

HEALTH AND SAFETY

SAFETY POLICY & ARRANGEMENTS



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Subject: Legionella Bacteria - Control of Bacteria in Hot & Cold Water Systems

Introduction

This document forms part of the National Ice Centre's organisational written safety policy arrangements.

Departments, services or teams may consider it appropriate to develop additional guidance and systems of work on specific work related activities.

Where proposals, additional guidance or changes to systems of work will have an impact on health, safety and welfare, this will be discussed and agreed at the Health & Safety Committee.

If you have any questions or require further information or support on the contents of this document, please contact the NIC Health & Safety Advisor or Corporate Safety Advice.

Overview Of Management & Colleague Responsibilities

Manager Responsibilities

Below is an overview of the responsibilities which is intended to support managers in identifying their key duties that need to be taken to comply with the requirements of this document and the safety management systems of the National Ice Centre.

- If you are a manager of any premises with any water outlets, you have the responsibility to ensure that the water supply within your premises is safe and not operating in a way that is likely to cause the spread of legionella bacteria.
- As the Manager, ensure that all people undertaking testing or work on any water system are appropriately trained and competent.
- Managers are required to ensure that the appropriate checks of their water supply and other locations which present a risk of Legionella is completed in line with the requirements of this document and formally recorded.
- Managers need to ensure that any issues are identified are immediately reported so that remedial actions can be taken
- Managers need to ensure that any modifications to the water system are recorded within the appropriate risk assessment or log book.

Employee Responsibilities

The Health & Safety at Work Act 1974 section 7 requires all employees to consider their own health & safety and the safety of others.

As an employee of the National Ice Centre, if you have concerns in relation to health & safety that is likely to cause you or someone else, injury or ill health then you must ensure that the concern is communicated to your manager immediately.

You are also required to co-operate with the management of the National Ice Centre to ensure compliance with the health & safety arrangements, policies and procedures and work to the requirements identified within this document.

Definition Of Legionnaires Disease

Legionnaires' disease is a potentially fatal form of pneumonia, which can affect anybody and is caused by inhalation of the bacterium *Legionella pneumophila* and other related bacteria.

Exposure to this bacterium can also cause less serious illnesses, which are not fatal or permanently debilitating.

Infection with legionella bacteria can be fatal in approx. 12% of reported cases.

This rate is known to be higher in a more susceptible population, e.g. immuno-suppressed patients or those with other underlying disease.

Certain groups of people are also identified as being at higher risk of contracting Legionnaires disease; e.g. men appear more susceptible than women, as do those over 45 years of age, smokers, alcoholics, diabetics and those with cancer or chronic respiratory or kidney disease.



This bacterium was first identified following a large outbreak of pneumonia in 1976 of people who attended an American Legion Convention in Philadelphia.

Legionnaire's disease is normally contracted through inhaling the legionella bacterium in tiny airborne droplets of water (aerosols) which may be produced by showers, whirlpools etc.

The incubation period is between 2-10 days however not everyone exposed to the bacteria will develop the full-blown disease but may suffer mild flu like symptoms.

Initial symptoms of the disease include high fever, chills, headaches and muscle pain.

About one third of patients infected also develop diarrhoea or vomiting.

Legal Requirements On The Management Of Legionella

The Health & Safety at Work etc. Act 1974 places duties on employers to ensure the health, safety and welfare of their employees at work and anyone else who may be affected.

This duty extends to include the risk from legionella bacteria, which may arise from work activities.

The Management of Health & Safety at Work Regulations 1999 provide a broad framework for controlling health & safety at work which includes the legal requirement for employers to carry out risk assessments.

The Control of Substances Hazardous to Health Regulations 2002 also places duties on employers and occupiers of premises to carry out risk assessments, which does include the control and release of micro-organisms and microbiological agents.

Practical advice on how to comply with the law and recommendations on legionella management is detailed within the following. An Approved Code of Practice & Guidance - 'Control of Legionella Bacteria in Water Systems (L8)' and 3 associated technical documents:

- HSG 274 - Part1: The control of legionella bacteria in evaporative cooling systems
- HSG 274 - Part 2: The control of legionella bacteria in hot and cold water systems
- HSG 274 - Part 3: The control of legionella bacteria in other risk systems

the National Ice Centre is committed to meeting these legal obligations by ensuring an ongoing prioritised programme of controls is in place and implemented which considers the:

- identification, assessment and regular review of risks
- preparation of a scheme of works for the prevention and control of identified risks
- implementation and management of the scheme by appointing persons to be managerially responsible
- maintenance of records and monitoring of controls
- provision of appropriate training

Managers who have responsibility for premises management will also have the responsibility for effective management of the water system and will need to ensure compliance with the requirements of this document and the legislative requirements identified above are complied with and implemented.

Premises Where A Formal Risk Assessment Is In Place

The risk assessment will enable the potential sources of risk and the required controls including remedial plumbing works to be identified in order to ensure that water systems are safe so far as is reasonably practicable.

Risk assessments are based on:

- the vulnerability of the groups affected by water systems
- considered water systems that are likely to create or present a known additional risk

Additional controls and local arrangements to manage the legionella risk in water systems will include:

- ensuring that the temperature at water outlets is:
 - below 20°C for cold water
 - above 50°C for hot water
- minimising the creation of airborne water droplets and aerosols
- minimising supplies of nutrients such as sediment, sludge, scale or other material e.g. in water tanks and other water storage devices
- ensuring movement of water to avoid water stagnation e.g. in storage tanks
- removing 'dead-ends' (lengths of pipe closed at one end through which water cannot flow freely)
- disconnecting and draining pipe work and water outlets to rooms or other areas of a building that are not being used.

L8 recommends that each assessment is reviewed regularly or where the content of that assessment is no longer valid.

Remedial Plumbing Works

Risk assessment will identify the required remedial works that are necessary to maintain a safe water supply and the National Ice Centre will make arrangements for those works to be implemented.

Water Treatments and Sampling

The National Ice Centre will identify and consider the appointment of specialist contractors to carry out any required ongoing disinfection, dosing or sampling or other work to the water system (Property Service pay for sampling but any disinfection works are paid for by the school)

Scalding

Where a significant risk of scalding has been identified during the risk assessment procedure, thermostatic mixing valves (TMVs) must be fitted to sinks, baths and showers to reduce water temperatures at the outlet.

Property Services will fund (except for schools) and arrange for necessary work to be carried out. TMVs will be fitted as close as possible to the point of use.

A warning sign (e.g. *caution - hot water*) will be displayed by any uncontrolled hot water tap without a TMV e.g. in certain kitchen areas. The hazards associated with such hot water outlets should be addressed in the local risk assessment procedures.

Recording Temperatures & The Logbook

This monitoring logbook includes the following:

- The risk assessment
- A schematic plan of the water system
- Details of the duties and responsibilities of the named appointed persons
- Details of weekly / monthly / quarterly / six-monthly / annual checks to be carried out on the water system i.e.
 - Flushing of identified water outlets such as sinks and showers
 - Temperature checks of both the calorifier (water heater), hot / cold water outlets
 - Dismantling, cleaning and de-scaling shower heads and hoses

Legionella Training For Colleagues

It is essential that colleagues involved in the management of water systems receive adequate training to ensure they understand the legal obligations in relation to legionella management and the requirements of the control measures to reduce the risk.

- The duty holder and their deputy who are responsible for carrying out the checks
- Local responsible person (premises manager / headteacher) who has the delegated responsibility of managing the water system(s) on the premises.

These two key positions are fundamental in ensuring control measures are implemented and ensuring that The National Ice Centre fulfils its legal obligations in the control of legionella.

Corporate Safety Advice currently provides the Legionella Training for The National Ice Centre.

For further information on this session, visit the 'Colleague Training' page on the Corporate Safety Advice Intranet site.

Required Management Actions

Showers

Showers are considered a potential high risk because of the ease that they can make airborne water droplets through normal use.

Any shower (whether heated directly by an instant water heater or through the mains hot water system) that is not used within a seven day period must be flushed through for 2 minutes every week at both maximum and minimum temperatures.

Whilst doing this test, you need to avoid the release of airborne water droplets which can be achieved by either securing a plastic bag over the shower head with a corner cut off to allow water to escape or by removing the shower head and placing the shower hose directly over the drain outlet.

Emergency showers should be installed 'upstream' of higher use outlets to maintain frequent flow.

Toilets

Any toilet that is not used within a seven day period must be flushed each week (the lid should be closed to avoid contact with any water droplets / aerosol). In the case of urinals, ensure the continuous flushing systems are working correctly.

Records

A record must be retained on site of any water system checks that are undertaken using the record logs at the end of this guide.

All Premises

In order for the National Ice Centre to control the risk of legionella, formal approval **must** be obtained from the NIC Health & Safety Advisor and Building Management prior to the commencement of::

- installation of new water systems e.g. in new buildings
- alteration of existing water systems
- change of use of buildings
- change of occupation of buildings
- significant change in number of persons occupying buildings
- closure of building or part of a building
- Areas of a building temporarily or permanently out of use

This procedure is essential, as it will ensure:

- the integrity of water systems is maintained (disinfecting / sterilisation may be required)

- corporate records and local logbooks are kept up to date
- that the risk assessment, where applicable, remains valid

Redundant Water Systems

Management **must** be formally informed of any redundant water systems such as taps, showers, toilets and fire hose reels etc. so that their removal can be considered.

Partial Building Closure

Where a building or part of a building is empty / un-used it is the property managers responsibility to ensure the water management is still undertaken or the system is decommissioned.

Water Features

Where an ornamental water feature is on site, advice on the potential risks can be sought from Corporate Safety Advice.

Air Conditioning and Cooling Towers/Evaporative Condensers

Regular maintenance and monitoring of these systems **must** take place.

Any premise that has an evaporating cooling system needs to be aware and comply with the principles of 'HSG274 – Part 1 – Control of Legionella in Evaporative Cooling Systems'

District Heating System

Where the District Heating System is the source of heat for hot water, the advice contained in this document also applies.

Action Required Following A Positive Legionella Sample

Where sampling is undertaken in a workplace, as either a direct result of a confirmed case of legionnaires disease or temperatures being out of range, the manager must take advice from the NIC Health & Safety Advisor and Corporate Safety on acceptable control measures.

In the event that a colleague, contractor or third party is exposed to legionella bacteria through work activities, with diagnosis by a medical practitioner as having the disease, this may be reportable under RIDDOR as work-related exposure to a biological agent.

References & Further Information

The following information and reference material is in place to assist managers to understand their responsibilities and duties.

NIC Documentation and Links

- Legionella Log Book Templates

External References

- L8 – 'Control of legionella bacteria in water systems' (HSE)
- HSG 274 – 'Part 1: The control of legionella bacteria in evaporative cooling systems' (HSE)
- HSG 274 – 'Part 2: The control of legionella bacteria in hot and cold water systems' (HSE)
- HSG 274 – 'Part 3: The control of legionella bacteria in other risk systems' (HSE)
- INDG 458 – 'Legionnaires' Disease, A Brief Guide for Duty Holders' (HSE)