

CARDIFF COUNCIL

CODE OF GUIDANCE

LEGIONNAIRES' DISEASE (LEGIONELLOSIS)

Purpose

The purpose of this Code of Guidance is to provide information about Legionnaires' disease and guidance on eliminating/reducing the risk of Legionellosis and compliance with associated legal requirements.

Note: This guidance is generic and each premises must be individually assessed and the appropriate control measures implemented.

The Code of Guidance considers the following.

- 1.0 What is Legionnaires' disease?
- 2.0 Legal requirements
- 3.0 Water systems in which legionella likely to be found?
- 4.0 Actions to eliminate/reduce risk of legionellosis

1.0 What is Legionnaires' disease

Legionnaires' disease was first identified following a large outbreak of pneumonia among people who attended an American Convention in Philadelphia in 1976. It is a potentially fatal form of pneumonia which can affect anybody, but which principally affects those who are susceptible because of age, illness, immune suppression, smoking etc. The disease cannot be passed from one person to another. It has a fatality rate of approximately 12% but can be treated effectively with antibiotics. It can also cause less serious illnesses that are not fatal or permanently debilitating. Forty different species of bacteria are associated with legionellosis, the most dangerous being Legionella pneumophila.

Legionnaires' disease is normally contracted by inhaling legionella bacteria, either in tiny droplets of water (aerosols), for example, vapour from cooling towers, evaporative condensers and hot and cold water systems, or in the particles left after water has evaporated.

Legionella bacteria are common and are found naturally in water sources such as rivers, lakes and reservoirs. Legionella can also colonise manmade water and air conditioning systems.

2.0 Legal Requirements

The general duties of the Health and Safety at Work Act etc 1974 in respect of employers, self employed and persons in control of premises, apply in relation to the risks from Legionella bacteria which may arise from work activities.

The Control of Substances Hazardous to Health Regulations 2002, require risk assessment and implementation of appropriate control measures for hazardous substances including biological agents such as legionella.

The Notification of Cooling Towers and Evaporative Condensers Regulations 1992 require persons in control of premises to register towers and condensers. (Note: The only such plant in Cardiff Council at present is in St. Davids Hall).

Cases of Legionellosis are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 if a doctor notifies an employer and if the employee's current job involves work on or near cooling systems that use water or hot water service systems in the workplace.

An Approved Code of Practice (& Guidance) made under the Health and Safety at Work, etc Act 1974, provides detailed, practical guidance on the control of Legionella. The Approved Code of Practice is entitled "Legionnaires' disease. The Control of Legionella bacteria in Water Systems" (L8).

3.0 Water Systems in which is Legionella likely to be found?

The Legionella bacteria can survive a variety of environmental conditions and have been found in water at temperatures in the range 6°C to 60°C. Water temperatures in the range 20°C to 45°C encourage the bacteria to grow.

In temperatures below 20°C the bacteria do not appear to multiply and at temperatures above 60°C the bacteria will not survive. However the bacteria may remain dormant in cool water and multiply when the water temperature reaches a suitable level.

Legionella bacteria also require a supply nutrients to multiply. This is provided by other organisms in the water system such as algae. The presence of sediment, sludge, scale and other material within the water system, together with biofilms, are also thought to play an important role in harbouring and providing favourable conditions for the bacteria to grow. These same conditions can also protect the bacteria from temperatures and concentrations of biocide that would otherwise kill or inhibit these organisms if they were freely suspended in the water.

The water systems presenting the greatest risk of spreading the legionella bacteria are:

- (a) Water systems incorporating a cooling tower or evaporative condenser.
- (b) Hot and cold water systems (irrespective of size).
- (c) Other plant and systems containing water likely to exceed 20°C which may release a spray or aerosol during operation or when being maintained e.g. showers, spa baths, whirlpools, vehicles washes.

4.0 Actions to reduce the risks of legionellosis

The following outlines the requirements of the Approved Code of Practice. "Legionnaire's disease. The Control of Legionella bacteria in Water Systems." It is a guide and staff with specific responsibilities in the Control of Legionella should be fully conversant with the Approved Code of Practice and the

specific risk assessments and control measures in place for the relevant premises.

(a) Identify and Assess the Risk

Suitable areas must ensure that a suitable and sufficient risk assessment is carried out at all Council premises by a competent person to identify and assess the risk of exposure to Legionella from work activities and detail necessary control measures. The risk assessment must be reviewed at least every two years and whenever there is reason to believe the original assessment is no longer valid, e.g. if there are changes to the water system or its use.

(b) Implement Suitable Control Measures

Where a risk has been identified and assessed, a written scheme should be prepared for preventing or controlling the risk. Precautions to reduce the risk may include:

- Controlling the release of the water spray
- Avoiding temperatures and conditions that favour multiplication of legionella and other micro-organisms.
- Avoiding water stagnation
- Avoiding use of materials that harbour bacteria and other micro-organisms, or provide nutrients for microbial growth.
- Maintenance of the cleanliness of the system and the water in it.
- Use of water treatment techniques
- Correct and safe operation and maintenance of the water system.

(c) Management Responsibilities

If a risk of legionellosis has been identified, the Service Area with the responsibility for the premises/water system, will appoint a competent person or persons (and deputy) to take managerial and day to day responsibility and to supervise the implementation of control measures. This person will receive appropriate training to carry out their duties and will be identified in the Service Area Health and Safety Policy and the records kept in compliance with the Approved Code of Practice.

(d) Record Keeping

A Legionella Log will be kept in respect of each premises. The Log will contain the following information:

- Names and position of people responsible for carrying out various tasks in the control of Legionella.
- Risk Assessments
- Plans or schematic drawings of the systems
- Written scheme of actions and control measures.
- Details of precautionary measures that have been carried out, including sufficient detail to show they were carried out correctly and the dates on which they were carried out.

- Remedial work required and date of completion.
- Log of visits by contractors, consultants and other personnel.
- Cleaning and disinfection procedures and associated reports and certificates
- Results of chemical analysis of the water
- Information on other hazards including general and specific risk assessments, eg COSHH assessments for chemicals
- Training records of personnel
- Records showing current state of operation and the system.

All records must be kept for at least five years.

Further Information

Approved Code of Practice – Legionnaires’ disease. The Control of Legionella bacteria in water systems (L8).

Control of Legionella bacteria in Water Systems : Audit Checklists (C200)

Essential Information for providers of residential accommodation (INDG 376)

Health and Safety at Work, etc Act 1974.

Management of Health and Safety at Work Act 2002

Control of Substances Hazardous to Health Regulations 2002

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.

Notification of Cooling Towers and Evaporative Condensers Regulations 1992.