

Policy on the Control of Legionella Bacteria in Water Systems



EAST RIDING

OF YORKSHIRE COUNCIL

Lead Directorate and Service:	Corporate Resources - Human Resources
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Contents

Policy on the Control of Legionella Bacteria in Water Systems	1
1. Background	1
2. Foreword	2
3. Implementation	2
4. Duties and Responsibilities	2
5. Arrangements.....	5

Policy on the Control of Legionella Bacteria in Water Systems

I. Background

The Health and Safety at Work etc Act 1974, the Management of Health and Safety at Work Regulations, and the Control of Substances Hazardous to Health Regulations require risks arising from exposure to Legionella bacteria to be assessed and managed in accordance with the Health and Safety Executive's (HSE) Approved Code of Practice L8 (fourth edition); Legionnaires' disease, The control of Legionella bacteria in water systems.

The bacterium Legionella Pneumophila and related bacteria are common in natural water sources such as rivers, lakes and reservoirs, but are usually in low numbers. They may also be found in purpose-built water systems, such as cooling towers, evaporative condensers, hot and cold water systems, sprinkler systems, vehicle washes, and spa pools.

If conditions are favourable, the bacteria may multiply, increasing the risks of Legionnaires' disease, and it is therefore important to control the risks by introducing appropriate measures. Legionella bacteria thrive in water systems maintained between 20°C and 45°C.

Typically the disease is contracted through the inhalation or aspiration of water droplets from purpose-built systems where water is held at temperatures between 20°C - 45°C which is suitable to encourage growth.

In water below 20°C, the bacteria remain dormant and multiply only when temperatures reach a suitable level. The bacteria will not survive in temperatures above 60°C.

Water stored between 20°C and 45°C seems to favour growth, with the higher

the temperature the higher the virulence, although above 45°C the bacteria start to die off.

Legionella bacteria need nutrients to support growth, and these can be provided by:

- Sludge, scale or rust that has accumulated in reservoirs, hoses or pipe work.
- Foreign bodies allowed into tanks through poor housekeeping or maintenance.
- Pipe and connection materials that have been allowed to deteriorate.
- A bio-film coating on hard surfaces or lying on the water surface.

Legionellosis is a collective term for diseases caused by Legionella bacteria including the most serious Legionnaires' disease, as well as the similar but less serious conditions of Pontiac fever and Lochgoilhead fever.

Legionnaires' disease is a potentially fatal form of pneumonia and everyone is susceptible to infection. The risk increases with age, but some people are at higher risk, eg people over 45, smokers and heavy drinkers, people suffering from chronic respiratory or kidney disease, diabetes, lung and heart disease or anyone with an impaired immune system.

Statutory legal duties are placed upon every organisation who own, control or manage premises with hot/cold water services and/or wet cooling systems to consider the risk of infection through an appropriate risk assessment and water system control programme.

A full explanation of legal responsibilities can be found in the HSE's 'The Control of Legionella Bacteria in Water Systems' Approved Code of Practice and Guidance

(L8) and in HSG274 'Legionnaires Disease Technical Guidance'

This Policy provides information on East Riding of Yorkshire Council's response to this statutory duty and its arrangements to minimise the risk of a Legionella outbreak, control the severity, and safeguard all employees, and others, accessing premises.

2. Foreword

In accordance with the Council's Corporate Health and Safety Policy, the Council is committed to pursuing continual improvements in health and safety. This policy document supports this commitment and forms part of the Council's health and safety management system.

3. Implementation

Directors are responsible for the implementation of this Policy and communication of its content as appropriate.

This Policy is available on the Safety Services intranet page and, where employees do not have access to the Council's intranet, via their Line Manager or Headteacher.

The Council relies on the cooperation of all employees and trade unions for the successful implementation of this policy.

A review of this policy will be undertaken three years after its implementation or sooner if significant changes in legislation or working practices deem this appropriate.

4. Duties and Responsibilities

Chief Executive

The Chief Executive is ultimately responsible for ensuring that the Council manages the risks arising from exposure to Legionella bacteria and that procedures are in place to manage any identified risks in accordance with the Health and Safety Executive's approved code of practice L8; Legionnaires' disease, The Control of Legionella Bacteria in Water Systems.

To achieve this, the Chief Executive has given the Head of Asset Strategy and the Head of Housing Transport and Public Protection budgetary and managerial responsibility for the implementation of appropriate systems to ensure that Legionella is managed in accordance with the requirements of the approved code of practice.

The Head of Infrastructure and Facilities has been given overall managerial responsibility for the implementation of water quality standards/statutory requirements for managing the control of Legionella in all corporate premises excluding Council owned domestic dwellings, where the responsibility falls to the Head of Housing Transport and Public Protection and schools where the responsibility falls to the Headteacher where they have delegated budgets.

Directors and Heads of Service

Directors and Heads of Service are responsible for ensuring this policy is issued to their management team and that localised teams support the implementation of this policy.

Head of Asset Strategy

The Head of Asset Strategy is responsible for ensuring that all corporate buildings excluding Council owned domestic dwellings and schools under the direct

control of the Council have an up to date water quality risk assessment, including schematic drawings of water systems, completed by a competent person.

The Head of Asset Strategy will act as the **duty holder** under these regulations for these premises.

The Head of Asset Strategy will delegate responsibility to Infrastructure and Facilities to employ competent persons with the necessary skills, knowledge and experience who will take day-to-day responsibility for providing advice on the control of any identified risk arising from Legionella bacteria.

The Head of Asset Strategy will further delegate responsibility to Infrastructure and Facilities for appointing suitable measured term contractors to give technical advice, prepare risk assessments and written schemes and provide water hygiene treatments as appropriate, as well as auditing these management systems and ensuring that resources are available to fulfil these duties.

Head of Housing, Transport and Public Protection

The Head of Housing, Transport and Public Protection is responsible for ensuring that all Council owned domestic dwellings under the direct control of the Council have been subject to an appropriate risk assessment and that up to date water quality risk assessments, including schematic drawings of water systems, are completed by a competent person where this is deemed necessary.

The Head of Housing, Transport and Public Protection will act as the **duty holder** under these regulations for these premises.

Head of Infrastructure and Facilities

The Head of Infrastructure and Facilities will ensure that competent contractors are appointed as appropriate to give technical advice, prepare risk assessments and written schemes and provide necessary water hygiene treatments, as well as auditing these management systems.

In corporate buildings including Council owned domestic dwellings, and schools where a service level agreement has been set up, Infrastructure and Facilities will ensure that:

- Water quality risk assessments, system drawings and operational instructions of all water quality requirements are in place at the completion of build, refurbishment or lease of premises.
- The cyclical maintenance of premises water systems are in place prior to the one year handover anniversary of any new building.
- All systems and equipment are serviced and maintained as necessary by competent contractors as per the manufacturer's instructions.
- Competent persons are engaged to review risk assessments as determined within the original risk assessment or upon substantial work being undertaken.
- Legionella risk assessments are maintained and attached to the property database for access by other system users.
- Technical advice and/or the engaging of competent persons is in place to support Managers in the completion of their operational water hygiene systems.

- Any necessary training is in place and will be provided by the specialist contractor appointed in accordance with the measured term contract for the completion of water hygiene tasks for buildings under the direct control of the Council.

Managers, Including Headteachers (Duty to Manage)

Managers and Headteachers are responsible for achieving the objectives of this policy and are responsible for ensuring that:

- Premises, including schools, which hold and manage their own budgets, the budget holder is responsible for ensuring that all duties detailed within this policy are completed either by engaging Infrastructure and Facilities or a suitably qualified and competent contractor to complete works on behalf of the budget holder.
- Information contained within this policy is implemented and complied with.
- An operational responsible person is nominated at each occupied property to manage any requirements arising from any water hygiene risk assessment. In shared properties an individual must be appointed to take the lead.
- A professional risk assessment and written scheme has not been completed or is unavailable on site, the Manager/Headteacher must notify Infrastructure and Facilities.
- Where a risk assessment has been completed, this must be reviewed as determined within the original risk assessment or upon substantial work or following significant changes to the property or systems within.

- The risk assessment and supporting written scheme must be fully completed and kept up to date and available on site.
- The written scheme is adhered to, to reduce any potential risks to a reasonable level.
- Relevant information and instruction is provided to staff to enable them to undertake their job safely and without risk.
- Should there be any concerns regarding the water system, Infrastructure and Facilities and Safety Services should be contacted immediately.

Employees

Employees must ensure they carry out assigned tasks and duties in accordance with information, instruction, and agreed safe systems of work. Specifically they must ensure that:

- This Policy is complied with.
- They participate in the completion of water hygiene tasks as dictated by the risk assessment/written scheme.
- They undertake training (site specific and general awareness), as required.
- They provide basic site specific awareness to any person visiting them or working in their area.
- Their own health and safety and that of others are not put at risk by their actions.

Safety Services

The primary function of Safety Services is to support the Council and its employees by providing professional, authoritative, impartial advice on all aspects of health,

safety and wellbeing including water safety.

Safety Services will produce and update this policy, and assist with the scoping of appropriate training sessions to ensure that duties specified by the risk assessment programme are fully complied with.

The Safety Services Manager will update Corporate Management Team on compliance issues and any areas identified as requiring improvement.

5. Arrangements

Risk Assessment

Where required, a risk assessment where required will be undertaken by competent persons and will identify any reasonably foreseeable risks. The risk assessment will identify the source of system supply, possible sources of contamination, plant operating characteristics, and unusual, but foreseeable, operating conditions as well as any controls in place to reduce risks. The Legionella risk assessment will also dictate the maintenance regime for the specific site/buildings water services.

Where the assessment demonstrates there is no reasonably foreseeable risk or where risks are insignificant and unlikely to increase, and are properly managed, no further assessment or measures are needed. However, if the situation changes, the assessment will be reviewed and revised as necessary, particularly when there is reason to believe that the original risk assessment may no longer be valid.

The risk assessment will be reviewed upon:

- Changes to the water system or its use.

- Change of use of the building/site (eg sports centre becomes a multi-functional facility including a health centre etc).
- Availability of new information about risks or control measures.
- Water quality check results identifying inadequate existing control measures.
- Outbreak of Legionnaires' disease which is attributed to the water system in question.

If the assessment identifies a risk that is unable to be controlled then a written control scheme for managing the risk will be prepared.

Written Control Scheme

The complexity of systems on site will dictate the depth of information in the written control scheme. However, a written control scheme will incorporate:

- An up-to-date plan showing layout of the plant or systems.
- A description of the correct and safe operation of the system in the form of a schematic diagram.
- Control measures, including checks to ensure efficiency of scheme and the frequency of checks.
- Who is responsible for carrying out the assessment and managing its implementation.

Plan

The plan will have a schematic drawing of water systems and related pipe work on site. This will identify which supply is suitable for drinking and taps will be labelled accordingly.

If the plan identifies 'dead legs' (redundant pipe work) the control measures, including checks, are critical as stagnant water may provide an ideal breeding ground for bacteria. Equally storage tanks in roof voids may become contaminated and therefore support multiplication of bacteria.

Safe Operation of Systems

The safe operation of systems should include recommended temperatures for storage and use, and detail essential and desirable maintenance which should include timescales and elements to be checked, maintained or disinfected, in normal use, shutdown and where failures in the system occur.

Control Measures

Ideally, the proliferation of Legionella will be avoided by temperature control, avoiding stagnation of supply, minimising the harbouring of nutrients for bacteria and the use of water treatment programmes.

Water treatments include physical or chemical means. Examples of physical measures being, tank covers, temperature controls, and low corrosion construction, insect screens on open systems, pipe insulation, circulation pumps or gravity control. Chemical treatments include lime scale removal, system chlorination and ionisation.

Typical system checks may include monthly temperature monitoring, weekly flushing of infrequently used outlets for several minutes, drain down of void properties and water quality microbiological monitoring. If in-house checks identify a problem then the person completing the check must notify the operationally responsible person immediately. The operationally responsible person must contact

Infrastructure and Facilities and agree remedial actions.

Remedial actions for outbreaks or control measure failings will be completed by specialist contractors, who have the appropriate competence and equipment. Employees must not undertake remedial actions unless they are included on the risk assessment and method statement/safe system of work and fully trained.

Staff Training

The legislation requires that employees are fully aware of risks and control measures specific to the workplace they occupy. The risk assessment and written scheme will detail site-specific arrangements. Operationally responsible persons and those with water hygiene duties will, as required, be trained by the Council's appointed 'Term Service Contractor' to fulfil their duties including managing any associated risks and necessary control measures.

Water Quality Management Systems/Record Keeping

All safety management systems must have efficient record keeping. This includes water hygiene. The site-specific records must be readily available to contractors completing water treatment works, employees who are completing related tasks and any inspecting officer who requests a copy. Records must be retained for at least five years and should include:

- Details of the person or persons responsible for conducting the risk assessment, managing, and implementing the written control scheme.
- The significant findings of the risk assessment and the control measures implemented.

- The written scheme and details of its implementation.
- The dates and records of any monitoring, inspection, test or check carried out to demonstrate compliance. This should include details of the operational condition of the system, ie in use/not in use.

Actions to take in the Event of a Legionella Outbreak

Where symptoms of Legionnaires' disease are diagnosed within a Council location, the Chief Executive, the Director of Public Health, the relevant Director, the Head of Service, the Safety Service Team and the Public Health Team must be informed immediately.

An officer, usually a consultant in Communicable Diseases Control, appointed by the Council under public health legislation, will be responsible for the declaration of an outbreak.

The enforcing authority, as part of an outbreak investigation, may make the following requests and recommendations:

- Shut down any process that is capable of generating and dispersing any airborne water droplets.
- Take water samples from the system, before any emergency disinfection takes place, for analysis by a United Kingdom Accreditation Service (UKAS) accredited laboratory.
- Co-operate fully in any investigation of any plant or equipment that may be suspected of being responsible or involved in the cause of the outbreak. This may involve, for example:
 - (i) Detailed scrutiny of all operational records.

- (ii) Statements from Managers and plant operators.
- (iii) Statements from consultants and/or water treatment contractors.
- (iv) Inspection of all monitoring records.
- (v) Inspection of any relevant training records.
- (vi) Inspection of records of any remedial works that may have been carried out.
- (vii) Inspection of all maintenance records for items of plant and equipment within the water systems.

Upon completion of an emergency clean and chlorination, further water samples will be taken for analysis by a UKAS accredited laboratory. Only when the samples have been analysed as being negative for the presence of Legionella will items of plant and equipment within the water systems be allowed to be put back into service.