

Policy for the Control of Legionella Bacteria in Water Systems

For Maintenance

The objective of the London School of Economics policy is to control, prevent and minimise the risk from Legionella to the public, staff, and students, so far as reasonably practicable by designing, operating, and maintaining plant and equipment in accordance with the Approved Code of Practice and Guidance Policy (ACOP).

Introduction

This document sets out the London School of Economics and Political Science (hereafter referred to as LSE) policy, lists its objectives and the procedures and the processes it has put in place to provide guidance for designated staff responsible for implementing the Legionella Policy in Campus and Halls.

The Policy:

- Clearly defines roles and responsibilities.
- Confirms the LSE's resolve in preventing or minimising the risk from Legionella.
- Affirms LSE's commitment to have in place control measures that adhere to the risk assessment and comply with the Health and Safety Executive (HSE) Approved Code of Practice (ACOP), Guidance L8 and HGS274.
- Requires the LSE to have a control assurance system in place, endeavour that the measures are being implemented, are effective, records are kept, and the policy is reviewed on an annual basis.

Statutory Requirements

Legionnaires' disease – Technical Guidance ACOP L8 and HSG274

The Health and Safety at Work Act 1974 sets out the broad legal requirements for health, safety and welfare of employees and others (including visitors, contractors, and the general public).

Beneath the Act are a series of regulations which describe more detailed obligations, such as the Control of Substances Hazardous to Health Regulations (COSHH) 2002.

Further documents include Approved Code of Practice and guidance (ACOP) and HSG274 (HSE Technical Guidance) which serves to interpret the Regulations more specifically. In respect of this policy the Health and Safety Commission's ACOP L8 – Legionnaires' disease. The Control of Legionella Bacteria in water systems explains the requirements of COSHH in respect of Legionella.

Legionella

The term Legionellosis covers Legionnaires disease, Pontiac Fever and Lochgoilhead Fever. Legionnaire's disease is a Pneumonia that principally affects those who are susceptible due to age (especially young or old), illness, immunosuppression, smoking etc., and maybe fatal. Legionella can also cause less serious illnesses which are not fatal, but which can affect all people.

Although Legionella bacteria are water-borne organisms, transmission of the disease is by inhaling water droplets in the form of an aerosol that contain the Legionella bacteria. Legionellae are widespread in natural sources of water. They may enter man made systems or water services where they multiply under certain favourable conditions, i.e., water held between 20c and 45c such as running showers, spa bath equipment or cooling towers that can generate aerosols. Other sources include humidifiers and air washers.

ACOP sets out the guidance to those with health and safety responsibilities to help comply with legal duties in relation to legionella. For example, for those responsible for the premises, a basic framework is set out for preventing further outbreaks of the disease by giving advice on the management and selection, training and competence of appropriate LSE personnel and our Specialist Contractor.

Responsibilities of manufacturers, installers of products and service providers are also included.

The following present a risk of Legionellosis:

- Water systems incorporating an evaporative type cooling tower.
- Water systems incorporating an evaporative condenser.
- Hot and cold-water systems.

Other plant and systems containing water which are likely to exceed 20°C and may release a

spray or aerosol during operation, when being maintained or tested may also present a risk.

The School will manage the risk of Legionella in accordance with the latest edition of ACOP Guidance L8, (Legionnaires disease the control of Legionella in water systems) and HSG274.

Under ACOP and in accordance with COSHH regulations, there is a requirement to carry out an assessment to identify and assess the risk from Legionella associated with all water systems on site. It is then necessary to implement a Legionella management programme and demonstrate that all necessary steps to achieve and maintain adequate control have been considered and implemented as far as reasonably practicable.

ACOP L8 and HSG274 will be the guidance for the LSE Policy.

Objectives

The LSE will have in place:

A process of continuous risk assessment for water safety risks. It achieves this by routinely obtaining data which prove that a standard of risk control known as ALARP (as low as reasonably practicable), which indicates that the risk is "low". In the event that data indicate the critical control criteria indicative of ALARP are not being met, a simple risk review is recorded which provokes any necessary immediate alternative protection of water system users and a root cause analysis to determine the actions necessary to return to ALARP and deal with any consequences. This process is overseen by the Deputy Responsible Person.

- Action plan: which puts in place control measures that take account of the risk assessment and prevents or minimises the risk from exposure to Legionella.
- Safe working practices: implement and manage the scheme of precautions and other measures in compliance of the Policy. Nominate a Duty Holder responsible to oversee and implement the scheme of precautions.
- Assurance of control: implement monitoring and recording procedures to endeavour that the measures put in place are adequate and effective.
- Training: regular training of all personal involved, to endeavour they have a level of knowledge and competence commensurate with their involvement in the control procedure.
- Risk Assessment: continuous assessment including any significant changes to the system.
- Policies: will endeavour to review the policy annually and more regularly if any legislation has been implemented.
- Purchase and install equipment for new projects, scheme, or replacement programmes, which prevents and/or minimises the risk.

Roles and Responsibilities

Management and Responsibilities

It is essential that adequate management of financial resources are made available for prevention or minimising the risk arising from Legionella within the School. It is important that all personnel whether involved in assessing risk, carrying out precautionary measures, planned preventive maintenance and those carrying out refurbishment or alterations are competent, trained, and aware of their responsibilities.

Duty Holder: Director of Estates

- Responsible for the issue of the Legionella Policy.
- Has a duty to comply with ACOP L8.
- The Duty Holder should have sufficient knowledge to be able to competently carry out this role and attends three yearly refresher training.
- Reports to the Health and Safety Management Committee.

Responsible Person - Director of Facilities Management

- Will be responsible for drafting the LSE Legionella Policy, will take a lead role in its implementation and will propose amendments to the LSE Policy that may be necessary in the future.
- Will communicate the LSE Legionella Policy and arrangements to the LSE Health & Safety Management committee.
- Endeavour to provide resources for implementing the requirements of the ACOP L8.
- Shall nominate all Deputy Responsible Persons.
- Responsible for the issue of a Water Safety Plan (Written Scheme of Control).
- Endeavour that all the maintenance, Capital Development project team and measured term contractors comply with HSG274 and ACOP L8 and the Schools' Legionella Policy.
- Endeavour that all FM Operatives are competent and receive suitable training.
- Liaise with the Director of Capital Development to endeavour that all Project Managers are competent and receive suitable training and comply with HSG274 and ACOP L8 and the Schools Legionella Policy and Capital Developments Legionnaire's Disease Procedure Note 044.
- The Responsible Person should have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.
- Organise regular meetings to discuss Legionella and water treatment.

Deputy Responsible Person - Head of Maintenance

- The Head of Maintenance shall draw support from Legionella Control Association accredited competent specialists such as water treatment consultants, microbiologists, etc. to fulfil his obligations / duties as a responsible person.
- Appoint a Legionella Control Association accredited consultancy or a reputable water treatment company to carry out a review of the risk assessment when major changes to the use of the building are made, control measures are ineffective or if Legionnaires disease is associated with the system.
- Remedial actions resulting from the risk assessment and those contained in the LSE scheme are carried out in full and are recorded.
- Manage the Maintenance Department operations and planned preventive maintenance activities of the LSE facilities and assets regarding Legionella in accordance with all relevant regulations and the LSE Policy.
- Support the Responsible Person to update and make amendments to the LSE Policy that may be necessary in the future.
- Operate as the focal point for Legionella related issues.
- Attend regular meetings to discuss Legionella and water treatment.
- Liaise and advise the Long-Term Maintenance team (LTM)/Capital Development Team of water treatment issues, e.g., the removal of any areas of potential risk and installation of new plant.
- The Deputy Responsible Person should have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.
- Endeavour that sample tests are undertaken by a UKAS accredited laboratory.
- Co-ordinate the actions necessary in the event of incidents involving major plant failure e.g., power failure – liaise with UKPN for timescales, if necessary, arrange for temporary generator or set up temporary supply from adjacent building. For public water issues – liaise with Thames Water to arrange for either an alternative supply or arrange for a water bowser.

Appointed Persons 1 - Building Services Manager / Deputy Head of Maintenance

- Deputises for the Deputy Responsible Person.
- Takes day-to-day responsibility for controlling any identified risk from Legionella bacteria.
- Checks the specialist PPM Contractor is carrying out the de-scaling of shower fittings on a quarterly basis or as required.
- Manages the specialist PPM contractors, reviews test results, and carries out review meetings under the terms of the contract.
- The Appointed Persons should have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.
- Works with the Deputy Responsible Person reviewing risk assessment recommendations and the implementation of any remedial action.

- Advises the Hall of Residences' Managers and other designated hall's staff on all Legionella and water treatment related issues.
- Implements a water sampling programme for Legionella as advised by the water treatment specialist at a frequency not greater than six monthly.
- Makes sure that remedial action is taken if Legionella bacteria are isolated.
- Arranges for all remedial action sheets to be filled in by the designated parties, including sign off by LSE and the specialist contractor, and then enters into the relevant logbooks.
- Attend regular meetings to discuss legionella and water treatment issues.

Appointed Persons 2 – Mechanical Supervisor

- Checks the specialist PPM Contractor is carrying out the de-scaling of shower fittings on a quarterly basis or as required.
- The Appointed Persons should have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.
- Makes sure that remedial action is taken if Legionella bacteria are isolated.
- Arranges for all remedial action sheets to be filled in by the designated parties, including sign off by LSE and the specialist contractor, and then enters the relevant logbooks.
- Attend regular meetings to discuss legionella and water treatment issues.

Nominated Person 1 – Specialist PPM Contractor

- A specialist contractor is the person or organization designated by the Responsible Person/Deputy Responsible person for the supply, installation, validation, and verification of hot and cold-water services, and to conduct of the installation checks and tests. In relation to the control of Legionella, it is essential that potential contractors are suitably qualified.
- Carry out regularly flushing of known dead legs or infrequent used outlets on a weekly basis for at least three minutes weekly and then entered the relevant logbook. The Appointed Persons 1 & 2 shall endeavour that this task is carried out as a routine.
- Monitors hot and cold-water service temperatures at each designated location at specified periods or as and when required and then is entered into the relevant logbook.
- Checks, cleans and de-scales shower fittings as required and then is entered into the relevant logbook.
- Inform the Appointed Persons 1 & 2 in writing in the event of removal of surplus-to-requirement showers, taps, sinks, baths, and any appliances connected to the hot or cold-water services, e.g., items identified in the risk assessment.
- Inform the Appointed Persons about incorrect temperatures of water from taps, discoloration, or unusual smell from the hot or cold-water supply as and when discovered.
- The Nominated Person 1 should have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.

Nominated Person 2 – Cleaning Team (Campus & Halls)

- Endeavour that basins, baths, WC cisterns, showers, etc. that are not regularly used on a weekly basis are flushed for at least three minutes weekly and a log of compliance is maintained. The record / log shall be retained within the Estates Division. The Appointed Persons 1 & 2 shall endeavour that this task is carried out as a routine.
- Report to Estates Help Desk any problems with the hot and cold-water services from the taps when carrying out cleaning services.
- The Nominated Persons 2 should have regular training.

Nominated Person 3 – In-House Technicians (Campus & Halls)

- As and when required carry out flushing of known dead legs or infrequent used outlets on a weekly basis for at least three minutes and a log of compliance filled out. The Appointed Persons 1 & 2 shall endeavour that this task is carried out as a routine and the information is then entered into the relevant logbook.
- Endeavour to carry out monitoring of main boiler / domestic hot water plant via the building management system (BMS) at specified periods or as and when required. They respond to Helpdesk requests regarding hot and cold-water issues.
- Checks the specialist contractor is carrying out the de-scaling of shower fittings on a quarterly basis or as required.
- Inform the Appointed Persons in the event of removal of surplus- to-requirement showers, taps, sinks, baths, and any appliances connected to the hot or cold-water services, e.g., items identified in the risk assessment.
- Inform the Appointed Persons about incorrect temperatures of water from taps, discoloration, or unusual smell from the hot or cold-water supply as and when required.
- The Nominated Persons 3 will have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.

Nominated Persons 4 – Halls Managers and Head Groundsman

- Endeavour that basins, baths, WC cisterns showers etc. that are not regularly used on a weekly basis are flushed for at least three minutes weekly and a log of compliance is maintained. The record / log shall be kept within the building log books. The Halls Managers and Sports Ground Staff shall endeavour that this task is carried out as a routine.
- Checks the specialist contractor is carrying out the de-scaling of shower fittings on a quarterly basis or as required.
- Inform the Appointed Persons in writing in the event of removal of surplus to requirement showers, taps, sinks, baths and any appliances connected to the hot or cold-water services, e.g., items identified in the risk assessment.
- Inform the Appointed Persons about incorrect temperatures of water issuing from taps, discoloration, or unusual smell from the hot or cold-water supply.
- Endeavour that the necessary action is taken if Legionella bacteria are isolated.

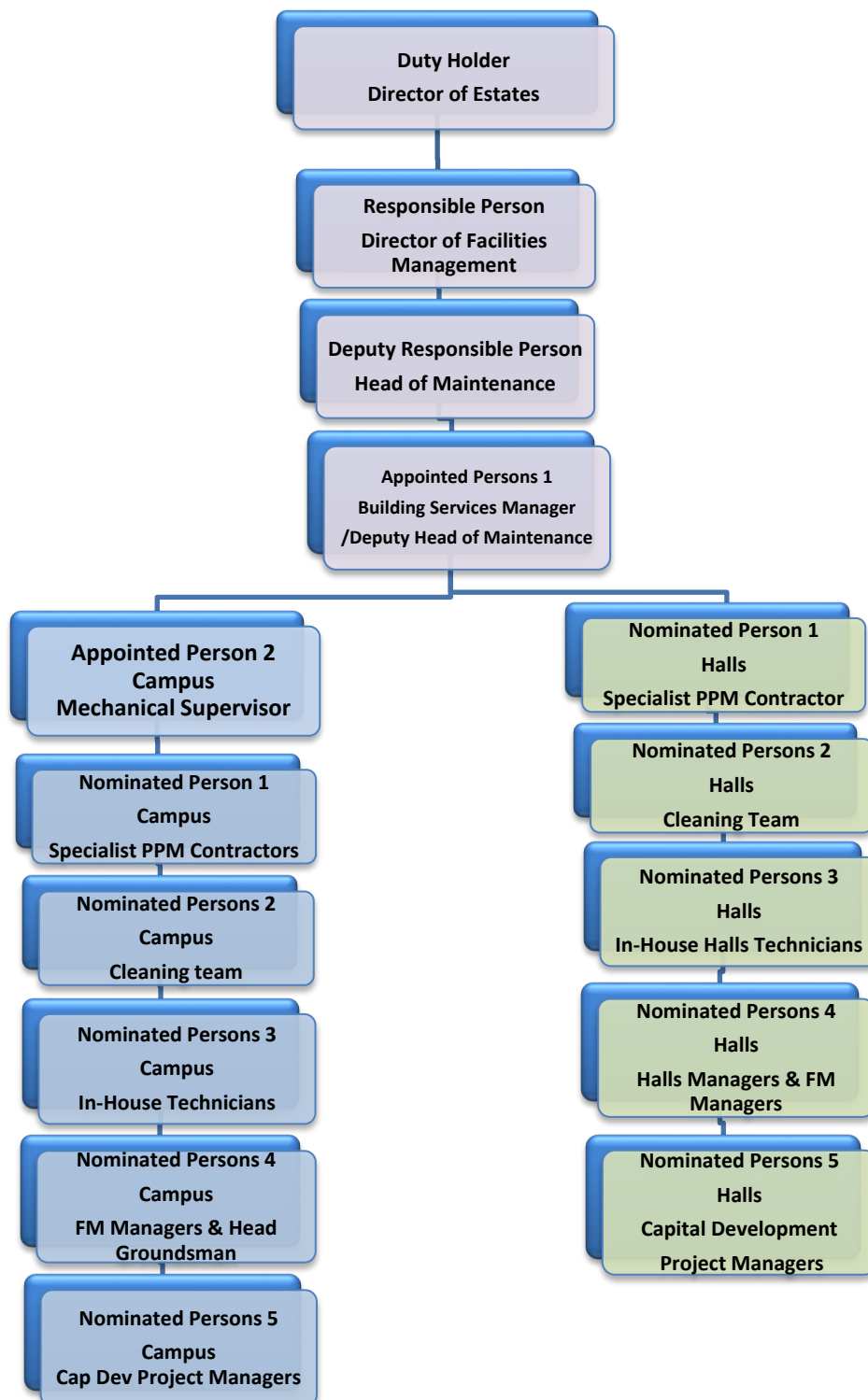
- Endeavour that all remedial action sheets are filled in by the designated parties, including sign off by LSE and the specialist contractor, and then placed into the relevant logbooks.
- The Nominated Persons 4 will have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.

Nominated Persons 5 – Project Managers (Campus & Halls)

- Endeavor that systems are designed and installed in compliance with the ACOP L8 and HSG 274 Document.
- Comply with the LSE control of Legionella bacteria within water systems policy and procedures and the standard specification during design and installation.
- Endeavor that the condition of the existing domestic water systems are reviewed at the start of Capital/LTM works including any necessary sampling in accordance with Appendix IV.
- Review existing Risk Assessments in full and incorporate any recommendations in consultation with the Deputy Responsible Person.
- Endeavour to review risk assessments for leased areas/properties with Landlords.
- Where any domestic water systems are taken out of operation because of Capital/LTM works, e.g., toilets, kitchens, showers, make sure either a regular flushing/recording procedure will take place or a complete drain down and isolation of the system in accordance with Appendix IV.
- The Nominated Persons 5 will have sufficient knowledge to be able to competently carry out this role and attend refresher courses once every three years.
- Make sure a full Risk Assessment is carried out including sampling and updating schematics on completion of Project works where alterations to the hot and cold-water services have been made or Capital redevelopment. These must be carried out by the Schools approved Water Treatment Specialist.
- Cap Dev Procedure Note 0044 (Appendix IV) to be complied with.

Management Structure for the Control of Legionella

The following diagram illustrates the lines of responsibility for the control of Legionella



Appendix I - Named Individuals – Roles and Responsibilities

Position: Title	Name	Responsibility
Duty Holder: Director of Estates	Julian Robinson	Legal duty of compliance reporting to Health and Safety Committee.
Responsible Person: Director of Facilities	Allan Blair	Draft, implementation, and update of the policy. Main contact for investigations Appointed officer for outbreaks
Deputy Responsible Person: Head of Maintenance	Paul Franklin	Endeavour that the maintenance section manages the operation & operates as focal point for Legionella issues.
Appointed Person 1: Building Service Manager / Deputy Head of Maintenance	Kim Goodayle Dene Donkin	Day to day responsibility for the Campus, Halls of Residence and Sportsground.
Appointed Person 2: Campus: Supervisor	Kevin Curran	Day to day responsibility for the campus.
Nominated Persons 1: Specialist PPM Contractor	Dirk McKewan Mick Heselden	All LSE properties including Halls and Sports ground. Planned and reactive tasks.
Nominated Person 2: Senior Facilities Manager / Cleaning Team	Mary Lee	Day to day responsibility for the cleaning team: Flushing and reporting.
Nominated Persons 3: In-House Technicians	Mo Miah Jon Stockton	Reactive tasks at the Campus and Halls.
Nominated Persons 4: Halls, FM Managers and Head Groundsman	Jackie Woodley Bally Nandra Steve Butters	Halls and LSE Sports Ground. Endeavour to plan for and action reactive tasks.
Nominated Persons 5: Assistant Director Capital Development	Emma Lovegrove	Endeavour that all systems are designed and installed in compliance with the ACOP L8, HSG274

Appendix II Action in the Event of a Legionella Detection

Table 2 - HSE L8

Evaporative Cooling Systems (Cooling Towers)

Legionella bacteria (cfu/litre)	Action required
100 or less	System under control
More than 100 and up to 1000	Review program operation- A review of the control measures and risk assessment should be carried out to identify any remedial actions and the count should be confirmed by immediate re-sampling.
More than 1000	Implement corrective action - The system should immediately be re-sampled. It should then be "shot-dosed" with an appropriate biocide, as a precaution. The risk assessment and control measures should be reviewed to identify remedial actions.

Table 3 - HSE L8

Domestic Water Services (Hot and Cold Water)

Legionella bacteria (cfu/litre)	Action required
More than 100 but less than 1000	Either: <ul style="list-style-type: none"> a) If only one or two samples are positive, the system should be re-sampled. If a similar count is found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions. b) If the majority of samples are positive, the system may be colonised, albeit at a low level, with Legionella. Disinfection of the system should be considered but an immediate review of control measures and a risk assessment should be carried out to identify any other remedial action required.
More than 1000	The system should be re-sampled, and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system.

Appendix III Action in the Event of an Outbreak

HSE L8

An outbreak is defined by the Public Health England (PHE) as two or more cases of legionellosis 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. It is the responsibility of the Proper Officer for the declaration of an outbreak. The Proper Officer is appointed by the local authority under public health legislation and is usually a consultant in communicable disease control.

Whoever receives an enquiry or notification regarding an outbreak of legionellosis, whether alleged to be connected with School premises or plant, or in the immediate area of School premises where the source has not been proven, must immediately notify the Director of Facilities, who will notify the Director of Estates, who will then notify the Head of Maintenance, and other relevant persons.

The LSE Director of Facilities will be the main contact for the investigating appointed officer.

The local authority will have established incident plans to investigate major outbreaks of infectious disease including Legionellosis. These are activated by the proper officer who invokes an outbreak committee, whose primary purpose is to protect public health and prevent further infection. This will normally be set up to manage the incident and will involve representatives of all agencies involved. HSE or the local authority EHO may be involved in the investigation of outbreaks, their aim being to pursue compliance with health and safety legislation.

The local authorities Consultant in Communicable Disease Control (CCDC) or Environmental Health Officer (EHO) acting on behalf (often with the relevant officer from enforcing authorities either HSE or local authority) may make a site visit.

As part of an outbreak investigation and control, the following requests and recommendations may be made by enforcing authority:

- To shut down any processes which can generate and disseminating airborne water droplets and keep them shut down until sampling procedures and any remedial cleaning or other work has been done. Final clearance to restart the system may be required.
- To take water samples from the system before any emergency disinfection being undertaken. This will help the investigation of the cause of illness.
- Investigating officers from the local authority may take samples or require them to be taken.
- To provide staff health records to discern whether there are any further undiagnosed cases of illness, and to help it prepare case histories of the people affected.
- To cooperate fully in an investigation of any plant that may be suspected of being involved in the cause of the outbreak. This may involve for example.
- Tracing of all pipework runs.
- Detailed scrutiny of all operational records
- Statements from plant operatives and managers
- Statements from water treatment contractors or consultants

The Responsible/Deputy Person, (Director of Facilities/Head of Maintenance) will be responsible for ensuring that the requests and recommendations made by the enforcing authority are implemented.

The Director of Facilities will notify the press office of any enquiry or notification of legionellosis in connected with School premises.

The Director of Facilities will notify the School's legal advisers if the enforcing authority indicates that an outbreak is linked to School premises and convey any advice received to the Director of Estates.

Any infringements of relevant legislation may be subject to a formal investigation by the appropriate enforcing authority.

Appendix IV. Capital Development Procedure Note 044

PROCEDURE NOTE

Ref No: 044
Title: Legionnaire's Disease Procedure
Date Originated: 16 August 2012
Updated: 4 January 2018

Colleagues,

Please note that from January 2018 there is a revised Policy for the Control of Legionella Bacteria in Water Systems which is in-line with the requirements of BS 8558, HSE ACOP L8 (fourth edition), The Control of Legionella Bacteria in Water Systems and supporting guidance HSG 274 Parts 1-3 inclusive and the Estates Standard Specification.

The Policy sets out the School's strategy, objectives, and procedures/processes for managing the risks associated with Legionella bacteria and are available on the School's website for your own use and to disseminate to your project team. It can be viewed here:

<P:\Estates\LSE Estate\Maintenance\Water Treatment\1.General file\Policy for Legionella>

PMs should note that under the Policy they have certain responsibilities and duties under their allocated Capital and Long-Term Maintenance projects to make sure that where practical they (together with their appointed consultants and contractors) mitigate the risks associated with Legionella bacteria. Such duties should include:

- Endeavour that systems are designed and installed in compliance with BS 8558 and the HSE ACOP L8 and supporting guidance HSG 274 Parts 1-3.
- Undertake an investigation of the condition of the existing domestic water systems are reviewed at the start of each project including any necessary sampling in accordance with industry codes of practices.
- Comply with the LSE control of Legionella bacteria within water systems policy and procedures and the standard specification during design and installation.
- Review existing Risk Assessment in full and incorporate any recommendations in consultation with the Head of Maintenance as the Deputy Responsible Person.
- Obtain, review, and address any action plans or schedules of remedial works highlighted within such Risk Assessments.
- In respect of leased accommodation obtain from the landlord, his Legionella Risk Assessments in order to review and mitigate the risk of any Legionella bacteria entering the School's designated leased area and systems. The use of Zip heaters within our designated area on landlord's cold water supply service will eliminate the need to receive hot water services from the landlord.
- Where any domestic water systems are taken out of operation as a result of Capital/LTM projects, e.g., toilets, kitchens, showers, either a regular flushing/recording procedure should take place or a complete drain down and isolation of the system. In all cases notify and if necessary, receive advice from Maintenance.
- On completion of the project, structure and full risk assessment is carried out including sampling and implicating schematics. This must be undertaken by the School's approved Water Treatment Specialist.
- On completion of each project please make sure a full Risk Assessment is carried out including sampling in order that comparison can be made with the original condition.

Certificates should be obtained and circulated to colleagues in Maintenance. These must be carried out by the School's approved Water Treatment Specialist.

- To improve records and to aid future works, it is important to instruct either appointed consultants or contractors to create new or update existing schematics of the water systems.

In order to reinforce the policy and to educate individuals of the technical detail, all PMs should attend the regular training and attend refresher courses every three years run by the School's approved training provider (check with Maintenance if in doubt) relating to the Control of Legionella Bacteria. PMs should be aware that the bacteria is a water borne organism and is transmitted by inhaling water droplets in the form of an aerosol that contains the bacteria. The bacteria may enter man-made water systems and multiply under favourable temperatures of 20c and 45c. The majority of incidents are linked to cooling towers, showers and spa baths.

For the avoidance of doubt, at the LSE, the following present a risk:

- Water systems incorporating an evaporative type cooling system.
- Water systems incorporating an evaporative condenser.
- "Domestic" hot and cold-water systems and tank storage
- Showers
- Drinking Water systems (where attached to spray outlets)
- Humidifiers (wet spray design)
- Charged firefighting systems (especially during testing)
- Water irrigation systems.

The School's Water Treatment Specialist currently at the date of this note undertake the School's Risk Assessments on existing systems, but PMs should be aware of procedures to eliminate or reduce risks during the design and construction of Capital Development Projects:

- Remove old sludged up and deteriorating storage tanks and other vessels.
- Avoid new water storage systems.
- Remove dead-legs in existing pipework.
- Do not create new dead-legs in new pipework (Including lengths of pipework which are not regularly circulating).
- Chlorinate all pipework, new and existing, during and at the completion of project installation (certificate to be dated <30 days from full habitation, all outlets to be flushed for 3 minutes weekly post disinfection until full habitation) See BS8558.

At the time of construction and before the disinfection it may be necessary to leave the water in the system. Where this is the case, a regular regime of flushing should be undertaken at every outlet, weekly (See BS8558).

- For localised refurbishment works new pipework, fittings etc., to be chlorinated by immersing in a recommended disinfecting solution before connection to existing systems.
- Ensure all test certificates are issued including those for local pipework chlorination/disinfection.
- Set hot water systems at above 50 deg C (water should reach 50 deg C at furthest outlet within 1 minute of running the tap)
- Unless specifically required e.g., disabled WC's, avoid thermostatic mixing valves as they generally limit water to 38 deg C.
- Ensure cold water taps/systems provide water at below 20 deg C within 2 minutes of running tap.
- Avoid aerosol inserts to WHB taps and fine aerosols on shower heads.

- Ensure all shower heads and hoses are removable, easily de-scalable and dis-infected.

ALTHOUGH IT IS UNLIKELY THAT OUTBREAKS WILL OCCUR DURING CONSTRUCTION WORKS, PLEASE NOTE APPENDIX III OF THE POLICY DOCUMENT IN THE EVENT OF SUCH AN OCCURENCE.

Procedure

1. PMs to ensure that they receive the regular training on Legionella.
2. PMs to note their responsibilities and duties and to be aware of the areas where outbreaks may occur.
3. PMs to note the type of documentation required during the entire construction process.
4. PMs to note to see also **Note 009 Procedure Note-09-O&M Manual standard Index** which will require **Volume 11 Mechanical Services and Public Health, Section Seven Test and Commissioning Data and Certificates** to have copies of all the chlorination certifications.
5. PMs on smaller projects or LTM related projects to ensure that the chlorination certificates stating that the works were undertaken in line with BS8558 are issued prior to hand over. Chlorination results should be clear before handing over or occupation or use of the wet systems as indicated above.
6. PMs to ensure that the Chlorination certificates are passed on to Maintenance.
7. Inform LSE Maintenance of new works irrespective of size to ensure that existing systems are suitable, and our water treatment contractor can include the new works in their risk assessment (existing pipework schematic drawing to be updated to suit), monitoring and maintenance regime.

Thank you for your attention to this matter.

Kenneth Kinsella
Director of Capital Development

To: EL, EF, FB, BM, DM, DS
Cc: AB, JR, KK

Policy Review

This policy will be reviewed annually, or as new knowledge on the subject evolves and subsequent guidance is issued.

Review schedule

Review interval	Next review due by	Next review start
Annually	25 January 2023	January 2023

Version history

Version	Date	Approved by	Notes
	October 2012	PF	Reviewed and approved annually at Estates Strategy Committee
	January 2017	PF	Annual Review
	February 2018	PF	Annual Review
	May 2019	PF/KG	Annual review and minor amendment of personnel.
4.1	January 2021	PF/KG/DD/JS	Annual review and minor amendment in personnel and roles
4.2	January 2022	PF/KG/DD/JS	Annual review and minor amendment in personnel.

Links

Reference	Link
Document 22	

Contacts

Position	Name	Email	Notes
Director of Facilities	Allan Blair	a.blair1@lse.ac.uk	

Communications and Training

Will this document be publicised through Internal Communications?	Yes
Will training needs arise from this policy	Yes
If Yes, please give details – As detailed within the document Legionella training is requires every 3 years.	