

## Legionella – Management Briefing

### What is Legionella?

Legionella is the abbreviated name for Legionella pneumophila bacteria that is responsible for the illness commonly known as Legionnaires' Disease.

Legionella bacteria are commonly found naturally in low concentrations, in rivers, lakes and reservoirs where they do not cause any harm. Legionella bacteria can also be found in purpose-built water systems including cooling towers, evaporative condensers, hot and cold water systems and whirlpool spas. In these types of water systems the water can be maintained at an optimum temperature for the legionella bacteria to grow.

Conditions which increase the risk of legionella being present and causing a risk to health include water being stored in any part of the system at temperatures between 20°C and 45°C, stagnation or low flow, the presence of nutrients for the bacteria to grow on, such as rust, sludge, scale and organic matter and where there is the potential for aerosols to be produced by the water system.

### What is Legionnaires Disease?

Legionnaires' Disease is a pneumonia-like illness contracted by inhalation deep into the lungs of legionella bacteria in tiny droplets of water (aerosols). There is no evidence of person-to-person spread of the disease.

The incubation period for Legionnaires' Disease is generally two to ten days following exposure. Symptoms usually begin with high fever, chills, headache and muscle pain. A dry cough and breathing difficulties are also common, and some patients also suffer diarrhea, vomiting and delirium/confusion.

Legionnaires' Disease can usually be treated successfully with antibiotics, however it can be fatal in around 12% of cases. Anyone can contract Legionnaires' Disease however several sectors of the population appear to be at greater risk – men aged 45 and over, heavy drinkers and smokers, those with chronic respiratory or kidney disease and the immunocompromised.

### Legal duties

Employers or the person in control of a premises (including landlords) have duties in terms of the health risks of legionella under HSE ACoP L8, the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999.

The Control of Substances Hazardous to Health Regulations 2002 (COSHH) also provides a framework of duties aimed at assessing, preventing or controlling the risk of exposure to bacteria such as legionella.

The employer/person in control of the premises has a duty under HSE ACoP L8 to ensure a "suitable and sufficient" risk assessment is carried out for all site water systems.

Under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) cases of legionellosis are reportable to the enforcing authority.

The Notification of Cooling Towers and Evaporative Condensers Regulations 1992 require anyone in control of a premises with a cooling tower or evaporative condenser to notify the local authority in writing.

The local authority maintains a register of such systems, which is useful in the investigation of outbreaks.

## Identifying and Assessing Sources of Risk of Legionella

The employer/person in control is responsible for the undertaking of a risk assessment to identify sources and risks of exposure to legionella. It is vital to understand what water systems are present, the equipment associated with the system such as cold water storage tanks, pumps, Calorifiers, heat exchangers, showers etc. and all the component parts. The risk assessment must identify whether the system is likely to create a risk of exposure to legionella and whether:

- water is stored or re-circulated in any part of the water system
- the water temperature in all or any part of the system is between 20°C and 45°C
- there are sources of nutrients, such as rust, sludge, scale or organic matter
- there is a potential for stagnation or low flow
- water droplets are capable of being produced and that they could be dispersed e.g. showers, or aerosols from cooling towers
- susceptible individuals are present (employees, residents, customers, visitors etc.).

The risk assessment should be carried out by a competent person, and this could be the employer or person in control of the premises, or it could be an external contractor. Whoever carries out the risk assessment must be competent in identifying and assessing the risks of exposure to legionella bacteria, and also competence in the necessary control measures. The significant findings of the risk assessment should be documented. Employees should also be consulted, and the risk assessment should be reviewed at least every two years or after any significant changes.

## Managing and Controlling the Risk of Legionella

Where the risk assessment identifies a reasonably foreseeable risk of exposure to legionella bacteria the person in control/employer must appoint a competent person either within the organisation or via an external party to take responsibility for the supervision and implementation of control measures.

Ideally the risk of exposure to legionella should be prevented altogether, however realistically such prevention may not always be possible. It is therefore essential to design, maintain and operate water services under conditions that prevent or adequately control the growth of legionella.

Any identified risk must be effectively managed by the implementation of effective control measures. Control measures should be specific to each water system and focus on controlling the conditions which favour the growth of bacteria. Regular checks should also be made on the control measures.

## Record Keeping

Documented records must be kept of the significant findings of the risk assessment. Records should include details of:

- person(s) responsible for carrying out the risk assessment
- significant findings of the risk assessment
- written control scheme and details of its implementation
- results of any inspection, test or check carried out, and dates
- details of whether the system is operating or not.

Records should be kept for the time for which they remain current and for at least two years thereafter. Inspection records should be kept for five years.

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