Legionella Procedure

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<tr>
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<th>Date of next Review</th>
<th>Summary of main changes</th>
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<td>Draft</td>
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Legionella Procedure
April 2017

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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 Facilities Management Department Estates Manager 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 a specialised contractor 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 training sessions annually.

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 Helpdesk on 0141 331 3999.
3 Accountabilities

General
The Director of Estates has overall accountability for all aspects of the quality of water supplies however some aspects of compliance with this procedure may be delegated to employees or undertaken by a specialist contractor. All employees that may influence the management of hot and cold water systems shall receive adequate information, instruction and training to fully understand the risk of legionella bacteria. There are specific roles and responsibilities in place to ensure compliance with this procedure.

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 – Estates Manager**

**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. They will also be responsible for undertaking any remedial actions on the water system based upon findings of water quality sampling. All contractors must ensure that they have attended relevant awareness training which is refreshed and certificated on an annual basis.

Estates Employees

Estates employees will 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 training which is refreshed on an annual basis. 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. Departmental Managers must ensure that they and their staff have attended relevant awareness training which is refreshed on an annual basis.

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; provide a high quality of work and attend Legionella awareness training sessions. All employed or contracted trade operatives must have attended relevant awareness training which is refreshed and certificated on an annual basis. Where blind ends (i.e. blanked-off pipes that do not serve outlets) are found they should be reported to their line manager.

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; 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 attend the management of hot and cold water systems for legionella bacteria awareness training sessions annually. Where blind ends (i.e. blanked-off pipes that do not serve outlets) are found they should be reported to their Line Manager and reported to the Facilities Department Help Desk on 0141 331 3999.
4 Principles of Procedure

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 review the management, control and prevention of legionella bacteria risk assessment under the following circumstances:-

- On a regular basis with frequency dependent on risk –

<table>
<thead>
<tr>
<th>Water system/Air Handling Unit Risk</th>
<th>Frequency of Risk Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Annually</td>
</tr>
<tr>
<td>Significant</td>
<td>Every 2 years</td>
</tr>
<tr>
<td>Moderate</td>
<td>Every 3 years</td>
</tr>
<tr>
<td>Low</td>
<td>Risk screen every 2 years</td>
</tr>
</tbody>
</table>

- Reassessment when there is reason to believe the latest risk assessment may no longer be valid e.g. due to a change of building use;
- Desk based risk review of risk assessments is also undertaken on a regular basis following any changes or remedial actions;

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.

Risk Minimisation Scheme

The risk assessment shall form the basis of a risk minimisation scheme describing the particular means by which the risk from exposure to legionella bacteria is to be controlled. The remedial actions within the risk minimisation scheme shall be reasonably practicable and prioritised on the basis of risk, cost and difficulty.
5 Processes

University Processes

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 hand over

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 Facilities Management Department. 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 Facilities Management Department via the Helpdesk on 0141 331 3999 of the details.

Following a closure decision, negotiations between the relevant manager and Facilities Management Department must take place to ensure that the following procedure is established and documented, and to clearly define what actions named individuals shall perform.

Period of Closure
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 the Facilities Management Department.

Before the closed area is re-occupied the Facilities Management Department shall 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 Facilities Management Department 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.
6 Review and Monitoring

Review

The performance of the specialist contractor shall be subject to review by procurement as per the specification of the contract. This shall identify any issues with the performance of the contractor in regards to contractual compliance or competence.

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 of inspection shall be carried out during monthly visits by the specialist contractor. 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 through the Facilities Management Department helpdesk system and job lines raised with the 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. Samples shall be tested by a UKAS accredited laboratory that takes part in the PHLS Water Microbiology External Quality Assessment Scheme for the isolation of Legionella from water.

<table>
<thead>
<tr>
<th>Service</th>
<th>Task</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Hot water services</td>
<td>Arrange for samples to be taken from hot water calorifiers, in order to note condition of drain.</td>
<td>Annually</td>
</tr>
<tr>
<td></td>
<td>Check temperatures in flow and return at calorifiers</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Check water temperature has reached up to 50°C in the sentinel taps</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Visual check on internal surfaces of calorifiers for scale and sludge. Check representative taps for temperature as above on a rotational basis</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Cold water services</td>
<td>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</td>
<td>Six monthly</td>
</tr>
<tr>
<td></td>
<td>Check that temperature is below 20°C after running the water for up to 2 minutes in the sentinel taps.</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>Visually inspect cold water storage tanks and carry out remedial work as necessary. Check representative taps for temperature as above on rotational basis.</td>
<td>Annually</td>
</tr>
<tr>
<td>Shower heads</td>
<td>Dismantle, clean and descale shower heads and hoses.</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Little used water outlets</td>
<td>Flush through and purge to drain, or purge to drain immediately before use without release of aerosols.</td>
<td>Weekly</td>
</tr>
<tr>
<td>Water samples</td>
<td>Take legionella/TMV samples at predetermined locations.</td>
<td>Six monthly</td>
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Records Retention Period

The following records are retained by the University.

<table>
<thead>
<tr>
<th>Record</th>
<th>Retention Period</th>
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</thead>
<tbody>
<tr>
<td>Legionella Procedure</td>
<td>Throughout the period for which they remain current and for at least two further years.</td>
</tr>
<tr>
<td>Risk assessments</td>
<td>At least five years</td>
</tr>
<tr>
<td>Risk minimisation scheme and details of its implementation</td>
<td></td>
</tr>
<tr>
<td>Monitoring, inspection, test and check results, including details of the state of operation of the system</td>
<td></td>
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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.
7 Implementation

The implementation of this legionella procedure is the responsibility of all employees that may influence the management of hot and cold water systems.

The Facilities Management Department provide legionella awareness training on an annual basis to employees as required. The legionella responsible person and deputy are provided with adequate training to ensure that they are competent to undertake their roles. All other relevant employees shall receive legionella awareness training in relation to their training matrix and roles and responsibilities.

The competency of the specialist legionella contractor shall be assessed prior to appointment as the 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 addressed and documented as part of the contract review process.

The potential for legionnaire’s disease must be considered during the design stage of any new building or refurbishment. This is a key aspect in designing out potential risks rather than having to manage risks.