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1. Policy Statement

This Water Safety Management Policy for Northumbria University sets out a framework for ensuring all water systems are installed operated and maintained in a manner that ensures statutory compliance reduces the risk of legionnaire's disease and ensures appropriate water quality. This will include providing sufficient resource to ensure all obligations can be reasonably achieved.

This Policy will apply in Northumbria University properties whether managed directly or indirectly by a third party. The Responsible Person (Water) shall ensure suitable systems are in place to ensure compliance.

i. Management Policy (this document)

Outlines roles and responsibilities within the organization, details responsibilities of individuals, defines outline operational duties which must be implemented, defines record keeping and instruction training and supervision requirements.

The Water Safety Policy will follow the principles of HSG 65 Plan, Do, Check, Act to ensure there is a systematic approach to Water Safety management.

ii. Risk Assessment

A suitable and sufficient assessment must be carried out to identify and assess the risk of exposure to legionella bacteria from work activities and water systems on the premises and any precautionary (control) measures needed. The Responsible Person (Water) is responsible for ensuring the risk assessment is carried out

The risk assessments are retained under the control of the Nominated Responsible Supply Partner and reviewed on a bi annual basis or following changes to the water system or its use; changes to the use of the building; changes to legislation or industry standard or following a case of legionnaire's disease.

iii Water Safety Operational Manual

The Water Safety Operating Manual sets out the practical measures required to ensure compliance with the Water Safety Management Policy. Details of how this is achieved are documented in each buildings log book.

The manual and log book for each University building contains the following information

- Attendance register
- Details of responsible person (Water)
- Risk Assessment
- Activity records
- Alteration log

The operating manual also details

- The specific operational criteria that must be achieved for all systems identified in the Risk Assessment as being susceptible to colonising Legionella.

- The specific maintenance criteria that must be achieved to minimise the risk as identified in the Risk Assessment.
- Testing protocols, frequencies, etc.

As the University has both a moral and legal responsibility to ensure that the risk to students, employees, visitors, etc. is reduced so far as is reasonably practicable, those staff detailed in this document are required to implement the necessary procedures, works, etc. necessary to ensure the University's obligations are fulfilled.

2. What is Legionnaires Disease?

2.1 Background

- 2.1.1 Legionnaires Disease was first recognised in July 1976, when an outbreak occurred amongst delegates attending an American Legion Convention in Philadelphia. The cause eluded scientists for several months, but in January 1977 the Centre for Disease Control, Atlanta, reported the isolation of the causative agent, which they named Legionella Pneumophila.
- 2.1.2 Since 1980 there have been a number of major outbreaks of Legionnaires Disease in the UK.
- 2.1.3 While previously healthy people may develop Legionnaires Disease, there are a number of factors which increase susceptibility:
- increasing age, particularly above 50 years (children are rarely infected)
 - sex: males are three times more likely to be infected than females;
 - existing respiratory disease which makes the lungs more vulnerable to infection or anything that may suppress the immune system;
 - smoking, particularly heavy cigarette smoking, because of the probability of impaired function.
- 2.1.4 The risk of infection depends upon the ability of these organisms to multiply to significant levels, to be then dispersed into the air as an aerosol and to be inhaled in sufficient numbers by susceptible individuals.
- 2.1.5 By knowing the conditions ideal for the bacteria's growth and taking all reasonable precautions to avoid them we can reduce the risk of sufficient numbers of bacteria being present to cause a health hazard.
- 2.1.6 Most water systems can provide a potential habitat for the organism. The optimum temperature required is 37°C. At temperatures above 37°C the rate of multiplication of Legionella, in laboratory tests, decreases and at 46°C falls to zero. Bacteria will survive at higher temperatures but the survival time decreases from a matter of hours at 50°C to one of minutes at 60°C and practically zero at 70°C.

Below 37°C the multiplication rate decreases and can be considered insignificant below 20°C. The organism can remain dormant at much lower temperatures and return to active multiplication whenever more favourable temperatures occur.

Effective water temperature control is an important control measure in the prevention of Legionnaires Disease in hot and cold water systems, keeping cold water below 20°C and hot water stored above 60°C. As is ensuring that water is not allowed to stagnate in the system and infrequently used outlets are either flushed or removed.

3. Legislation, standard, guidance and codes of practice

3.1 Introduction

- 3.1.1 The fourth edition of the Approved Code of Practice and Guidance L8 (ACOP) "The Control of Legionella Bacteria in Water Systems" was released in 2013 and gives advice on the requirements of the Health and Safety at Work Act 1974 (HSW), and the Control of Substances Hazardous to Health Regulations 2002 (COSHH) and applies to the risk from exposure to legionella bacteria.

In particular, it gives guidance on sections 2, 3, 4 and 6 of the HSW and regulations 6,7,8,9 and 12 of COSHH and relevant parts of the Management of Health and Safety at Work Regulations 1999.

The significant change in the fourth edition of the ACOP was to remove the technical guidance; this is now available separately in HSG 274 and has three parts, evaporative cooling towers, hot and cold water systems and other risk systems.

- 3.1.2 In addition to the ACOP a number of other sources of guidance, are listed below:

- Water Services Water Supply (Water Fittings) Regulations 1999;
- The Chartered Institution of Building Services Engineers TM13 2013 COP Minimising the Risk of Legionellosis.
- Legionnaires Disease a guide for duty holders
- BS 8558 2011 Guide to design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

- 3.1.3 The above documents provide a useful source of data for site staff to manage the control of Legionellosis and can be consulted as a further source of information.

3.2 Required Standards at Northumbria University and Partnered Properties

- 3.2.1 Northumbria University will set up a Water Safety Working Group, the details of which are in Section 8 of this document. The remit of the Group is to ensure appropriate controls, arrangements and monitoring is in place across the University Estate to maintain the risk associated with water systems to an acceptable level. The group is responsible for ensuring the requirements set out within the Water Safety Management Policy and Operating Manual are implemented fully and that all water systems supply appropriate quality of water and are

installed, operated and maintained in accordance with statutory compliance requirements to mitigate as far as is reasonably practicable the risk of legionnaires disease.

The group is also responsible for appraising the implications of all planned maintenance, project work and Faculty activity associated with University water systems infrastructure.

In order to minimise the potential for an outbreak of Legionella and ensure appropriate water quality standards are maintained, **the responsible persons as detailed in Section 5 shall implement all requirements of the ACOP.** The key requirements of the ACOP are listed below.

- i. Risk Assessment
- ii. The specific role of the appointed competent person, known as the 'responsible person (Water)'
- ii. The control scheme and what it should include
- iv. Review of control measures
- v. Duties and responsibilities of those involved in the supply of water systems.

Risk Assessment

A suitable and sufficient assessment must be carried out to:
The key requirements of the ACOP are listed below.

- i. Identify and assess risk (as required by COSHH Regulations) 2002 (as amended):
 - assess the risk to health;
 - identify and evaluate potential sources of risk;
 - identify necessary precautionary measures.

The Responsible Person (Water) is responsible for ensuring the risk assessment is carried out both at the University & at Partnered Properties.

- ii. Preventing or minimising the risk from exposure to Legionella:
 - having an up to date site/system plan;
 - description of correct and safe operation;
 - necessary precautions;
- iii. Management and the selection, training and competence of personnel:
 - where the assessment identifies a risk, the University must appoint a person or persons to take managerial responsibility and to provide supervision for the implementation of precautions;
 - responsibilities and lines of communication must be properly defined.
- iv. Record keeping – appropriate records shall be kept, including:
 - the risk assessments;

- appointed persons and responsibilities;
 - lines of communication;
 - written Operational Plan;
 - plant records;
 - details of precautionary measures;
 - results of inspections, i.e. water temperatures, chlorination, cleaning, etc.;
 - signature of the person(s) carrying out particular tasks;
 - records should be preserved for at least 5 years.
- v. Responsibilities of designers, suppliers, installers, etc. (both in-house and external):
- they must ensure risk is avoided or designed so that systems will be safe and without risk to health when used at work

3.3 Training

- 3.3.1 Training is fundamental to the operational success of minimising the risk of a Legionella outbreak. Staff must be instructed in what they must do, be given adequate information about the risks of Legionella and what precautions need to be taken to avoid them and what the dangers and consequences of not maintaining water systems will be.

Training courses should be provided by an independent UKAS accredited provider. The levels of training required are:

Level of Training	Targeted Staff Groups	Refresher
ILM Responsible Person Training	Responsible Person (Water) Deputy Responsible Person (Water) Assistant Director, Health Safety	Refresher every 2 years
ILM Project Management (Capital Works)	Capital Works Manager	Refresher every 2 years
Legionnaires Disease General Awareness	Facilities Managers Grounds Supervisors Facilities Support Supervisors Technical Staff in Faculties Facilities Coordinators Cleaning Supervisors Planning & Development Project Officers	Refresher every 2 years
Toolbox Talks by the Deputy Responsible Person	Facilities Support Assistants Cleaners Grounds staff Facilities Support Assistants	Annually

- 3.3.2 The Assistant Director, Facilities Services will be responsible for identifying any supplementary training for persons responsible for managing water safety for which he is responsible. Records of any training must clearly show the level and content of the training provided and must be available for inspection at all times.

In Partnered properties under the control of a Nominated Responsible Supply Partner suitable training and competency records will be maintained and available for all persons responsible for working on water systems.

4. Identification of Key Risk Areas

4.1 Introduction

- 4.1.1 The following list which is based upon the information sources listed in Section 3.0 may be assumed, in normal circumstances, to include all currently known sources where the risk is sufficient to warrant the measures required in the Approved Code of Practice (ACOP). This does not mean that the list includes all possible sources, or that cases of Legionnaires Disease will be avoided by applying precautions solely to the systems and plant listed. Whenever a risk is identified, all reasonably practicable precautions should be applied. However, experience to date indicates that the risk from plant and systems, other than those listed below, will normally be very small.

- a. Hot and cold water services irrespective of size in premises where occupants are particularly susceptible, such as health care premises (not applicable at the University);
- b. Humidifiers and air washers which create a spray of water droplets and in which the water temperature is likely to exceed 20 degrees Celsius;
- c. Spa baths and pools in which warm water is deliberately agitated and re-circulated.
- d. Showers and spray taps
- e. Domestic hot water system
- f. Tanks/tank fed cold water systems
- g. Infrequently used outlets
- h. Drinking water distribution
- i. Water filters
- j. Water heaters
- k. Vending machines – requiring mains water

- l. Water softeners
- m. Fogging/misting systems
- n. Spray humidifiers and wet scrubbers
- o. Sprinkler and hose systems
- p. Fume cupboards with scrubber units
- q. Thermostatic Mixing Valves
- r. Rainwater Harvesters

4.1.2 It is systems susceptible to colonisation by Legionella and which incorporate a potential means for creating and disseminating water droplets which present the greatest risk. Risk is to be assessed not just for the routine operation or use of the system but also in relation to breakdown, abnormal operation, commissioning or unusual circumstances.

5. Responsible Persons (Water)

5.1 Management

- 5.1.1 The Vice Chancellor has overall responsibility for all aspects of Legionella control on the site. Day to day operational responsibilities has been delegated to the officers outlined in Appendices 1-3 and generally as detailed as below.
- 5.1.2 The Assistant Director Facilities Services will be the principal nominated responsible person (Water) and will ensure the requirements of the ACOP, other associated legislation and supporting guidance are implemented.
- 5.1.3 The Executive Deans of Faculties and Directors of Service Departments are responsible for ensuring that all equipment connected to and standing alone from the water system is maintained in accordance with the ACOP. Advice can be sought from the Assistant Director, Facilities Services with regard to this requirement.

The Water Safety Working Group will meet at least quarterly, and by exception when necessary, to ensure appropriate controls, arrangements and monitoring is in place across the University Estate to maintain the risk associated with water systems to an acceptable level. The minutes of the Group will be presented to each meeting of the Campus Services Health & Safety Management Group.

5.2 Operations

- 5.2.1 The Maintenance & Engineering Manager will be the responsible competent person (Water) for ensuring the operational requirements of the ACOP, other associated legislation and supporting guidance are implemented.
- 5.2.2 The Maintenance & Engineering Manager will be responsible for monitoring and overseeing the day to day operational requirements of the ACOP, other associated legislation and supporting guidance. This will include ensuring appropriate arrangements exist with Nominated Responsible Supply Partners and are implemented to:
- Co-ordinate external contractors in the undertaking of maintenance works, minor project works, inspections, monitoring & record keeping;
 - Manage and record the flushing process of little used outlets as advised in the building risk assessment;
 - Rectify and document any problems highlighted.
 - Review and implement the findings of the Risk Assessments in a timely manner.

5.3 Responsible Persons (Water)

Responsible Persons (Water) will be identified in the Water Safety Operating manual. All staff should have the requisite training and follow the guidance set out in ACOP L8 Fourth Edition and guidance notes HSG 274 parts one to three.

5.4 New Works

- 5.4.1 New works will typically be designed and installed in one of the following ways:
- In-house design & in-house installation;
 - In-house design & external contractor;
 - External consultant design & external contractor.

Irrespective of the procurement method all water systems should be designed to minimise conditions that would allow legionella bacteria to proliferate and control exposure to water droplets and vapours. An allowance should also be made where there are changes to water systems to update the risk assessment as part of the project.

- 5.4.2 Whilst overall project responsibility will remain with the Director of Campus Services, individuals will also be responsible for projects which they are managing. For major works this will usually be the Director of Campus Services or the Head of Campus Planning & Development. For minor works this will usually be one of the Project Officers.



- 5.4.3 Project Officers must proceed with caution where water systems are involved and consider their designs in connection with the control of Legionella to avoid creating hazards such as dead legs etc. If in any doubt the Maintenance & Engineering Manager should be contacted.
- 5.4.4 Capital projects will include the specification clause in appendix 3 to direct contractors to the quality standards required in the amendment and major changes to either existing systems or when constructing new systems.
- 5.4.5 Projects staff and any consultants appointed by them shall be responsible for effective design and management of all schemes including appropriate and comprehensive commissioning which is to be agreed with the responsible competent person (Water) during the design stage.
- 5.4.6 To comply with CDM Regulations; The Maintenance and Engineering Team or the Nominated Responsible Supply Partner shall provide adequate pre construction information about an existing system that is to be modified. This should be passed to the Project Team member responsible for the individual project together with the operating criteria that has to be achieved for the system. This should detail installation and commissioning requirements. The Maintenance and Engineering Team or the Nominated Responsible Supply Partner will also be responsible for assessing and providing comments that existing plant and services are capable of meeting any increased demand where a system is extended and for the provision of "as fitted" drawings and building schematics at the time of handover together with all commissioning data. No system will be accepted unless the Nominated Person (Water Safety) is agreeable.
- 5.4.7 Contractors carrying out works on water systems in the University must be able to demonstrate they are competent to do so, demonstrate an appropriate commitment to Legionella awareness training for their operatives and demonstrate understanding of WRAS requirements and hygiene requirements for installation for works;

5.5 Faculty Responsibilities

Each nominated Faculty representative is responsible for informing the Maintenance & Engineering Manager of all changes to planned activities, research and the introduction of equipment which impacts on the premises water system OR involves the following:

- Sprinkler/hose systems
- Recirculated water
- Showers/spray taps
- Humidifiers and air washers which create a spray of water or droplets
- Infrequently used outlets (for example drench showers or little used wash basins)
- Water filters
- Water softeners
- Fogging/misting systems
- Fume Cupboards with scrubber units
- Rainwater harvesters

Note – this list is not exhaustive.

6. Procedure for suspected infection of an individual of legionella bacteria

- 6.1.1 The Director of Campus Services will be informed of a suspected contamination by Legionella bacteria. If a case is suspected then the Assistant Director, Health & Safety and Assistant Director, Facilities Services will normally work in association with the Public Health Laboratory Service and the local Consultants in Communicable Disease Control to search for the source of the causative organism.
- 6.1.2 The Assistant Director, Health & Safety will report the incident as required by RIDDOR. It is essential that systems are not drained or disinfected before samples have been taken. Campus Services role is an important one – identifying the various water systems within the building and, in particular, to the points from which samples can be taken. Easy access to these sampling points is essential. The system in question must then be immediately isolated and not used.
- 6.1.3 An investigating team will be established under the guidance of the Director of Campus Services, this will normally comprise of the staff listed in Appendix 1, with the exception of the Vice Chancellor, who will be kept fully informed by the Director of Campus Services.
- 6.1.4 The investigation will concentrate upon all potential sources of Legionella infection, including:
- The domestic hot and cold water distribution system;
 - Showers or spray washing equipment;
 - Drainage system and traps;
 - Humidifiers in ventilation systems;
 - Cooling coils in air-conditioning systems;
 - Any other water based system.
- 6.1.5 To assist in such investigations, the Assistant Director Facilities Services must be able to provide details of all associated equipment, including all documentation. He must assist by advising the investigating team on the extent of servicing on the site, and by locating taps and sample points.
- 6.1.6 Information will also be required, such as whether there have been any local excavation or earthmoving works, alterations to water supply systems or drainage systems or any other factors which may have a bearing on the site.
- 6.1.7 The address and telephone number of the nearest weather station will be required – this is as follows:

The Met. Office,
Newcastle Weather Centre,
Portman House,
Portman Road,

Shieldfield,
Newcastle upon Tyne,
NE2 1AQ.

Tel: 0191 2323808

6.1.8 The team is responsible for identifying the cause of infection, and will advise on cleaning, disinfection, any modifications, and long term control measures.

7. The course of action in the event of an outbreak

- 7.1.1 If a Legionellosis outbreak is declared by the Public Health Laboratory Service a Local Authority appointed officer will lead any investigations.
- 7.1.2 As part of the outbreak investigation and control, the following requests and recommendations may be made by the enforcing authority:
 - a. To shut down any processes which are capable of generating and disseminating airborne water droplets and keep them shut down until sampling procedures and any remedial cleaning or other works has been done. Final clearance to restart the system may be required.
 - b. To take water samples from the system before any emergency disinfection being undertaken. This will help the investigation of the cause of the illness. The investigating officers from the local authorities may take samples or require them to be taken.
 - c. To provide staff health records to discern whether there are any further undiagnosed cases of illness and to help prepare case histories of the people affected.
 - d. To co-operate 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
 - a. Tracing of all pipe work runs
 - b. Detailed scrutiny of all operational records
 - c. Statements from plant operatives and managers
 - d. Statements from water treatment contractors or consultants
- 7.1.3 Any infringements of relevant legislation may be suspect to a formal investigation by the appropriate enforcing authority.
- 7.1.4 If a water system other is implicated in an outbreak of Legionnaire's Disease, emergency treatment of that system should be carried out as soon as possible.

8. Water Safety Working Group

The Water Safety Working Group will monitor all issues relating to water systems across the University estate (including partnered properties).

The Terms of Reference for the Group are:

Role of the Group

Overall technical responsibility for the management of water safety rests with the Director of Campus Services. Delegated operational responsibility and co-ordination of all Campus Services staff to ensure operational procedures are discharged to:

Brian Cowan - Responsible person (Water)

David Ballantyne - Deputy Responsible Competent Person (Water)

Tony Symons - Deputy Responsible Competent Person (Water)

Simon Willis – Capital Works Manager

The Responsible Person (Water) and Deputy Responsible Competent Persons (Water) are responsible for setting policy and procedures and for ensuring they are implemented across the University.

The remit of the Group is to ensure appropriate controls, arrangements and monitoring is in place across the University Estate to maintain the risk associated with water systems to an acceptable level. The group is responsible for ensuring the requirements set out within the Water Safety Management Policy and Operating Manual are implemented fully and that all water systems supply appropriate quality of water and are installed, operated and maintained in accordance with statutory compliance requirements to mitigate as far as is reasonably practicable the risk of legionnaires disease.

The group is also responsible for appraising the implications of all planned maintenance, project work and Faculty activity associated with University water systems infrastructure.

Membership

Members of the group have been selected to provide appropriate skills, expertise and knowledge in relation to safe and effective management of water systems and to ensure appropriate representation from key operational Campus Services teams.

The Assistant Director, Health & Safety will attend all group meetings and is responsible for advising the Group on direction within the Water Safety Management Policy to ensure ongoing compliance with health and safety law.

The Mechanical & Engineering & Compliance Advisor will also attend all group meetings to maintain suitable focus on the completion of essential risk assessments as determined by agreed frequency and change of condition and to monitor and report timely close out of remedial activity requirements

The Facilities Manager (Accommodation) will attend all group meetings to ensure that the delivery of Nominated Responsible Supply Partner activities is aligned to University policy and Water Safety Group requirements.

Occasionally, when deemed necessary, representatives from other Service Departments and Faculties will be invited to attend Group meetings.

Objectives

The group will promote the highest achievable standards of Water Safety Management in all areas of the University's activities including all teaching buildings, residential accommodation and tertiary buildings whether managed directly or by a third party through the publication of its Water Safety Management Policy and Operating Manual documents

Encourage the creation of a positive culture in the Department, and wider Faculty and service areas, with the aim of maintaining low risk of exposure to Legionnaires disease.

Act as a consultative, reviewing and monitoring body for the Management of water safety arrangements across the University.

Promote and maintain awareness of risk associated with water systems and to ensure clarity of accountability within Campus Services and wider Faculty and Service areas.

Maintain appropriate level of training and competency of Campus Services staff who undertake works associated with University water systems.

Procedures

The group will meet on a quarterly basis; however, the frequency of these meetings may change if circumstances dictate. Minutes and actions of each meeting will be recorded and distributed.

The Campus Services Health & Safety Management Group will receive regular reports from the Chair of the Working Group at each meeting.

APPENDIX 1

Responsible Persons (Water)

Overall Responsibility:

Name: Professor Andrew Wathey

Position: Vice Chancellor & Chief Executive

Nominated Technical Responsibility:

Name: Mr Damon Kent

Position: Director of Campus Services

Delegated Operational Responsibility and co-ordination of all Campus Services Staff to ensure operational procedures are undertaken:

Name: Mr Brian Cowan -Responsible Person (Water)

Position: Assistant Director, Facilities Services

Name: Mr David Ballantyne - Deputy Responsible Competent Person (Water)

Position: Maintenance & Engineering Manager

Name: Mr Simon Willis – Capital Responsible Person (Water)

Position: Capital Works Manager

Name: Mr Tony Symons

Position: Maintenance & Engineering & Compliance Adviser - Deputy Responsible Competent Person (Water)

General Health and Safety advice:

Name: Emrys Pritchard

Position: Assistant Director, Health & Safety

Nominated Responsible Supply Partner (Accommodation) interface:

Name: Nicola Cartwright

Position: Facilities Manager

Faculty Responsible Person (Water)

Name: Andrew Bellamy

Position: Faculty Business Manager

Faculty: Engineering & Environment

Name: Christine Ritson

Position: Faculty Business Manager

Faculty: Arts, Design & Social Sciences

Name: Di Scott

Position: Faculty Business Manager

Faculty: Health & Life Sciences

APPENDIX 2

Roles and Responsibilities

Responsible Person (Water)

Name: Brian Cowan

Position: Assistant Director, Facilities Services

Duties: To ensure that:

- the University has a written Water Safety Management Plan and that it is fully implemented
- you chair and ensure a dedicated Water Safety Group is maintained
- the operational requirements of L8 are implemented
- staff have enough time and resources to undertake their duties in respect of Water Safety and that they are adequately trained to carry out their duties
- an annual independent external review/audit is undertaken to appraise and report the performance of the University in complying with legislation and overall effectiveness of risk management and controls

Deputy Responsible Competent Person (Water)

Name: David Ballantyne

Position: Maintenance & Engineering Manager

Duties: To ensure that:

- Supporting the implementation of the Operational Manual for the management of water services within the University.
- Contributing as a member of the University Water Safety Group as set out within the group terms of reference.
- Maintaining and implementing an operational manual for the management of water services across the University that is integrated with Nominated Responsible Supply Partners Water Safety Written Scheme and Operating Manual.

- Ensuring Faculties adhere to the Water Safety Management Policy and the ACOP by undertaking a programme of Faculty water safety review inspections and maintaining records of these inspections and improvement measures.
- Ensuring all University managed premises have an up to date risk assessment and identified control measures are fully implemented.
- Ensuring Risk Assessments (including schematics) are brought up to date to reflect changes to the infrastructure that may result from any maintenance, repair or refurbishment works.
- Ensuring an emergency procedure for suspected contamination by Legionella Bacteria is maintained and implemented as required and evidenced by Nominated Responsible Supply Partners.
- Maintaining records in accordance with the Operational Manual and making the same available for inspection when required by University staff and appointed external auditor representatives.
- Ensuring an annual assurance report is produced detailing current Risk Assessment status and performance of Nominated Responsible Supply Partner activity for works relating to water safety management.
- Monitoring the performance and progress of maintenance tasks, as outlined in the Operational Manual, to ensure these are undertaken on a planned basis and comply with University Water Safety Management Policy requirements.
- Organising and coordinating a monthly review of actions from inspections and works associated with maintaining University Water Systems and ensuring any deficiencies are acted upon and addressed in a timely manner
- Ensuring Nominated Responsible Supply Partners employed to undertake water safety related maintenance activities are competent to do so and that they maintain appropriate controls to ensure University policy requirements are implemented at all times.
- Ensuring all maintenance work is undertaken in accordance with Health & Safety requirements, guidance, law, etc.
- Deputising for the Responsible Person (Water) and Capital Works Manager (Water) in their absence

Capital Responsible Person (Water)

Name: Simon Willis

Position: Capital Works Manager

Duties: to ensure that:

- Contribute as a member of the University Water Safety Group as set out within the group terms of reference.
- To ensure that the necessary requirements for the safe management of water systems are identified and fully incorporated into any design or specification that Projects Team has responsibility for and that any material changes are notified to the Deputy and Responsible Competent persons (Water) at the earliest opportunity.
- Reports/actions from inspections and Project works are scrutinised, with any deficiencies being acted upon in accordance with the Operational Manual.
- Project contractors employed to undertake any works on University water systems are competent to do so and that they are fully briefed with a written specification/schedule of work before they commence work on site
- All project activity is undertaken in accordance with Health & Safety requirements, and relevant guidance and to the requirements set out within the University Policy and Operating Manual.
- Ensure that all Responsible and Deputy Competent Persons (Water) are notified at the very earliest opportunity of any potential risk.
- Ensure that the Project Officer team are aware of their responsibilities and how these are achieved and managed in delivery.

Deputy Responsible Competent Person (Water)

Name: Tony Symons

Position: Maintenance & Engineering & Compliance Adviser

Duties: to ensure that:

- Support the implementation of the Operational Manual for the management of water services within the University.
- Contribute as a member of the University Water Safety Group as set out within the group terms of reference.
- To ensure that arrangements exist to maintain water management compliance in accordance with mandatory requirements and University policy and operating procedures.
- Validate on going compliance and highlight potential areas of risk to the Responsible Competent Person (Water)

- A monthly assurance report is produced and presented to the Water Safety Group detailing status of current Risk Assessment and all associated remedial requirements
- Monitor progress of all Nominated Responsible Supply Partner remedial actions and ensure timely close out
- Monitor infrequently used outlet schedule and update Nominated Responsible Supply Partner of all changes
- Undertake planned monthly audit of Nominated Responsible Supply Partners self-certified compliance documentation specific to water safety management
- Deputise in the Absence of the Maintenance & Engineering Manager

Position: Nominated Responsible Supply Partner

Duties:

- compliance with Approved Code of Practice L8 Document and the requirements set out within the University's Water Safety Management Policy and Operating Manual documents.
- Risk Assessments are carried out in accordance with the requirements of the University, and fully implement, document and evidence all identified control measures.
- water quality sample testing as defined and set out by the University's Water Safety Operating Manual is undertaken.
- controls, measures and planned maintenance as set out within the Water Safety Operating Manual are kept up to date and implemented.
- all necessary documentation is completed to the required standard and is available for inspection by the University and appointed external auditor representative.
- appropriate management and control measures exist to identify infrequently used outlets and implement suitable flushing arrangements.
- University Nominated Responsible Person (Water) is notified as soon as is practicably possible should any abnormal condition exist.
- appropriately competent persons are employed to undertake maintenance activity associated with the University water infrastructure.

Position: Faculty Pro Vice Chancellors

Duties:

- Department/faculty equipment is maintained to a standard necessary for control of legionella
- Keep records of departmental/faculty equipment servicing and maintenance that has a water connection or reservoir
- Facilitate any monitoring or inspection work
- No modifications/alterations or additions to water systems are carried out unless written approval is obtained from the Responsible Person (Water)
- Inform Campus Services of any equipment or Faculty activity that is connected directly to University water systems
- Ensure all necessary equipment with the potential to harbour Legionella bacteria is subject to a risk assessment and is operated with appropriate control measures to mitigate the risk of Legionnaires disease.

APPENDIX 3

Capital Projects - Specification Clause

All works to existing and new hot and cold water installations shall comply with the outline guidance for the design, installation and commissioning as follows:

DESIGN

All new and amendments to existing hot and cold water systems should be designed to comply with the following guidance and legislation:

- the Approved Code of Practice L8 and HSG274:part 2
- the Construction (Design and Management) Regulations 2015 (CDM);
- the Building Regulations 2010 (and associated amendments)
- for systems provided with water from the public supply – for England and Wales, The Water Supply (Water Fittings) Regulations 1999 and for Scotland, the Scottish Water Byelaws 2004;
- for systems provided with water from private sources – The Private Water Supplies Regulations 2009;20 The Private Water Supplies (Wales) Regulations 2010;21 or The Private Water Supplies (Scotland) Regulations 2006;
- BS EN 806 (Parts 1–5) Specifications for installations inside buildings conveying water for human consumption;
- BS 8558 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages;
- CIBSE Guide G Public Health and Plumbing Engineering
- Add note about Plumbers membership of approval scheme such as watersafe.

CONSTRUCTION

- To meet the requirements of BS8558 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages

COMMISSIONING

Hot and cold water services should be cleaned, flushed and disinfected in the following situations, as specified in BS 8558

- on completion of a new water installation or refurbishment of a hot and cold water system;
- on installation of new components, especially those which have been pressure tested using water by the manufacturer (see the manufacturer's instructions);
- where the hot and cold water is not used for a prolonged period and has not been flushed as recommended or the control measures have not been effective for a prolonged period. For example, this could be as little as two or three weeks, but will depend on the ambient

temperature, condition of the water system, potential for exposure to aerosols and the susceptibility of users considered in a specific risk assessment;

- on routine inspection of the water storage tanks, where there is evidence of significant contamination or stagnation;
- if the system or part of it has been substantially altered or entered for maintenance purposes that may introduce contamination;
- following water sampling results that indicate evidence of microbial contamination of the water system;
- during, or following an outbreak or suspected outbreak of Legionellosis linked to the system;
- or where indicated by the risk assessment.

DISINFECTION

Disinfection of the water services when the system is offline may be by:

Thermal disinfection, i.e. by raising the HWS temperature to a level at which legionella will not survive, drawing it through to every outlet, and then flushing at a slow flow rate to maintain the high temperature for a suitable period. This method is only applicable to HWS and is commonly used as a rapid response. It may be less effective than chemical disinfection and may not be practicable where the hot water supply is insufficient to maintain a high temperature throughout;

Chemical disinfection, i.e. by adding an effective agent such as chlorine or chlorine dioxide, drawing it through to every outlet, then closing the outlets and allowing it to remain in contact for a suitable period. This method is commonly used when it is necessary to disinfect the cold water storage tanks and the whole system.

As part of the thermal or chemical disinfection process, a service record should be kept of all work undertaken. Any items that require attention or refurbishment should be noted on the disinfection record.

To confirm effective disinfection, any required microbiological samples should be taken between two and seven days after the system is refilled. Samples taken immediately after a disinfection process may give false negative results.