

Exposure to legionella bacteria is reduced by incorporating measures that do not allow proliferation of organisms in water systems and by reducing the exposure to water droplets and aerosol.

This regulation focuses on methods to minimise the legionella bacteria contamination in building water systems, specifically in cooling towers. It provides specific environmental and operational guidelines for safe operation of building water systems with the intent of minimising the risk of occurrence of Legionnaires' disease.

APPLICABILITY

This regulation is applicable to all building types. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.

IMPLEMENTATION

The key aspect of this regulation is to ensure that the water systems are kept clean and that a biocidal treatment program is used. The maintenance, monitoring, treatment requirements, water quality guidance, maximum acceptable legionella bacteria count and sampling for the water systems must be followed as stated in the Dubai Municipality Guidelines. This must be carried out by specialised maintenance companies approved by Dubai Municipality.

Projects must develop and implement legionella management plan to control the growth of legionella bacteria within the building water system, during construction and operation phases. Water systems must be analysed for its vulnerability towards bacterial growth which is most significant between 20°C and 45°C. Water systems include all plant/equipment and components associated with that system, e.g. all associated pipe-work, pumps, feed tanks, valves, showers, heat exchangers, quench tanks, chillers etc.

The primary aim of legionella management is:

- To identify and assess risks of legionellosis.
- To avoid the use of systems that give rise to a foreseeable risk of legionellosis or, where this is not reasonably practicable, prepare a written scheme for minimising the risk from exposure.
- Implement and manage the scheme of precautions and keep appropriate records.
- Advise on the management, selection, training and competence of personnel.

Keeping the water systems clean reduces the nutrients available for legionella growth. Regular inspections, cleaning and disinfection by the maintenance staff should be carried out to avoid the build-up of dirt, organic matter or other debris. Mechanical filtration can be used to help reduce this debris. Records for all maintenance works shall be properly maintained.

A complete water treatment programme should be developed, based on the physical and operating parameters for the cooling system and based on the analysis of the make-up water. The components of the water treatment programme should be environmentally acceptable and comply with local discharge requirements. For effective monitoring and control, inhibitors to prevent corrosion, scale formation and fouling should be added on a continuous basis. Biocides can be used to control microbiological activity. Any faults must be corrected and changes be made to prevent a re-occurrence of those faults. If legionella is detected, water systems should be disinfected, cleaned and re-disinfected.