

Legionella Procedure



Document Control

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1 Introduction

Glasgow Caledonian University is committed to providing and maintaining a safe working environment against the risk from exposure to legionella bacteria within its premises. This procedure sets out the processes that shall be implemented to ensure the safe management of hot and cold water systems within the University. It applies to all staff, students, visitors, contractors and all other persons on University premises. The Head of Building Services has been appointed as the Responsible Person for legionella.

The management, control and prevention of legionella bacteria is a continual commitment by the University and involves the use of specialised contractors to ensure that the University is compliant with all relevant legislation, regulation and University Policy. This involves risk assessment reviews with many of the monitoring, inspection and record keeping requirements fulfilled by regular reassessments. Sufficient resources, information, training and supervision will be provided in order to protect against the risk from exposure to legionella bacteria within the University.

2 Scope

It is the responsibility of all employees that may influence the management of hot and cold water systems to conduct their tasks in accordance with this procedure. This includes, but not limited to:

- Reporting any defects;
- Reporting any suspicions regarding designs;
- Reporting any operation, performance or condition of water systems that might increase the risk of legionella bacteria proliferation;
- Keeping relevant records;
- Attending legionella awareness and refresher training sessions

Should any employee have concerns regarding the hot and cold water systems they should report this to their line manager who in turn should contact the Facilities Management Department (FMD) Helpdesk on 0141 331 3999.

3 Roles and Responsibilities

The following responsibilities and tasks represent the performance standards required of University officers in the management of hot and cold water systems. As with other management responsibilities it is for the named officer(s) to ensure that the task or outcome is delivered by delegating tasks and functions to others, if required, and monitoring the results. The Director of Estates has overall responsibility for all aspects of the quality of water supplies and has appointed a Legionella Responsible Person and Deputy.

Responsible Person

The Responsible Person has a vital role in the management of hot and cold water systems and is required to liaise closely with specialist contractors and various stakeholders within the University. It is also important to have a deputy for this role to whom delegated responsibility may be given, especially in the absence of the Responsible Person. The University has appointed the following persons into these roles:

Legionella Responsible Person – Head of Building Services

Deputy Legionella Responsible Person – Maintenance Manager

The role of the Responsible Person involves:

- advising on the potential areas of risk and identifying where systems do not comply with the guidance;
- Advising on the necessary continuing procedures and actions for the prevention or control of legionella bacteria;
- Monitoring the implementation and efficiency of these procedures and actions;
- Approving and identifying any changes to those procedures and / or actions;
- Maintaining and co-ordinating adequate records.

Specialist Contractors

The University will appoint competent specialised contractors to fulfil the obligations placed upon the University to manage hot and cold water systems. The Responsible Person and Deputy will liaise with the contractor to ensure that risk assessments are produced, implemented and reviewed as required. A separate contractor will be responsible for undertaking water testing, sampling and any remedial actions on the water system based upon the findings. All contractors must ensure that they are competent to undertake the works.

Estates

Estates employees shall ensure that this procedure is followed along with all relevant Health and Safety Executive publications such as HSG 274 Legionella Technical guidance. Employees must ensure that they have attended relevant awareness and refresher training. Any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of Legionella proliferation must be reported by employees to the Responsible Person or Deputy. Any actions taken from this must be recorded and maintained.

Departmental Managers

As the managers of departments have control over the use of water in their department, they hold responsibility for the operational aspects of the management, control and prevention of legionella bacteria. Building occupiers must follow this procedure. In particular, these managers must ensure that all hot and cold water outlets are used or flushed at least weekly. If they are no longer required it should be, where possible, requested that they are permanently removed. They must also report any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of legionella bacteria proliferation

Trade Operatives

All employed or contracted trade operatives shall conduct all of their hot and cold water systems related tasks in accordance with this procedure and the requirements of the Planned Preventative Maintenance system. Operatives will use **only WRC approved materials** when working on water systems; report any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of legionella bacteria proliferation; keep relevant records and provide a high quality of work. All employed or contracted trade operatives must have attended relevant awareness and refresher training. Where blind ends (i.e. blanked-off pipes that do not serve outlets) are found they should be reported to their line manager and in turn to the Responsible Person.

All other Relevant Employees

All employees that can affect the management of hot and cold water systems for legionella bacteria shall conduct their tasks in accordance with this procedure. Any defects, suspicions or concerns regarding the design, condition, operation or performance of water systems that might increase the risk of legionella bacteria proliferation must be reported to their line manager and in turn the FMD Helpdesk on 0141 331 3999.

4 University Contractors

Due to the importance of providing and maintaining a safe working environment against the risk from exposure to legionella bacteria, specialist contractors are appointed by the University. This is to ensure that there is sufficient testing and remedial regimes to protect against legionella exposure through a risk assessment approach to managing this risk. The University has taken the decision to split these duties between two specialist contractors to ensure that there is no conflict of interest. Therefore the University has appointed one contractor to carry out the risk assessments and another to carry out the testing and remedial regimes as necessary.

The roles and responsibilities of each contractor are agreed prior to the start of each contract in order to ensure that there are clear expectations of the contractor. Contractors shall liaise with Estates and the Legionella Responsible Person as University contacts to ensure continuity to the approaches made. All contractors are expected to undertake their works in accordance with GCU Contractors Safety Code of Practice and all relevant legislation and regulations.

5 Principles of Procedure

Glasgow Caledonian University takes a risk based approach to the safe management of hot and cold water systems. This involves the use of a competent contractor to carry out risk assessments which sets out the basis of the sampling and testing regimes.

Management Audit

A management audit will be undertaken as necessary to ascertain the effectiveness of the broad legionella management arrangements. This audit is vital to ensure the continued effectiveness of the approach taken by the contractor in maintaining a safe working environment against the risk from exposure to legionella bacteria.

Small domestic properties, served by individual single pipe water systems, are risk assessed by legionella risk screening, a desk based risk assessment exercise. The screen is undertaken every two years. Based on the findings, representative properties will be subject to on-site risk assessment.

Risk assessment

The University will ensure that risk assessments are reviewed by the competent contractor to evaluate the management, control and prevention of legionella bacteria under the following circumstances:

- Where there is reason to believe that the latest risk assessment may no longer be valid (e.g. due to a change in building use);
- Following any changes from sampling, testing or remedial actions that may result in a desk based risk review of risk assessments;
- As per the level of risk of the system –

Water system/Air Handling Unit Risk	Frequency of Risk Assessment
High	Annually
Significant	Every 2 years
Moderate	Every 3 years
Low	Risk screen every 2 years

During each risk assessment, schematics of hot and cold water systems are checked to ensure that they are up to date. The University will ensure that all risk assessments are suitable and sufficient through identifying and evaluating potential sources of risk, undertaken with competent advice if required and encompasses all buildings and hot and cold water systems.

6 University Processes for Managing Buildings

The University has processes in place to reduce the potential for legionella bacteria developing in circumstances such as prior to a new building being occupied or the closure of part or all of a building. It is vital that these are followed in these situations in order to minimise the potential for legionella exposure. The following processes must be followed as per the situations described:

Building Handover

Once the water system is in use and has been cleaned and chlorinated prior to hand over, the Responsible Person or Deputy shall monitor and observe the system and ensure that the system is operating as per design. At the point of hand over all relevant information on system performance together with as-fitted drawings and design criteria of the domestic hot water systems and cold water services shall be submitted to the Estates. Occupancy of the new property should be as soon after hand over as possible to prevent further costs being incurred due to the need for regular flushing or re-chlorination of the water systems.

Closure of Part or all of a Building

Where part or all of a building is going to close for a period of greater than one month, the relevant manager must notify Estates via the FMD Helpdesk on 0141 331 3999 of the details.

Following a closure decision, negotiations between the relevant manager and Estates must take place to ensure that the following procedure is established and documented, and to clearly define what actions named individuals shall perform to ensure the potential for legionella bacteria developing is reduced. The period of closure should be established at the earliest point in negotiations.

Temporary Closure

Where a closure is expected to not exceed 60 days a nominated individual shall be identified to run every hot and cold water tap for 3 minutes and flush every toilet weekly. The nominated individual should then complete the record sheet, signed by themselves and their relevant manager, the completed form being forwarded to Estates.

Before the closed area is re-occupied Estates shall arrange for the competent contractor to carry out an inspection and test of the water systems. The condition of this will be reported to the Legionella Responsible Person for any remedial works that may be required.

It is the responsibility of the relevant manager to provide sufficient notice to the Estates of their intention to re-open a temporarily closed area.

Emergency Actions

Contact details for the Legionella Responsible Person and Deputy are kept by the University so that they can be contacted in an emergency for advice or action. The University will work with the specialist contractor to carry out water sampling and remedial works in accordance with the findings. The Health and Safety Executive (HSE) or Environmental Health Officer (EHO) may be involved in the investigation and the University could be subject to formal investigation and possible prosecution from the HSE or EHO if there have been any failings by the University.

7 Review and Monitoring

The safe management of hot and cold water systems within the University shall be reviewed through the risk assessment process and monitored through water temperature checks and sampling. The performance of the specialist contractors shall be subject to review by procurement as per the specification of the contract. This shall identify any issues with the performance of the contractors in regards to contractual compliance or competence. Through reviewing and monitoring the hot and cold water systems it provides an accurate representation of the condition of the system.

Water Temperature Checks and Sampling

Water temperature checks and sampling shall be carried out by the specialist contractor as per the risk assessment for the building. The general frequency is detailed within the table below however this may differ if there is variation detailed in the risk assessment.

Any non-compliance with the temperatures shall be reported by the specialist contractor to their Estates contact. Jobs lines will then be raised through the FMD Helpdesk for the other specialist contractor to investigate and remediate as required.

Sampling of hot and cold water systems shall be carried out by specialist contractors in accordance with the procurement contract, risk assessments and as per HSG 274 Part 2 with samples tested by a UKAS accredited laboratory.

Service	Task	Frequency
Hot water services	Arrange for samples to be taken from hot water calorifiers, in order to note condition of drain.	Annually
	Check temperatures in flow and return at calorifiers	Quarterly
	Check water temperature has reached up to 50°C in the sentinel taps	Quarterly
	Visual check on internal surfaces of calorifiers for scale and sludge. Check representative taps for temperature as above on a rotational basis	Quarterly
Cold water services	Check tank water temperature remote from ball valve and mains temperature at ball valve. Note maximum temperatures recorded by fixed max/min thermometers where fitted	Six monthly
	Check that temperature is below 20°C after running the water for up to 2 minutes in the sentinel taps.	Quarterly
	Visually inspect cold water storage tanks and carry out remedial work as necessary. Check representative taps for temperature as above on rotational basis.	Annually
Shower heads	Dismantle, clean and descale shower heads and hoses.	Quarterly
Little used water outlets	Flush through and purge to drain, or purge to drain immediately before use without release of aerosols.	Weekly
Water samples	Take legionella/TMV samples at predetermined locations.	Six monthly

Records Retention Period

The following records are retained by the University.

Record	Retention Period
Legionella Procedure	Throughout the period for which they remain current and for at least two further years.
Risk assessments	
Risk minimisation scheme and details of its implementation	
Monitoring, inspection, test and check results, including details of the state of operation of the system	At least five years

Schematics

Water system schematics are produced for all hot and cold water systems. The schematics show the storage systems in plant rooms and tank rooms. These are reviewed every 2 years as part of the risk assessment. Distribution schematics show sentinel outlets on block plans where available.

For each water system that presents a risk from Legionella bacteria, a schematic or drawing shall be held, showing:-

- Origin of water supply;
- General layout of the system;
- How the system operates;
- All associated storage and header tanks;
- All standby equipment;
- Any parts of the system that may be out of use temporarily;
- Any problem areas such as dead legs;
- Regular operation and test points.

These schematics/drawings may also show:-

- All system plant, e.g. water softeners, filters, strainers, pumps, non-return valves and all outlets, for example showers, wash hand basins etc.;
- All associated pipework and piping routes.

8 Implementation

The implementation of this Legionella Procedure is the responsibility of all employees and contractors that may influence the management of hot and cold water systems. Legionella awareness and refresher training is organised by Estates as part of the specialist contractors contract with the University. The Legionella Responsible Person and Deputy are provided with adequate training to ensure that are competent to undertake their roles. All other relevant employees shall receive training in accordance with their training matrix and roles and responsibilities.

The competency of the specialist legionella contractor shall be assessed prior to appointment as a University contractor. The contract review process will also document the roles and responsibilities of the contractor involved in the control regime. Any agreed deviation to this shall be mutually address and documented as part of the contract review process.

The implementation of this procedure is vital to provide and maintain a safe working environment against the risk from exposure to legionella bacteria. This includes the consideration of legionnaire's disease during the design state of any new building or refurbishment. This is a key aspect in designing out potential risks rather than having to manage risks.