoor Environmental Quality: Testing and Remediation of Dampness and Mold Contamination – <https://www.cdc.gov/niosh/topics/indoorenv/moldtesting.html>

CDC Legionella Toolkit: <https://www.cdc.gov/legionella/wmp/toolkit/index.html>

Considerations for Hotel Owners and Managers: How to Prevent Legionnaires Disease – <https://www.cdc.gov/legionella/wmp/hotel-owners-managers.html>

PUBLIC HEALTH AGENCY OF CANADA

Legionella: Who's Addressing the Risks in Canada – https://www.nrc-cnrc.gc.ca/obj/doc/solutions-solutions/advisory-consultatifs/codes_centre-centre_codes/Legionella_e.pdf

QUESTIONS OR COMMENTS?

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