Health and Safety Services

UNIVERSITY OF GREENWICH

Code of Practice for Legionella

Contents

1. Overview

Legionella bacteria are naturally occurring microorganisms found in freshwater environments such as rivers, lakes, streams, ponds, and wet soil. While they are usually present in low numbers in nature, they can become a health hazard when they multiply in artificial water systems.

The bacteria thrive in water temperatures between 20°C and 45°C. Below 20°C, their growth is unlikely, and at temperatures above 60°C, they are rapidly killed. Infection occurs through the inhalation of aerosolised water droplets that contain Legionella. In university settings, such aerosols may be produced by:

- Taps and showers
- Cooling towers
- Water storage systems
- Ventilation or air conditioning systems where water spray is present.

To prevent exposure, it is essential to manage water systems proactively to avoid temperature conditions and stagnation that promote Legionella growth.

2. Purpose

The Control of Substances Hazardous to Health (COSHH) Regulations 2022 ap ply to risks from hazardous microorganisms such as *Legionella*, as well as chemicals like biocides and chlorine used in water treatment. Under COSHH, organisations are legally required to conduct suitable and sufficient risk assessments and implement appropriate control measures. The Approved Code of Practice (ACOP) L8, titled *"Legionnaires' Disease – The Control of Legionella Bacteria in Water Systems"*, outlines specific legal duties and control strategies. Additional guidance is provided in HSG274 Parts 1–3, which supports duty holders, including:

- Employers,
- Persons in control of premises, and
- Those responsible for the health and safety of others.

This document aligns with these legal frameworks to ensure the University's water systems are managed safely and effectively.

3. Scope

The University of Greenwich, as an employer and property manager, recognises its legal responsibilities to Staff, Students, Contractors, Visitors, and other building occupants.

This Code of Practice applies to all hot and cold-water systems in buildings owned or managed by the University. It defines the procedures and responsibilities required to:

- Prevent exposure to Legionella bacteria,
- Maintain safe water systems,
- Comply with UK health and safety legislation and industry standards.

4. Definitions

ACOP L8 – Approved Code of Practice issued by the HSE: Legionnaires' disease – *The control of Legionella bacteria in water systems*. It provides guidance on compliance with legal duties under the Health and Safety at Work etc. Act 1974.

Appointed Person (Water) – A person designated in writing with responsibility for ensuring compliance with water safety tasks, including implementation of control measures.

Blind End – A section of pipework that is permanently closed at one end, where water may stagnate and encourage microbial growth.

BS 8580 – British Standard providing guidance on conducting water quality risk assessments for Legionella control.

Calorifier – A vessel used to heat water, often for domestic hot water systems. Requires careful monitoring due to Legionella risk.

Competent Person – An individual with sufficient training, experience, and knowledge to undertake designated tasks safely and effectively.

Cooling Coil / Fan Coil Unit – HVAC components that can carry water and potentially produce aerosols. This requires maintenance to avoid Legionella risk.

Dead Leg – A pipe that is closed at one end and through which water cannot flow, increasing the risk of stagnation and bacterial growth.

Duty Holder – The person or organisation with overall responsibility for health and safety under UK law, often the employer or building owner.

Flexible Hose – A short, bendable pipe often used in wash basins and WCs; should be WRAS approved to prevent contamination.

HSG 274 – Technical guidance issued by the HSE supporting ACOP L8, including control of Legionella in hot and cold-water systems (Part 2).

IFM Contractor – Integrated Facilities Management contractor responsible for executing planned and reactive water safety tasks.

Pasteurisation – The disinfection of water systems by heating water to 70°C for at least one hour to kill Legionella bacteria.

PPM (Planned Preventative Maintenance) – Routine maintenance activities carried out to prevent system failure and reduce Legionella risk.

Risk Assessment – A formal process of identifying hazards, evaluating risks, and implementing control measures to reduce the likelihood of harm.

Sentinel Tap – A representative hot or cold outlet (usually the first and last on a system) used for temperature monitoring.

SFG20 – A standard maintenance specification developed by THE Building Engineering Services Association (BESA), used to define maintenance requirements including water systems.

Thermostatic Mixing Valve (TMV) – A device that mixes hot and cold water to deliver water at a safe temperature to prevent scalding.

Water Management Logbook – A controlled record system used to track monitoring, inspections, remedial actions, and Legionella control measures.

WRAS (Water Regulations Advisory Scheme) – An accreditation system ensuring plumbing products comply with Water Supply (Water Fittings) Regulations.

WSMC (Water Safety Management Committee) – A multidisciplinary team responsible for reviewing risk assessments, compliance, and system performance.

5. Roles and Responsibilities- Estates and Facilities Management

5.1. Vice Chancellor

The Vice Chancellor (VC), as the Legal Duty Holder, is responsible for ensuring a safe environment for all staff, students, and visitors. The VC delegates operational duties to the Director of Estates and Facilities Directorate (EFD) and ensures that adequate resources are provided for Legionella control.

5.2. The Executive Director

The Executive Director of EFD, acting as the Deputy Duty Holder, is responsible for maintaining safe buildings and services. They oversee water safety policies and compliance, ensuring all relevant stakeholders understand Legionella risks and take appropriate action.

5.3. The EFD Health, Safety & Compliance Manager

The EFD Health, Safety & Compliance Manager, who serves as the University of Greenwich's Competent Person for Legionella, manages Legionella prevention procedures, offers advice and support on water safety matters, and refers to external specialists when necessary.

In the absence of the Health & Safety Compliance Manager, the EFD Building Services Manager acts as the Alternate Competent Person.

5.4. EFD Head of Campus

Each campus's Head of Campus is designated as the Responsible Person for Legionella control at the campus level and must complete training every three years to fulfil this role effectively.

5.5. The Assistant Director (AD) of Campus Management

The Assistant Director (AD) of Campus Management acts as the Deputy Responsible Person and assumes responsibilities when the Head of Campus is unavailable. This person must be trained and competent.

5.6. The Assistant Director of Facilities Management Contracts

The Assistant Director of FM Contracts, appointed in writing, ensures that the IFM contractor complies with the Legionella control policy and the specified service frequencies (SFG20).- Appointed in writing.

5.7. The Water Safety Management Committee (WSMC)

The Water Safety Management Committee (WSMC), chaired either by the University's Competent Person or the EFD Business Manager, meets at least quarterly to review compliance and manage any escalations.

5.8. All EFD staff

All EFD staff must be appropriately trained in Legionella control and complete refresher training every three years.

6. Roles and Responsibilities-IFM Contract Service Provider

6.1. The Partnership Director (Universities)

The Partnership Director as the Contracted Duty Holder appointed in writing by the UoG Deputy Duty Holder, provides strategic leadership, governance, and ensures compliance with Legionella control requirements. They must notify the University promptly of any Legionella incidents and attend training sessions every three years or sooner if determined by the training needs analysis. They shall ensure that they, their staff and contractors follow the detail as written within ACOP L8 Para 76, Pages 20/21.

6.2. The Contracts Compliance Manager

The Contracts Compliance Manager, appointed in writing as the Appointed Person for Water Safety, oversees compliance with the Approved Code of Practice (ACOP) L8 paragraph 76. This manager ensures that competent risk assessors are appointed and maintains audit trails of Legionella risk assessments, remedial actions, and monitoring results. They also escalate any reportable cases of Legionnaires' disease and participate in the Water Safety Management Committee meetings and refresher training.

6.3. The Head of Technical Services

The Head of Technical Services is formally appointed in writing by the Integrated Facilities Management (IFM) Contract Duty Holder (Water) to fulfil the role of the Contracted Deputy Responsible Person for Water. In this capacity, the post holder is responsible for ensuring compliance with the detailed requirements set out in the Approved Code of Practice (ACOP) L8, specifically paragraph 76 on pages 20 and 21.

The responsibilities of this role include supporting the Contract Responsible Person in all matters relating to water safety. The Deputy Responsible Person is expected to deputise for the Contract Responsible Person during any periods of absence, thereby maintaining continuity in water safety oversight.

Additionally, the post holder is required to attend meetings of the Water Safety Management Committee to contribute to the strategic management of water safety across the estate. They must also complete updated management training at least once every three years, or earlier if identified through a training needs analysis. This is in accordance with Section 4.6 (Competency) of the Water Systems Standard Operating Procedure PR/SOP/Water V1.0 2020 and as advised through Ingenium as part of the individual's Performance Development Records (PDR). The Head of Technical Services is responsible for ensuring that staff within their line management, as well as any contractors working under their instruction, comply fully with ACOP L8 guidance.

6.4. The Subject Matter Engineer for Water (SME)

The Subject Matter Engineer (Water) is appointed in writing by the Contract Duty Holder (Water). They are responsible for recommending individuals for water management roles within the IFM contract and ensuring that certificates of appointment clearly state their responsibilities and limitations. The SME advises Responsible Persons (RPs), Appointed

Persons (APs), and the University on positive water sample results and non-compliance issues identified through PPM tasks, including appropriate remedial actions.

They carry out annual management audits and quarterly record audits to monitor system performance. The SME also reviews the University's Legionella policy and related documents (including IFM-owned documents), assists with risk assessment reviews, and attends Water Safety Management Committee meetings. They are expected to deliver training based on needs assessments and provide ongoing advice to the University on legislation and HSE guidance related to Legionella control. The SME must also ensure compliance with ACOP L8, Paragraph 76 (pages 20–21).

6.5. The Campus Service Delivery Manager (Campus Responsible Person – Water)

The Campus Service Delivery Manager is appointed in writing by the Contract Duty Holder (Water) and serves as the Campus Responsible Person (Water). They must possess sufficient status, authority, competence, and knowledge of the water systems to ensure operational procedures and control measures are effectively implemented. They liaise with their teams, contractors, and the Contract Responsible Person to ensure compliance with ACOP L8, Paragraph 76.

The Campus Responsible Person (Water) is responsible for ensuring that recommendations from Legionella risk assessments are implemented promptly, with adequate records maintained. They must make risk assessments and logbooks available for inspection and manage day-to-day Legionella control within the systems operated by Estates & Facilities. They are tasked with ensuring timely

Planned Preventive Maintenance (PPM) completion, up-to-date logbooks, and safe work practices in accordance with the University of Greenwich Legionella policy.

The post holder must also cooperate with internal and external audits, monitor team training needs, escalate non-compliance issues (including positive samples) to the Contract Appointed Person (Water), and complete refresher management training every three years or sooner if required. All positive Legionella results must be recorded in the University of Greenwich Health and Safety Reporting Portal with sample reports and remediation actions uploaded.

6.6. Campus Technical Lead (Deputy Campus Responsible Person – Water)

The Campus Technical Lead serves as the Deputy Campus Responsible Person (Water) and is appointed in writing by the IFM Contract Duty Holder (Water). They deputise for the Campus Responsible Person, represent them in meetings or committees in their absence, and carry out all responsibilities associated with that role.
They are expected to comply with ACOP L8, Paragraph 76 and attend refresher training every three years or as required, in line with PR/SOP/Water V1.0 2020 Section 4.6 and performance development reviews.

6.7. PFI Facilities Manager (Phase 2 Accommodation Responsible Person – Water)

The PFI Facilities Manager is appointed by the Contract Duty Holder (Water) and fulfils the role of the Phase 2 Accommodation Responsible Person. They must have sufficient authority, knowledge, and competence to ensure effective implementation of operational procedures.

They are responsible for complying with ACOP L8, Paragraph 76 and have similar duties to those of the Campus Responsible Person, as outlined in Section 3.25 of the policy.

6.8. Competent Persons – Mechanical Operatives and Contractors

In-house mechanical engineering operatives and supervisors are designated as Competent Persons (Water) and appointed in writing by the Contract Duty Holder (Water). IFM contractors may use internal trade staff or external contractors to carry out tasks under this policy, ACOP L8, and HSG274 Part 2.

External contractors are not appointed individually by the University or IFM. Instead, the contracting company must demonstrate their competence through qualifications and memberships, submitted to the Contracted Responsible Person (Water).

Competent Persons must ensure installations and maintenance of water systems are completed to a high standard, using WRAS-approved materials and maintaining hygiene to prevent contamination. They must report any defects or concerns related to water systems and follow safe personal hygiene practices, including disclosing recent communicable illnesses. They must also attend refresher training at least every three years, or as identified through training needs analysis.

6.9. Capital Project Managers

Capital Project Managers are responsible for ensuring that new or modified water systems remain compliant and free from Legionella risk. They must ensure that significant risks identified during refurbishment or development are eliminated, or, if not reasonably practicable, controlled through appropriate measures.
They are required to review and share current Legionella risk assessments and close out any outstanding recommendations. Before initiating work that may affect domestic water systems, they must consult with the Responsible Persons and UoG Appointed Person (Legionella).
Project Managers must engage the IFM contractor's water treatment provider for sampling, chlorination, and disinfection throughout the project lifecycle. They must also ensure schematics are updated by the risk assessment consultant.
During projects, they must ensure:

- Sampling is conducted before works commence.
- Outlets are flushed and monitored if the system remains live.
- Outlets are thoroughly flushed post-completion.
- Systems are chlorinated or pasteurised, as appropriate.
- Post-installation sampling is conducted.
- Risk assessments are reviewed and updated.
- Handover documentation is complete and accurate.

Note: Compliance with this policy may be delegated to trained staff or contracted providers; however, accountability remains with the duty holders.

In the event of a vacant post, the line manager shall assume all delegated responsibilities until a formal appointment is made. (Refer to organisational chart in Appendix A and B).

7. Procedure

7.1. Identification and Assessment of Risk

Each Integrated Facility Management (IFM) Campus Responsible Person must ensure that a suitable and sufficient Legionella assessment for their Campus is completed to identify and assess:

- The risk of Legionella from work activities, water sources, and ventilation systems.
- The risk of scalding to persons using the hot water systems; and
- That adequate documentation exists, which details the engineering design intent and the maintenance and operation procedures.

Risk assessments must be reviewed every 2 to 3 years, or sooner if:

- There is a significant change to the building water systems.
- The system is considered high risk; or
- Any event triggers a re-evaluation.

All reasonably practicable precautionary measures must be implemented when a risk is identified.

In accordance with the IFM contract, the IFM contractor must ensure that the Legionella Risk Assessment complies with BS 8580 Water Quality Risk Assessments for Legionella and includes:

- Schematic drawings of all water systems showing:

a) Hot and cold pipe routes (where visible).

b) Locations of outlets, calorifiers, circulation and destratification pumps.

c) Cisterns, tanks, humidifiers, and cooling towers.

d) Other water systems that may pose Legionella risks (e.g., irrigation, softeners);

e) Chemical dosing systems (e.g., chlorine dioxide).

f) Dead legs and blind ends.

g) Sentinel taps (first and last on each system).

h) Room numbers and a clear legend for all terms.

- Temperature measurements at:
    a) Sentinel outlets (time to reach required temps).
    b) Tanks, calorifiers, and risk-prone systems.
- System inspections, including:
    a) Construction and condition of tanks.
    b) Visual condition of accessible pipework.
    c) Confirmation that flexible hoses are Water Regulations Advisory Scheme (WRAS) approved, where possible.
- Compliance status and remedial action plan, prioritised by risk, cost, and feasibility.

The IFM contractor must maintain an up-to-date list of little-used outlets (defined as unused for 7+ days), covering temporary closures. These must be part of a management plan that includes a resource and time-specific action programme.

An annual review of the risk assessment programme is required by the Water Safety Management Committee to:

- Track progress on improvements.
- Verify that maintenance is being executed correctly.
- Determine if system changes require a reassessment.

Any compliance corrections must be recorded and evaluated in the water management logbook and evaluated accordingly.

The IFM contractor must also maintain records for:

- The location and design of air handling and fan coil unit cooling coils.
- The maintenance programme for such systems.

7.2. System Temperature Requirements

The IFM contractor will ensure that systems comply with the following requirements:

- Cold-water storage tanks and cisterns must maintain inlet, outlet, and surface temperatures below 20°C in all weather.
- Calorifier and water heater content must be maintained at 60°C. Return loops should not fall below 50°C.
- Sentinel outlets (nearest and furthest draw-off points) must be tested monthly:

a) Hot water should reach ≥50°C within 1 minute.
b) Cold water should be <20°C within 2 minutes.

- Thermostatic Mixing Valves (TMVs) should deliver water at 43°C ±2°C.

7.3. Inspection and Maintenance

- A management scheme must be developed based on risk assessments, manufacturer recommendations, industry best practice, and SFG20.
- All deviations from the scheme must be pre-approved by the WSMC.
- If temperature trends or biological indicators suggest a loss of control, the protocol in HSG 274 Part 2 Table 1 (Appendix C) must be followed.
- Return to routine monitoring is only permitted upon confirmation of remediation by WSMC and the Duty Holder.

8. Flushing and Disinfection of Domestic Water Services

8.1. Temporary Closure Management

Follow PD 855468:2015 (5.3) guidance on Water Systems temporarily out of use. The below simplified extracts should be read, understood, and implemented.

If any part of the building's water system is not in use for up to 30 days or is only used occasionally and it controls microbiological risks like Legionella using water temperature, then:

- Flush the system after draining and refilling any storage tanks with fresh water.
- Continue flushing until water at the outlet matches the incoming supply temperature.
- To reduce the risk of Legionella spread, flush in a way that limits aerosol creation – e.g., remove shower heads before flushing.

For hot water systems (HWS) that will remain filled but unused:

- They do not need to be heated, but:
    - Water should be recirculated.
    - Aim to keep temperatures below 20°C, if possible.
    - Carry out regular hygiene flushing.

Note: From May to September, warm ambient temperatures may cause water in pipes to rise above 20°C, especially in empty buildings. In such cases, it may not be possible to keep water temperatures low, which increases the risk of Legionella.

8.2. Infrequently Used Outlets

Where buildings or parts of buildings are unused for extended periods (more than one week), the following measures should be considered to limit bacterial growth (such as Legionella) in water systems:

- Daily monitoring of water systems should be carried out in accordance with BS 8558, with particular attention to PD 855468, which provides guidance on flushing and disinfecting domestic water services.
- In addition to regular flushing, monitor temperature variations at outlets to assess how frequently each is used. This can help inform flushing frequency.

8.3. Isolation and Storage Reduction

To reduce the risk further:

- Where applicable, reduce the volume of stored water in cold water storage tanks.
- Turn off hot water calorifiers or dispensers and draw off hot water until the temperature matches that of the mains or cold tank (indicating they are fully flushed).
- Consult with vending machine operators regarding the shutdown, isolation, or drain-down of their equipment. This includes hot and cold-water dispensers, ice makers, and coffee machines.

8.4. Flushing Routine for Infrequently Used Outlets (Over 1 Week)

In the event of a building being closed for more than one week, implement the following procedure to prevent Legionella risk:

- Staff must wash hands and wear gloves and a face mask before beginning any flushing activity.
- Ensure that outlets can safely drain into an appropriate drain; if not plumbed for drainage, take suitable precautions.
- When purging water, avoid excessive aerosol generation - keep it to levels no more than the typical outlet operation.

- Splash-back should be minimised wherever possible by placing a sponge or other absorbent material against the surface of the appliance.
- Review the water schematics to identify sentinel outlets and record water temperatures at the tank (if applicable) and the nearest and furthest hot and cold outlets.
- At the sentinel tap, record tank temperatures after 1, 3, 5, and 10 minutes.
- If water temperatures exceed 20°C, report this to your Technical Supervisor. This may require increasing flushing frequency (e.g., to twice a week) or emptying and refilling the tank to reduce temperature.
- Identify all end-of-run outlets using schematics and flush hot, cold, or mixed water in turn for at least 10 minutes or until consistent system temperature is achieved.
- Flush all other outlets individually for at least 5 minutes or until water temperatures match system norms.
- For showers, remove the showerhead where practical to reduce aerosol risk.
- If the head is fixed, minimise aerosol exposure by covering it with a clear plastic bag (pierced at one corner) to allow partial discharge of water.
- Ensure all flushed outlet locations, times, and dates are recorded in the water management folder.

8.5 Reoccupation of Buildings After a Long Closure

- In the two weeks prior to reoccupation, increase the flushing of the water system to twice a week.
- As close as practically possible to the reoccupation date, remove the drain plug from hot water storage vessels and drain any murky water until it runs clear, then reinsert the drain plug.
- Turn on hot water vessels and pasteurise the hot water system by raising the temperature to 70°C and maintaining it for one hour. If the system allows, draw water through to the outlets during this time.
- After pasteurisation, return temperature setpoints to the standard operating level for occupied buildings (e.g., 60°C or higher).
- Restore water tank levels to normal operating levels as near as practicable to the reoccupation date.
- Also, disinfect and descale all spray outlets such as showerheads and taps.
- Consult with vending machine operators to determine the necessary steps for restarting equipment that has been shut down, including hot drinks dispensers, cold-water machines, ice makers, and coffee machines.

8.2 Thermostatic Mixing Valves (TMVs)

- TMVs should only be installed where a risk assessment has identified a potential scalding hazard, or in areas designed to replicate hospital or clinical environments.
- Installation of TMVs must be approved by the Water Safety Management Committee.
- The pipework from the TMV to the outlet should be as short as reasonably practicable and must not exceed two metres in length.
- All TMVs should be equipped with strainers (only where a regular cleaning regime can be guaranteed), as well as isolation valves and non-return valves.
- TMVs must be accessible and designed for easy cleaning, maintenance, and inspection wherever reasonably practicable.

8.2 Record Keeping

The IFM Responsible Person should ensure:

- Adequate and up-to-date records are maintained for all tests, inspections, maintenance activities, and remedial work carried out on water systems. This documentation must demonstrate compliance with the risk assessment, show that any identified deficiencies have been addressed, and allow for effective cross-referencing between related documents.
- They must also ensure that suitable logbooks are kept. These logbooks should document precautionary measures, monitoring results, service reports, and any remedial work. All entries must be dated and signed by the individual who completed the work.
- Every three months, the logbooks should be reviewed to ensure they are being completed correctly. This review must be documented by signing off in the master logbook.
- All positive Legionella sample results must be reported through the University of Greenwich Accident and Incident Reporting System. This includes uploading the initial sample report, detailing the remedial actions taken, and subsequently uploading any follow-up sample reports.

8.2 Sustainability Issues

While it is important to flush outlets, toilets, and drains regularly to prevent Legionella growth, this must be balanced with the need to conserve water and energy, particularly in relation to hot water systems.

To minimise waste, outlets should be flushed at a moderate, not full, flow rate, and operatives should remain nearby to turn taps off as soon as flushing is complete. Consideration should be given to removing little-used outlets altogether, as this can reduce water and energy loss and save time during routine flushing procedures.

9. Further Guidance

9.1. Related Legislation:

In addition to the general duties contained in the Health and Safety at Work etc Act 1974, other, more specific sets of Regulations and guidance may apply.

Links to these and further general guidance on Legionella can be found on HSE web pages; The Law - HSE and Infection at work - Legionnaires' disease - HSE.

9.2. Related University documents:

- HSS028-Code of Practice for the Control and Prevention of Legionella

9.3. Other related guidance:

- The Approved Code of Practice (ACOP) L8
- BESA SFG20
- BS 8580 Water Quality Risk Assessments for Legionella
- The Control of Substances Hazardous to Health (COSHH) Regulations 2022
- HSG274 Parts 1–3,
- Infection at work - Legionnaires' disease - HSE.

- The Law - HSE

10. Document History

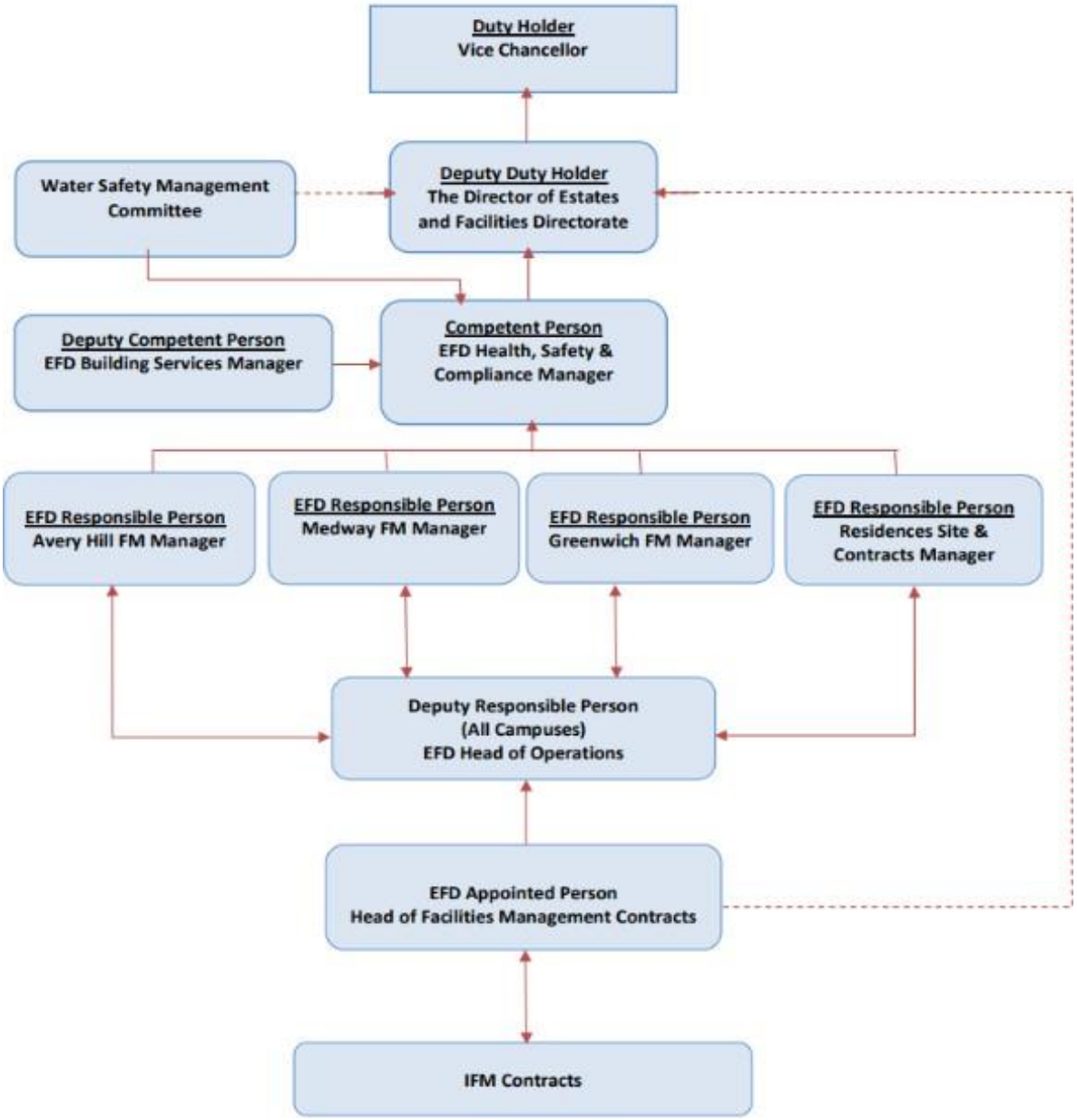
This document will be reviewed at least annually.

Details of previous reviews are as follows:

Review Date	Reviewer	Summary of Review
17-June-2024	Paul Lambert EFD Safety & Compliance Manger	(S10.3) TAPS removed and replaced with WIAPS
28-August-2024	Vikki Wood AD HSS Services	Reclassified as Code of Practice. Transferred to new document format. Document reference number added.
9-June-2025	Michelle Owusua Appiah-Agyekum Health and Safety Advisor.	Transferred to the latest document. Except in Temporary Closure Management, simplified understanding and web accessibility. Updated to remove old AMS and include new UoG Health and Safety Reporting Platform. Tables and Charts also moved to appendices for free flow of text.

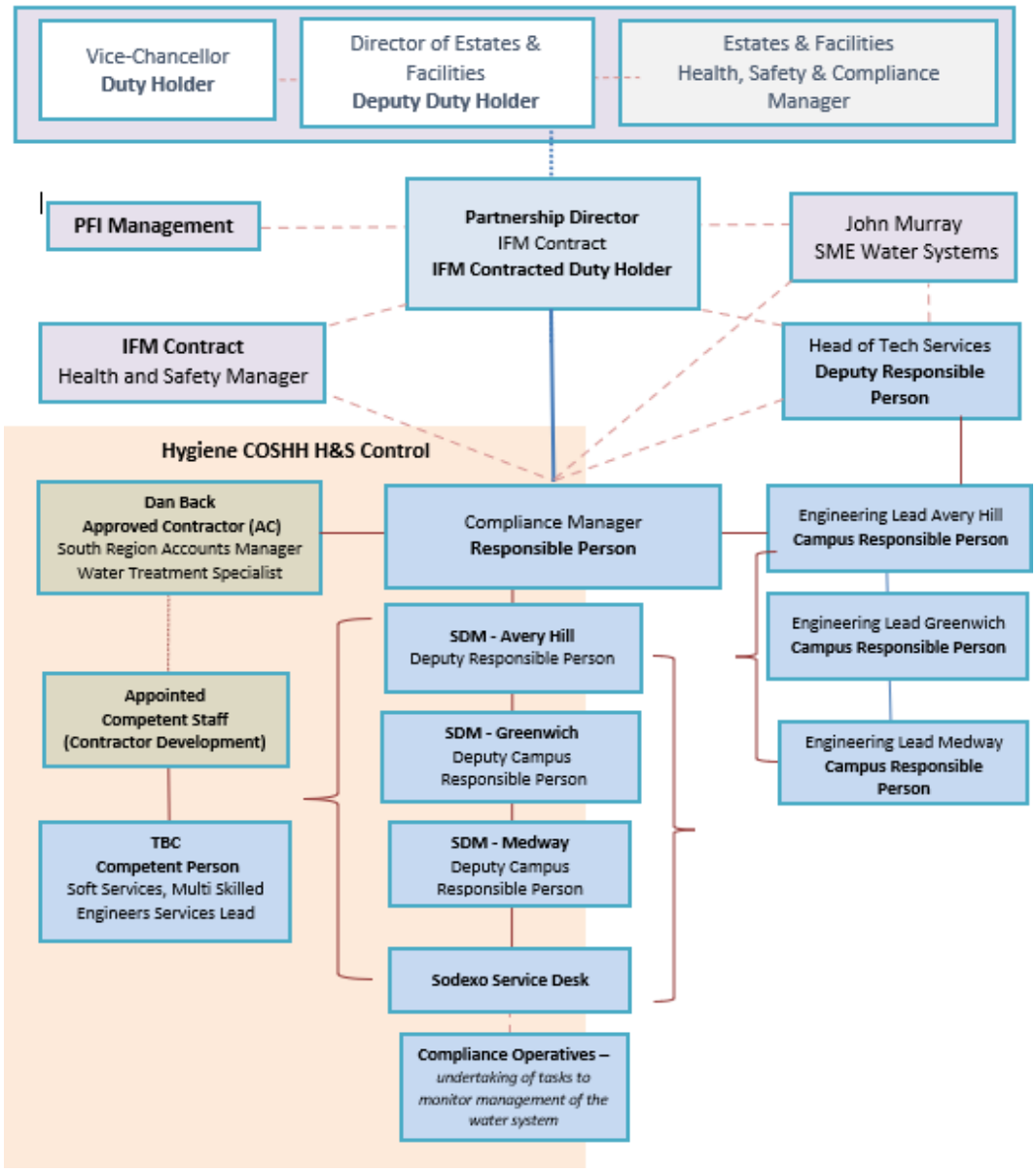
Appendix A: Chart Showing UoG Management Lines of Responsibility

Chart 1.0: UofG Management Lines of Responsibility



Appendix B: Chart Showing IFM Contract Lines of Responsibility

Chart 2.0: IFM Contract Lines of Responsibility



Appendix C: HSG 274 Part 2 Table.1 Checklist for hot & cold- water systems

When using temperature as a control regime, alongside routine monitoring and inspection, the checks in Table 1 should be carried out and remedial action taken where necessary.

Service	Action to take	Frequency	Responsible for the task
Calorifiers	Inspect calorifier internally by removing the inspection hatch or using a borescope and cleaning by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded	Annually, or as indicated by the rate of fouling	
	Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature	Annually, but may be increased as indicated by the risk assessment or result of inspection findings	
	Check calorifier flow temperatures (thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C) Check calorifier return temperatures (not below 50 °C, in healthcare premises not below 55 °C)	Monthly	
Hot water services	For non-circulating systems: take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 50 °C within one minute (55 °C in healthcare premises)	Monthly	
	For circulating systems: take temperatures at return legs of principal loops (sentinel points) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises). Temperature measurements may be taken on the surface of metallic pipework	Monthly	
	For circulating systems: take temperatures at return legs of subordinate loops, temperature measurements can be taken on the surface of pipes, but where this is not practicable, the temperature of water from the last outlet on each loop may be measured and this should be greater than	Quarterly (ideally on a rolling monthly rota)	

	50 °C within one minute of running (55 °C in healthcare premises). If the temperature rise is slow, it should be confirmed that the outlet is on a long leg and not that the flow and return have failed in that local area		
	All HWS systems: take temperatures at a representative selection of other points (intermediate outlets of single pipe systems and tertiary loops in circulating systems) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises) to create a temperature profile of the whole system over a defined period	Representative selection of other sentinel outlets considered on a rotational basis to ensure whole system is reaching satisfactory temperatures for legionella control	
POU water heaters (max 15 liters)	Check water temperatures to confirm the heater operates at 50–60 °C (55 °C in healthcare premises) or check the installation has a high turnover	Monthly–six monthly, or as indicated by the risk assessment	
Combination of water heaters	Inspect the integral cold water header tanks as part of the cold-water storage tank inspection regime, clean and disinfect as necessary. If evidence shows that the unit regularly overflows hot water into the integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and	Annually	

	take precautionary measures as determined by the findings of this monitoring regime		
Combination of water heaters	Check water temperatures at an outlet to confirm the heater operates at 50–60 °C	Monthly	
Cold water tanks	Inspect cold water storage tanks and carry out remedial work where necessary	Annually	
Cold water tanks	Check the tank water temperature remote from the ball valve and the incoming mains temperature. Record the maximum temperatures of the stored and supply water recorded by fixed maximum/minimum thermometers, where fitted	Annually (Summer) or as indicated by the temperature profiling	
Cold water services	Check temperatures at sentinel taps (typically those nearest to and furthest from the cold tank but may also include other key locations on long branches to zones or floor levels). These outlets should be below 20 °C within two minutes of running the cold tap. To identify any local heat gain, which might not be apparent after one minute, observe the thermometer reading during flushing	Monthly	
Cold water services	Take temperatures at a representative selection of other points to confirm they are below 20 °C to create a temperature profile of the whole system over a defined period. Peak temperatures or any temperatures that are slow to fall should be an indicator of a localised problem	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control	
Cold water services	Check thermal insulation to ensure it is intact and consider weatherproofing where components are exposed to the outdoor environment	Annually	

Showers and spray taps	Dismantle, clean and descale removable parts, heads, inserts and hoses, where fitted	Quarterly or as indicated by the rate of fouling or other risk factors, e.g. areas with high risk patients	
POU filters	Record the service start date and lifespan or end date and replace filters as recommended by the manufacturer (0.2 µm membrane POU filters should be used primarily as a temporary control measure while a permanent safe engineering solution is developed, although long-term use of such filters may be needed in some healthcare situations)	According to manufacturer's guidelines	
Base exchange softeners	Visually check the salt levels and top up salt, if required. Undertake a hardness check to confirm operation of the softener	Weekly, but depends on the size of the vessel and the rate of salt consumption	
Base exchange softeners	Service and disinfect	Annually, or according to manufacturers guidelines	
Multiple use filters	Backwash and regenerate as specified by the manufacturer	According to manufacturer's guidelines	
Infrequently used outlets	Consideration should be given to removing infrequently used showers, taps and any associated equipment that uses water. If removed, any redundant supply pipework should be cut back as far as possible to a common supply (e.g. to the recirculating pipework or the pipework supplying a more frequently used upstream fitting) but preferably by removing the feeding 'T' Infrequently used equipment within a water system (i.e. not used for a period equal to or greater than seven days) should be included on the flushing regime Flush the outlets until	Weekly, or as indicated by the risk assessment	

	the temperature at the outlet stabilizes and is comparable to supply water and purge to drain. Regularly use the outlets to minimize the risk from microbial growth in the peripheral parts of the water system, sustain and log this procedure once started For high-risk populations, e.g. healthcare and care homes, more frequent flushing may be required as indicated by the risk assessment		
TMVs	Risk-assess whether the TMV fitting is required, and if not, remove Where needed, inspect, clean, descale and disinfect any strainers or filters associated with TMVs To maintain protection against scald risk, TMVs require regular routine maintenance carried out by competent persons in accordance with the manufacturer's instructions. There is further information in paragraphs 2.152– 2.168	Annually or on a frequency defined by the risk assessment, taking account of any manufacturer's recommendations	
Expansion vessels	Where practical, flush through and purge to drain. Bladders should be changed according to the manufacturer's guidelines or as indicated by the risk assessment	Monthly–six monthly, as indicated by the risk assessment	

Appendix C: Acceptance of Legionella Code of Practice

FAO: Estates and Facilities Directorate

Acceptance of Legionella Code of Practice

I have received a copy of UofG's Legionella Code of Practice and will comply with all requirements within.

This document will be forwarded to colleagues within the company/department as appropriate.

Please tick the box below that is most applicable to your role at UoG.

☐ I will ensure all my directly employed operatives and sub-contractors engaged on domestic water system installations; alterations or extensions to existing systems have a working knowledge of the Water Supply (Water Fittings) Regulations (as amended 2021) and are a member of an approved scheme as detailed in (S) 9.3 of this policy.

☐ On all projects where I am appointed as a Project Manager, I will ensure all contractors engaged on domestic water system installations, alterations or extensions to existing systems have a working knowledge of the Water Supply (Water Fittings) Regulations (as amended 2021) and are a member of an approved scheme as detailed in (S) 9.3 of this policy.

☐ I understand the requirements referenced within this code of practice. However, I do not undertake works to the domestic water systems nor design such works and am signing purely to evidence receipt.

Signed_____

Name (Print) _____

Company/Department _____

Date _____