



THE UNIVERSITY of EDINBURGH

CONTROL OF LEGIONELLA BACTERIA WITHIN WATER SYSTEMS POLICY

<p>Purpose</p>	<p>The purpose of this policy is to provide an effective framework for the control of risk from exposure to legionella bacteria (the causative agent of legionellosis, including Legionnaires' disease) within water systems under the control of the University of Edinburgh.</p> <p>The Legionella Management Plan comprises the Policy (this document) and a separate procedures document detailing operational guidance.</p>
<p>Overview</p>	<p>This document sets out how the University will identify and manage the risks from exposure to legionella bacteria.</p> <p>Primary and Secondary legislation: Health and Safety at Work etc. Act 1974 Control of Substances Hazardous to Health Regulations 2002 Legionnaires' disease The control of legionella bacteria in water systems L8 This Approved Code of Practice (ACOP) gives advice on the requirements of the Health and Safety at Work etc. Act 1974 and the Control of Substances Hazardous to Health Regulations 2002 and applies to the risk from exposure to legionella bacteria (the causative agent of legionellosis, including Legionnaires' disease) Legionnaires' disease: Technical guidance: Part 1: The control of legionella bacteria in evaporative cooling systems Part 2: The control of legionella bacteria in hot and cold water systems Part 3: The control of legionella bacteria in other risk systems</p> <p>BS 8580:2010 1. Water quality. Risk assessments for Legionella control. Code of practice</p>
<p>Scope</p>	<p>This policy will apply to all buildings managed by the University.</p>
<p>The Policy</p>	<p>Policy Statement. The University of Edinburgh is committed to meeting its legal obligations with respect to all of the quality, health, safety and environmental aspects of water. The University takes account of the latest guidance and is committed to managing the risks associated with water and to follow the steps laid out in this policy and the associated procedures document.</p> <p>The University will provide and maintain safe and healthy working conditions, equipment and systems of work, so far as reasonably practicable for all staff, visitors and the public. It will apply sufficient resources, information, training and supervision as needed for this purpose.</p> <p>The management of water and its associated risks will be a continual commitment by the University involving regular management progress meetings and a risk assessment programme. Re-assessments will fulfil the monitoring, inspection and record keeping requirements (including programme implementation and system condition).</p>

1. Legionellosis Background

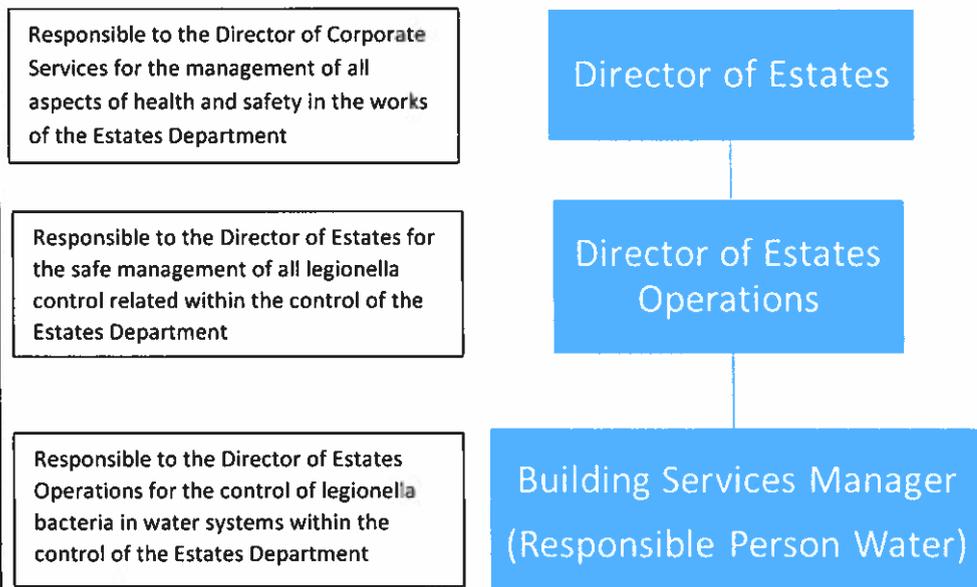
Legionellosis is a collective term for diseases caused by legionella bacteria including the most serious Legionnaires' disease, as well as the similar but less serious conditions of Pontiac fever and Lochgoilhead fever.

Legionnaires' disease is a bacterial infection, first described in 1976 when an outbreak of unusual respiratory disease occurred at a convention of US war veterans (Legionnaires) in Philadelphia. The outbreak was caused by a newly discovered bacterium, given the name *Legionella pneumophila*. Subsequent studies showed that the reservoirs for infection were water supplies and storage systems, particularly domestic plumbed systems, water cooling towers and air conditioning systems. Infection usually occurs through inhalation of aerosolised particles from water sources in which Legionella is growing.

Legionellae have an optimum growth temperature range of 20°C to 40°C.

2. Responsibility, Authority and Resources

The **Director of Estates** carries responsibility for and on behalf of the University of Edinburgh for legionella control work within the control of the Estates Department and is responsible to the **Director of Corporate Services**.



The **Director of Estates Operations** is responsible to the **Director of Estates** for the safe management of all legionella control related work within the control of the Estates Department.

The Building Services Manager has been appointed as the Responsible Person (RP water). The RP water maintains an effective water management system, based on the Procedures document which supports this policy statement.

The following is an overview of the responsibility, authority and resources aspects of each role in the water/ legionellosis risk management system:-

Director of Estates Operations

- The Director of Estates Operations appoints an appropriate Responsible Person (RP water).
- The Director of Estates Operations is responsible for the implementation of this policy.

- The Director of Estates Operations receives annually, from the Authorising Engineer (Water), an audit report detailing the compliance of the water hygiene regimes in compliance with L8, Legionnaires' disease The control of legionella bacteria in water systems.
- The Director of Estates Operations ensures that sufficient resources are available to the Responsible Person (Water) in order that they may fulfil their obligations.

2.1 Building Services Manager - Responsible Person Water (RP water) is responsible for the following:

- Producing, implementing, managing and monitoring a water/legionella risk management system.
- The effectiveness of the water/legionella risk management system.
- Appointing an external, independent, qualified Authorising Engineer (Water).
- Appointing at least one deputy to whom delegated responsibility shall be given. The deputy acts on behalf of the RP in his/her absence.
- Appointing Authorised Persons (Water).
- Ensuring all necessary actions are taken prior to occupation.

2.2 Authorised Person (s) (AP water) is responsible for the following:

- The water system from handover through to de-commissioning or handover to the Projects/Design team for refurbishment or decommissioning.
- Ensuring that the operation, maintenance and monitoring of water systems follows the Water/Legionella Risk Procedures.
- The water/legionella risk associated with the operation, maintenance and monitoring of the water system.
- Appointing a Competent Persons (Water) to carry out small installations and maintain, repair, refurbish, monitor existing water systems.

2.3 Head of Maintenance Operations, Contract Services Managers, Maintenance Services Manager, Maintenance Services Coordinators, Contract Services Coordinators and Area Team Leaders are responsible for the following:

- Acting as an Authorised Person (AP water) for their area of responsibility.

2.4 Competent Person (CP water) is any designated trades person or Contractor working on a water system and is responsible for the following:

- Ensuring that his/her operation, maintenance and monitoring of water systems follows the Water Management Written Schemes as contained within the risk assessments.
- The water/legionella risk associated with his/her operation, maintenance and monitoring of the water system.

2.5 Water Control Officer is responsible for the following:

- Conducts water hygiene (and scalding) surveys, based on a prioritised programme.

- Liaises with the Authorising Engineer (AE) in all areas of activity including regarding the scope, programme and results of water hygiene surveys.
- Liaises with the Responsible Person (RP water), including ensuring that he/she is aware of progress.
- Conducts or oversee any water sampling that may be undertaken.
- Optimises the benefit of the BEMS with respect to water.
- Liaises with Maintenance Services Coordinators and Contract Services Managers regarding queries raised by Area Teams.
- Undertake risk assessments of current University buildings.

2.6 Project Teams and /Design Teams are responsible for the following:

- The water system from feasibility through to handover.
- Must follow the Water/Legionella Risk Procedures and ensures that the design, project management, construction, testing, commissioning and handover of water systems takes account of current guidance.
- Must consider elimination/substitution of water systems/components at the feasibility/design stage.
- Must appoint Competent Persons (CP water) to undertake construction, installation, commissioning and testing.
- Managing the water/legionella risk inherent in the design of the water system and the risks associated with its construction, installation, commissioning and testing.
- At handover, the Projects and Design teams must ensure that the Authorised Person (AP water) is provided with documented evidence of the design, construction, installation, commissioning and testing
- All hand-over dates of new builds shall be notified to the Estates Water Control Officer.
- Carrying out a risk assessment to ensure the design, installation and commissioning of all new-builds and refurbished buildings shall take into consideration the potential risks of legionellosis.

If there are any delays in the schedule from hand over to occupation by the users, it will be necessary for Estates to implement a temporary flushing regime.

Before commissioning, the Principal Contractor (PC) shall be responsible for completing a Legionella risk assessment, compliant with BS8580:2010 and **Legionnaires' disease The control of legionella bacteria in water systems L8 (L8).**

2.7 Estates, Health and Safety Manager

- Is appointed in terms of Regulation 7 of the Management of Health and Safety at Work Regulations 1999 to provide competent health and safety advice

2.8 Heads of Schools and Equivalentents are responsible for the health and safety of all staff and students within their areas of control; this includes the safe management of plant and equipment under their control ([University Health and Safety Policy, Framework: Organisation Section 10](#)) including:

- Regular flushing and maintenance of emergency showers, to comply with BS EN15154-1 (further guidance at [CS CoP003 Laboratory design](#));

- Regular flushing and maintenance of emergency eye washes, to comply with BS EN15154-1 (further guidance at CS CoP003 Laboratory [CS CoP003 Laboratory design](#));
- Identifying any use of water which is out with the responsibility of Estates, such as School managed plant or equipment not maintained by Estates, and arranging risk assessment, written schemes and record-keeping in conjunction with the Maintenance Services Manager;
- Liaising with the Maintenance Services Manager e.g. regarding the decommissioning of water systems or outlets;
- Identifying infrequently used outlets and connections to external services, arrange regular flushing and/or removal, keep records and advise Contract Services Manager; and
- Nominating attendees to attend the Legionellosis risk management training.

3. Authorising Engineer (AE water)

The University has commissioned an independent Authorising Engineer (Water) whose duties include an annual audit of the water management system for the Responsible Person.

4. Management Review

Management review meetings are held quarterly. They are chaired and minutes recorded by the AE (Water). The attendees are:-

- Responsible Person (Water);
- Deputy Responsible Persons (Water);
- Authorising Engineer (Water).
- Water Control Officer
- Health and Safety Manager
- University Occupational Hygiene and Projects Manager

Authorised Person(s) will be invited when specifically necessary. The meeting agenda is:-

- Appointments
- Risk Assessments
- Preparation of Scheme for Preventing/Controlling Risk;
- Implementing Scheme;
- Records.

5. Risk Assessment

A suitable and sufficient Legionella risk assessment will be carried out on all buildings currently owned or occupied by the University. The risk assessments will identify and assess the reasonably foreseeable risk of potential Legionellosis infection to the public and water quality issues from work activities and water sources on the premises and will inform precautionary measures that require implementation.

Systems which are susceptible to colonisation by Legionella, and which incorporate means for creating and disseminating aerosols, will be identified and the risk they present will be assessed. Risks will be assessed for the routine operation of the system and also for unusual circumstances such as breakdown, abnormal operation, design, installation and commissioning. Action plans and work procedures will be developed and implemented to reduce the risk to as low as reasonably practicable.

The assessment will identify actions needed:-

- to minimise the risk to health, i.e. whether the potential for harm to health from exposure is reasonably foreseeable unless adequate precautionary measures are taken;
- to identify what control measures are to be implemented to minimise the risk from exposure to water borne bacteria.

The assessments, written schemes and implementation of precautionary measures, will be carried out by someone with the necessary competence and resources to complete the tasks proficiently and safely. The risk assessments will enable the Responsible Person (water) to minimise the risk,

The Legionella risk assessment will be reviewed regularly and managed as a living document in compliance with L8, and be reviewed if there is reason to believe that the original assessment may no longer be valid. This may be because of:

- Changes to the plant or water or its use;
- Changes to the use of the building in which it is installed;
- The availability of new information about risks or control measures;
- The results of checks indicating that the control measures are no longer effective.

A written operational plan will be based on the results of the risk assessments. This will identify who has responsibility for the premises and who is responsible for devising and carrying out the procedures.

The Responsible Person (water) is responsible for overseeing the assessment and implementation of precautions and will ensure that effective measures are carried out in a timely manner.

The risk assessment must be written in conformity with BS8580:2010.

6. Employee Consultation

Employees are consulted regarding the assessment and control measures. This is done via the University Health and Safety Committee structure.

7. Training and Competence Legionellosis risk management training is provided to staff, appropriate to the responsibilities of each staff member, in accordance with the training matrix in the procedures document.

- The competence of the Responsible Person and Authorised Persons is assessed by the Authorising Engineer (water).
- The competence of Competent Persons is assessed by the Authorised Persons.

Inadequate management, lack of training and poor communication have all been identified as contributory factors in outbreaks of Legionnaires' disease. It is

therefore important that those people involved in assessing risk and applying precautions are competent, trained and aware of their responsibilities.

8. Contractor competence/code of conduct

The roles and responsibilities of contractors involved in the control regime shall be defined in writing, in **contract documents**. Any agreed deviation from the initial contract documents shall be mutually agreed and documented as part of the contract review process.

9. Microbiological monitoring for Legionella is in accordance with BS7592:2008.

Legionella sampling should only be carried out to verify the temperature controls strategy is working, or where there is a suspected case of Legionnaires' disease or outbreak.

Additional sampling for Legionella should be considered if other control measures (for example temperature or biocide levels) are not consistently achieved.

UKAS accredited testing laboratories are used for Legionella sampling.

10. Action in the event of an outbreak of Legionellosis

The University will conform to the principles of HSG 274 guidance in the event of an outbreak:

An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection, with or without microbiological evidence.

11. Records

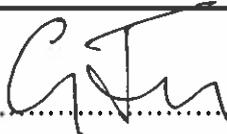
The document structure is as follows:-

<u>Document:-</u>	<u>Implemented by:-</u>	<u>Interaction with Authorising Engineer:-</u>
Policy Statement	Director of Estates Operations	Audit Report on status of compliance
Policies	Responsible Person (Water)	Audit Report, Risk Assessment Reports, Review Meeting Minutes
Procedures	Authorised Persons	Risk Minimisation Scheme

	Log Book	Work Instructions	Competent Persons	Update Training
		Record forms		

The following records are kept:-

Record	Retention Period
Policy statement, policies, procedures and work instructions	Throughout the period for which they remain current and for 5 years (archived)
Risk assessments	
Risk minimisation scheme and details of its implementation	
Monitoring, inspection, test and check results, including details of the state of operation of the system	At least five years

Signed  Director of Estates

Print Name GARY JERB

Date May 2018

DOCUMENT CONTROL	
Date approved	17/05/2018
Approving authority	University Health and Safety Committee
Consultation undertaken	Consulted with externally appointed authorised engineer.
Impact assessment	None
Date of commencement	May 2018
Amendment dates	
Date reviewed	March 2018
Date for next review	January 2021
Section responsible for policy maintenance & review	Building Services Group
Related Policies, Procedures Guidelines & Regulations	HSE ACOP L8, HSG274, BS8580:2010 and other related guidance
Policies superseded by this Policy	Replaces existing legionella policy agreed 2010

