

## **The control of legionella bacteria in infrequently used water systems.**

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### **1. Scope**

- 1.1 This policy sets out how the University of Bristol will identify and manage the risk from exposure to legionella bacteria from infrequently used water systems on its premises.
- 1.2 Where University staff work on premises that are under the control of a different employer for the purposes of legionella management (e.g. NHS Trust), the University will co-operate and communicate with the other employer to enable the effective management of legionella bacteria on those premises.

### **2. Policy statement**

- 2.1 The University will prevent exposure to airborne legionella bacteria released from water systems under its control, and where this is not reasonably practicable, will control the risk of exposure.
- 2.2 The University adopts, as far as is reasonably practicable, the principles of management and control contained in the Health and Safety Executive Approved Code of Practice “The Control of Legionella Bacteria in Water Systems” 3rd edition, 2000 (referred to as L8).

- 2.3 This policy statement assigns roles and responsibilities to university officers and post-holders in order to implement the requirements of L8.
- 2.4 The University will commit suitable and sufficient resources to ensure compliance with the University's policies and procedures for the control of legionella bacteria.

### **3. Introduction**

- 3.1 Inhalation of legionella bacteria in tiny droplets (aerosols) of contaminated water or dry particles can lead to infection (e.g. Legionnaires' disease) which may be limited to the display of mild 'flu-like symptoms but can also be debilitating and, in extreme cases, fatal. Certain groups of people are known to be more susceptible and at increased risk of serious illness; this includes men, people over 45 years of age, people with other severe illnesses, people undergoing immune-suppressive therapy and smokers.
- 3.2 Legionella bacteria occur naturally in rivers, lakes and other sources of water. However, they can enter and colonise workplace water systems where favourable conditions are present. Water temperatures between 20°C and 45°C and the presence of nutrients in these systems, e.g. algae and other bacteria, will promote bacterial proliferation. Any sludge, scale and 'biofilms' of bacteria present will also help to protect the legionella bacteria and allow them to thrive.
- 3.3 To prevent or control as far as is reasonably practicable the risk of exposure to legionella bacteria in the workplace and comply with the Health and Safety at Work *etc* Act 1974 and its sub-ordinate regulations it is necessary to introduce measures that control the growth of legionella bacteria in water systems and to minimise exposure to water droplets and aerosols.

### **4. Roles and responsibilities**

#### **4.1 Duty Holder**

The University, as employer, has a legal responsibility for the health and safety of its employees and others who may be affected by its work. The Director of Estates Operations has been delegated the responsibility for ensuring that the University has an estate which is compliant with relevant legislation. The statutory functions of the 'duty-holder' in relation to this policy fall to the Director of Estates Operations for water systems that are under the control of the Estates Office.

#### **4.2 Responsible Person**

- 4.2.1 The Senior Engineer, as the "responsible person" as defined by L8, has been delegated the managerial responsibility for supervising the

implementation of this policy and the management of water systems under the control of the Estates Office in accordance with this policy.

4.2.2 The Responsible Person shall make available the information required to allow those in control of University work activities to comply with this policy (see 4.5).

4.2.3 The Responsible Person shall monitor and audit compliance with the requirements of this policy and address any non-compliance as necessary, including the escalation of unresolved issues within the appropriate line management structure and in consultation with the Director of Health and Safety.

### **4.3 Deputy Responsible Person**

The Compliance Officer shall deputise for the Responsible Person.

### **4.4 Further Estates Office roles and responsibilities**

The Responsible Person shall maintain details of other appointees with responsibilities for the control of legionella and reporting within the Estates Office.

### **4.5 Heads of schools and services, and managers of residences.**

The head of school or service occupying a workplace or carrying out a work activity shall cooperate with the Responsible Person (as defined in section 4.2) in order to enable compliance with this policy.

## **5. General policy requirements and arrangements for prevention or control**

5.1 A site survey of all University water services and cooling systems and equipment used in University work activities shall be maintained by the Responsible Person. It will identify, assess and record the risk of exposure to legionella bacteria and include schematic drawings and records for University water services and cooling systems.

5.2 The risk assessment should be reviewed at least every two years and when a refurbishment takes place, when a new building is commissioned or whenever there is reason to believe that the current assessment may no longer be valid.

5.3 The risk assessment carried out by, or on behalf of, the Responsible Person must include a survey of the use of each building in order to identify whether any part of the water system is redundant or infrequently used. There is a duty on the head of the school or service occupying the building to cooperate,

including, if appropriate, the need to confirm that no parts of the water service are redundant or infrequently used.

- 5.4 When there are changes to the occupancy, use or staffing in a building the head of the occupying school or service must review the arrangements to maintain the water services (as defined in paragraph 5.6) and notify the Responsible Person.
- 5.5 The Responsible Person together with a representative of the head of the school or service must determine whether the redundant or infrequently used part of the water service can be removed, temporarily isolated or if it is beneficial to adopt a system of maintenance (as defined by paragraph 5.6). Where a system of maintenance is required it is the responsibility of the head of the occupying school or service to ensure that it is carried out.
- 5.6 The system of maintenance adopted will comprise of either:
  - i. An automated system for flushing;
  - ii. A manual system for flushing.

If it is not possible to adopt a system of maintenance the use of a valve isolating the infrequently used part of the water system from the remainder of the water system in combination with a safe system of work to purge the infrequently used part of the system before use. The approval of the Responsible Person must be sought prior to the adoption of such an arrangement. Where it is not reasonable to adopt such a system the Responsible Person should be informed in order to review the risk assessment.

Where a flushing regime is required the outlet should be flushed at least weekly to prevent the proliferation of legionella bacteria in the water system. Records must be maintained and made available to the Responsible Person in a format defined by the Responsible Person.

- 5.7 Where a manual system for flushing is required it is the preferred option to use the most efficient solution.
- 5.8 It must be noted that it is not in accordance with the Approved Code of Practice (L8) to allow stagnation to occur in water systems and to rely on remedial treatment to prevent exposure, as the duty is to prevent exposure where it is reasonably practicable to do so. Particular consideration must be given to university residences or other buildings that have seasonable occupancy or use.
- 5.9 Where the Responsible Person cannot achieve agreement with the building occupiers on the maintenance regime to be adopted it is the responsibility of the Responsible Person to escalate the issue.

5.10 It is the responsibility of the Responsible Person to monitor the implementation of this policy through the keeping of records and an appropriate system of monitoring of its practical application within buildings.

## 6. Specific policy requirements

6.1 The Responsible Person will provide detailed information regarding preventative and control methods, monitoring, auditing and recording for University water services and cooling systems within a procedural document and associated Works Instruction.

6.2 All relevant documentation will be held by and made available from the Estates Office (Estates Operations) and include:

- Risk assessments and all associated information (e.g. drawings);
- Procedural and specification documents for prevention or control;
- Records of monitoring and testing;
- Records of any remedial actions.

6.3 All new or refurbished water systems will be commissioned to enable compliance with this policy and accompanying procedures for the control of legionella. Specific information on system design and equipment specification will be maintained in an 'Estates Generic Project Requirements' document.

6.4 Where there is a requirement for an individual to carry out a function, such as a maintenance regime, on a timely basis, allowance must be made for deputising in the role for absences through leave, illness, work-related travel etc.

6.5 Estates Office personnel must be provided with such access and co-operation as may be necessary to enable them and their appointed contractors to safely undertake procedures developed to prevent and control legionella bacteria in University water systems.

6.6 Where a work activity involves equipment that stores or uses water there must be suitable arrangements in place to undertake a risk assessment and identify and eliminate or, where this is not reasonably practicable, adequately control any risk from exposure to legionella bacteria arising out of the use of that equipment. Where the activity takes place on university premises, the Responsible Person under this policy must be consulted so that the building water system risk assessment and other documentation can be reviewed if necessary.

6.7 Where a risk from exposure to legionella bacteria arising from the use of equipment has been identified, there must be suitable and sufficient arrangements in place for undertaking and recording the maintenance, disinfection, cleaning and monitoring of the equipment by the owner.

- 6.8 Alterations to University water systems (except by competent and trained Estates staff) must not be made without authorisation from the Responsible Person.
- 6.9 Equipment must not be plumbed into a University water system (except by competent and trained Estates Office staff) without authorisation from the Responsible Person.
- 6.10 There must be no new installations of air washers, spray humidifiers, ultrasonic humidifiers, fogging systems or water misting systems without the approval of the Responsible Person. The locations of existing systems must be notified to the Responsible Person upon receipt of this policy to enable an assessment to be made of the control measures required to ensure that the equipment is able to be used and maintained safely.
- 6.11 Where an outlet is discovered to have been unused for seven days or more the user should be careful to follow Estates Office guidance on flushing the outlet to avoid producing aerosols.
- 6.12 Where the University occupies premises that are under the control of another employer the occupier will co-operate and communicate with the other employer to ensure that there is effective management of legionella on those premises. In the absence of any instructions from the other employer the occupier will identify any infrequently used outlets and make arrangements to flush them weekly.