Risk Management System Legionella

Policy

Facilities Management Department
Revised August 2007
Policy Statement

The policy of the University of Liverpool is to provide and maintain safe and healthy working conditions, equipment and systems of work for all staff and visitors, and to provide such resources, information, training and supervision as needed for this purpose.

The University will provide, resource and maintain appropriate management systems, systems of work and equipment to ensure that legionella risks to all staff, students, visitors and others are controlled. Suitable information, instruction, training and supervision will be provided to all those involved in the control of legionella.

The University will adopt the principles of control set out in the HSC publication "Legionnaires' disease: The control of legionella bacteria in water systems – Approved Code of Practice and Guidance (L8)". Other publications eg CIBSE's guidance Minimising the risk of Legionnaires' disease will also be used as source of best practice guidance where appropriate.

The management of legionella risk will be a continual commitment by the organisation involving regular management and progress meetings, a risk assessment programme, monitoring, inspection and record keeping.

The Director of Facilities Management has been appointed by the organisation as the Responsible Person [Legionella].

This policy is formally accepted by the organisation.

The University will do all that is reasonably practicable to comply with its requirements, and will make the necessary resources available.

Professor Drummond Bone
Vice-Chancellor

17th January 2008
Policy

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1. Introduction

1.1. Purpose of Document

1.1.1. This document sets out how the University of Liverpool intends to identify and manage the risks from exposure to Legionella bacteria from water systems within the University.

1.1.2. The Risk Management System - Legionella comprises the Policy (this document) which provides an overview and a separate Control Procedures manual which contains detailed operational information and guidance.

1.1.3. This policy shall apply to all areas of the University Estate without exception.

1.2. The Agent/Disease

1.2.1. Legionella bacteria cause legionellosis, a group of diseases of which Legionnaires’ disease (a potentially fatal form of pneumonia) is the most serious and well known. Infection occurs when small droplets (aerosols) of water containing the bacteria are inhaled; however the disease cannot be passed from person-to-person. Not everyone exposed to legionella will become ill, but some people are more susceptible to the disease including those over 45 years old and those whose immune system is impaired in some way.

1.2.2. Legionella bacteria can be found in most natural water sources such as rivers, lakes, ponds etc. Because they are so widespread in the natural environment, they can contaminate and grow in artificial water systems such as cooling towers and hot and cold water systems.

1.2.3. Certain conditions within water systems will increase the risk of exposure to legionella bacteria:

- The right temperature – the bacteria grow and multiply at 20-45°C. They can survive low temperature but are killed by high temperatures; and
- A source of nutrients – water systems can contain scale, rust and biofilm which can all act as a food source for the bacteria;
- A means of creating an aerosol – shower heads and cooling towers can both create the right size of water droplets that can be inhaled.
1.3. The Law

1.3.1. There are legal duties on employers to prevent or control ill health that can be caused by work, this includes controlling the risks from exposure to legionella bacteria as follows:

1.3.1.1. The Health and Safety at Work etc Act 1974 requires that employers ensure the health and safety of both employees and others who may be affected by their work. The Act applies to all work activities and premises.

1.3.1.2. The MHSW Regulations build on the HSWA and include duties to assess risks and make arrangements for health and safety.

1.3.1.3. The Control Substances Hazardous to Health (COSHH) Regulations require exposure to hazardous substances including biological agents (micro-organisms) such as legionella bacteria to be prevented, or where this is not reasonably practicable, adequately controlled. Specific advice on the measures that should be taken to control legionella bacteria in water systems is given in the HSE Approved Code of Practice Legionnaires' disease: The control of legionella bacteria in water systems (referred to hereafter as L8).

1.3.1.4. The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations require employers and others to report to HSE, accidents and some diseases that arise out of or in connection with work activities. Cases of legionellosis are reportable if a doctor notifies the employer and if the employee's job involves work on or near wet cooling systems towers or work on hot water systems in a workplace.

1.3.1.5. The Notification of Cooling Towers and Evaporative Condensers Regulations require those in control of premises to notify the Local Authority of the presence of any of these devices. N.B. The University of Liverpool does not currently have any notifiable devices on any of the sites under its control.
2. Overall assessment of risk

2.1. Risk systems

2.1.1. The principle source of risk within the University is the hot and cold water services. All University buildings have systems installed but the level of risk associated with such services will vary according to:

- Type – e.g. instantaneous vs gravity fed systems with hot water storage.
- Size – e.g. long pipe runs may lead to water stagnation or temperature fluctuations. Oversized storage may also lead to water stagnation.
- Age – e.g. older systems may contain materials suitable for bacterial growth (either in the form of biofilm, scale etc or else in the materials used for construction).
- Usage – e.g. low use systems will result in water stagnation.
- Outlets fitted – e.g. showers vs taps.

2.1.2. Building surveys will be used to identify the level of risk associated with individual systems.

2.1.3. Other identified risk systems within the University are:

- Adiabatic coolers;
- Horticultural misting machines;
- Safety showers and eye wash stations;
- Fire fighting systems (hose reels);
- Machine tool coolant systems; and
- Portable evaporative coolers.

Further information on location of these systems and control methods is given in the Legionella Control Procedures Manual.

2.1.4. Certain buildings within the University are under control of NHS Trusts for the purposes of legionella management (Royal Liverpool and Broadgreen University Hospitals NHS Trust and Aintree Hospitals NHS Trust). The University shall co-operate and communicate to ensure an adequate system of legionella risk management is in place in respect of these properties.

2.1.5. Risk assessments will be reviewed at a maximum interval of two years, with additional reviews in the following circumstances:


- Significant changes in legislation or guidance
- Significant alterations to any of the water system(s)
- Significant changes in building population or use.

2.2. **Population(s) at risk**

2.2.1. There are no especially vulnerable populations within the University. Residences may be occupied by populations other than students during holiday periods but this is infrequent, and is not likely to include vulnerable groups.

2.3. **General statement of control**

2.3.1. As it is not possible to prevent exposure to legionella bacteria, the University will control exposure by:

- Designing and maintaining hot and cold water systems to control risks e.g. removing little used outlets and redundant pipework;
- Controlling temperature in hot and cold water systems e.g. calorifiers will be maintained at 60°C, pipes and tanks will be insulated where necessary to prevent heat gain/loss;
- Ensuring good flow e.g. storage tanks will be sized for intended use to avoid stagnation; and
- Keeping water systems clean – e.g. cleaning and chlorination of cold water tanks
- Monitoring and recording key system parameters i.e. temperatures.
- Maintaining system records in accordance with the requirements of L8.
- Auditing and reviewing policy and procedures on a regular basis and updating these as required in response to changes in legislation, guidance or operational experience.

2.3.2. Further information on controls, monitoring and record keeping is given in the Legionella Control Procedures document with additional guidance in the form of Standard Operating Procedures.

2.3.3. Other identified risk systems will be managed in accordance with recommendations in L8 and manufacturers guidance, where appropriate.
3. Roles & Responsibilities

3.1. Appointments

3.1.1. The Duty Holder is the University of Liverpool

3.1.2. The Responsible Person (Legionella) shall be the Director of Facilities Management.

3.1.3. The Deputy Responsible Person (Legionella) shall be the Head of Facilities Maintenance.

3.1.4. The appointments of Responsible Person (Legionella) and Deputy Responsible Person (Legionella) shall be confirmed in writing by the Duty Holder.

3.2. General Arrangements

3.2.1. The University Policy and Resources Committee shall be responsible for providing sufficient resources to relevant budget holders, including self-funded centres, i.e. Residences, to enable the University to comply with its obligations in respect of the management of the risk from legionella.

3.2.2. Heads of Department, within their overall responsibility for health and safety in their areas of occupation, are responsible for ensuring that any specific requirements for users within the Procedures Manual, i.e. provision of access, maintenance requirements for departmental equipment, etc. are accommodated.

3.2.3. All relevant staff, either University or external, involved in the design, installation, alteration, repair, maintenance and use of water systems within the University have a responsibility to ensure that, as far as is reasonably practicable, they comply with the requirements of this policy and the supporting Legionella Control Procedures to minimise the risk to staff, students and the public.

3.2.4. Where relevant staff are delegated specific duties or responsibilities within the Legionella Control Procedures, these duties will be confirmed in writing by either the Responsible Person (Legionella) or the Deputy Responsible Person (Legionella).

3.2.5. Detailed duties, responsibilities and reporting arrangements for relevant staff are contained within the Legionella Procedures document.
3.3. Overview of Duties, Responsibilities and Reporting Arrangements

- **Appoint Responsible Person & Deputy Responsible Person (Legionella) in writing**
- **Facilitate access, compliance for departmental equipment**
- **Provide technical advice and assistance**
- **Policy and Resources Committee**
  - Provide adequate resources to enable compliance
  - Overall responsibility for ensuring compliance with Control Policy and Procedures
  - Deputise for FP or Legionella and delegated authority to ensure compliance
- **Budget Holders Self-Funded Centres**
- **Managerial Resources Database**
- **Head of Capital Projects**
- **Planning Manager**
  - Ensure resources allocated to enable compliance
- **Major Framework Contractors**
  - Ensure Consultants/Contractors comply with Design, Installation and Commissioning Requirements
- **Design Consultants**
  - Demonstrate competence, comply with Procedures
- **Facilities Maintenance Manager**
- **Facilities Engineer (Mechanical)**
- **Service Delivery Manager**
- **Engineering Services Manager**
  - Ensure compliance with operation, maintenance, monitoring requirements
- **Facilities Manager (Cleaning & Ports)**
- **Facilities Manager (Depot Responsible Person (Legionella))**
- **Head of Facilities Services**
- **Head of Facilities Management (Responsible Person (Legionella))**
- **The University of Liverpool (Duty Holder)**
- **Director of Department**
- **Assistant Safety Advisor (Microbiological Safety)**
- **Enable reporting of faults & Handing of outlets as required**
- **Cleaning Staff**
- **Building Managers/Ports**
- **Ensure Minor Works Projects comply as relevant**
- **Design Group Leader**
- **Framework Contractors (Minor Works)**
- **Mechanical Engineers**
- **Contractors**
- **Ensure Consultants/Contractors comply with Design, Installation and Commissioning Requirements**
- **Term Maintenance Contractors**
- **Maintenance Assistants**
- **Plumbing Technicians**
- **Maintenance Supervisors**
- **System Operation, repairs & records**
- **Arrange monitoring, repairs and correlate records**
- **Monitoring operating parameters**
- **System operation, repairs & records**
- **Ensure resources allocated to ensure safe operation and monitoring requirements are met**

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4. Training and Competence

4.1. Only competent persons (as defined in L8) will be authorised to carry out Legionella works. A person shall be deemed competent to carry out the appropriate operation only if they have satisfactorily completed a University approved course on Legionella control, or have appropriate qualifications, sufficient knowledge and experience of the testing and control measures required.

4.2. All Facilities Management staff involved in the design, installation, management, maintenance or repair of water systems within the University will receive training in the management and control of legionella appropriate to their level of responsibility. All such training will be undertaken by a competent training provider.

4.3. All records of such training will be kept centrally in the Legionella Site File kept in the Facilities Management Department.

4.4. 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.

4.5. Contractors appointed to undertake legionella control operations e.g. tank cleaning, chlorination, will be required to conform in full with the requirements of the Policy and the Control Procedures.

4.6. Additionally, such Contractors shall comply with the following:

- They shall be members of The Legionella Control Association and comply with the ‘Code of Contract for Service Providers’

- All contract operatives undertaking Legionella work shall have successfully completed City & Guilds or Water Management Society accredited course.

- The Responsible Person (Legionella) or his/her Deputy must be assured of the technical competence of any Contractor prior to appointment.

4.7. In general, all Contractors working on water systems within the University, in whatever capacity, shall be required to demonstrate their competence to do so, an example being registration under the Water Regulations Advisory Scheme (WRAS). Further details on competence assessment are included within the Procedures Manual.

4.8. In addition, all Contractors shall be subject to periodic monitoring to ensure appropriate standards are met and maintained.