



Title: Legionella Management - Group Procedure

Business Function: All Functions across Sanctuary Group

Authors: Group Health and Safety Services

Authorised by: Group Director - Corporate Services

Sanctuary Group:
Sanctuary Group is a trading name of Sanctuary Housing Association,
an exempt charity, and all of its subsidiaries.

Uncontrolled copy if printed

CONTENT

General Information	3
1. Objective of this procedure	3
2. Legislative/Regulatory context	3
3. Responsibilities for implementation.....	4
4. What's new - What's different?	7
5. Definitions	7
Detailed Procedures.....	9
1. Establish site ownership.....	9
2. Risk Assessment process	12
3. Controlling the risk	17
4. Operational requirements.....	19
5. Training and competence.....	23
6. Action to take in the event of a legionellosis outbreak	25
Supporting Information	25
1. Additional support and guidance.....	25
2. Period of review	25
 Appendices	
Appendix 1 - Water Systems Log Book - Sanctuary Group	
Appendix 2 - Identified Duty Holder and Delegated Duty Holder by business stream (Sanctuary Care, Housing Services, Sanctuary Maintenance, Sanctuary Scotland, Sanctuary Students, and Sanctuary Supported Living)	
Appendix 3 - Water Systems Screening in Social Housing template	
Appendix 4 - Tenants guide to water hygiene (Legionella Information Leaflet)	
Appendix 5 - Hot and cold water systems	
Appendix 6 - Frequency of checks and inspections for hot and cold water systems	
Appendix 7 - Legionella guidance notes - void and little used outlets	
Appendix 8 - Water Quality Records Book - Sanctuary Care North	
Appendix 9 - Action post confirmation of positive sampling	

General Information

1. Objective of this procedure

1.1 This procedure supports the [Health and Safety - Group Policy](#), as it relates to Legionella Management. Sanctuary Group (the Group) will ensure that so far as is reasonably practicable:

- a suitable and sufficient assessment is conducted, within properties under its control, to identify and assess the risk of exposure to legionella bacteria from work activities and water systems present on that premises; and
- if the assessment shows there is reasonably foreseeable risk of exposure and it is reasonably practicable to prevent or control the risk, a Responsible Person/s is appointed to supervise the implementation of the required precautions.

2. Legislative/Regulatory context

- [Health and Safety at Work etc. Act 1974 \(HASAWA 1974\)](#)
- [Management of Health and Safety at Work Regulations 1999](#)
- [Control of Substances Hazardous to Health Regulations \(COSHH\) 2002](#)
- [Reporting of Injuries Diseases and Dangerous Occurrences Regulations 2013](#)
- [Water Supply \(Water Fittings\) Regulations 1999](#);
- [Approved Code of Practice \(ACoP\) and Guidance L8 2013 \(4th Edition\) - Legionnaire's Disease - The control of legionella bacteria in water systems](#)
- [HSG274: Legionnaires disease. Part 2: The control of legionella bacteria in hot and cold water systems.](#)

2.1 The HASAWA 1974 requires all employers 'to ensure, as far as is reasonably practicable, the health, safety, and welfare at work of all their employees'.

2.2 The Management of Health and Safety at Work Regulations 1999 specify in more detail the general duties of HASAWA 1974 with regard to safety management requiring all employers to undertake a 'suitable and sufficient' assessment of the risks to the health and safety of their employees and others who may be affected by their work activities and environment. This includes the risks arising from the COSHH.

2.3 The COSHH Regulations 2002 place a duty on employers to protect their employees by undertaking an assessment of the risks to health arising from hazardous substances in the workplace. This includes:

- preventing or controlling exposure;
- maintaining, examining and testing control measures;
- monitoring exposure and providing health surveillance where appropriate;
- providing information, instruction and training; and
- ensuring arrangements are in place to deal with accidents, incidents and emergencies.

3. Responsibilities for implementation

3.1 Group Chief Executive - Corporate Duty Holder

3.1.1 The Group Chief Executive is the Corporate Duty Holder with responsibility to ensure that this procedure is followed within the Group and managed appropriately.

3.2 Group Board

3.2.1 The Group Board is responsible for:

- overseeing all of the activities undertaken by the Group;
- defining and ensuring compliance with the Group's values and objectives; and
- agreeing the strategic direction of the Group and making sure that policies and procedures are in place to achieve those objectives.

3.2.2 The Group Director - Corporate Services has delegated responsibility on behalf of the Group Chief Executive, to raise significant Legionella management issues with the Executive Committee, to ensure this procedure is in place and up to date and competent advice on its implementation is available across the Group.

3.2.3 The Group Director - Corporate Services is also responsible for ensuring:

- that there are sufficient persons identified as being responsible for the management of legionella within each region or sector of the Group and for each site;
- that those 'Responsible Persons' are aware of their position and of their role in the co-ordination of responsive and planned works; and
- that the Group is compliant with legislative/regulatory requirements relating to legionella risk assessment and legionella safety management. Including:
 - proposing programmes for works relating to water safety for consideration as part of the annual business plan;
 - ensuring legionella safety appears as an important topic on the Board agenda;
 - ensuring sufficient funding is made available for legionella related matters;
 - that there are sufficient resources in place to ensure the Group legionella procedure can be effective; and
 - giving assurance to the Board that legionella safety is being managed throughout the Group.

3.3 Operations Director - Maintenance

3.3.1 The role of the Operations Director - Maintenance is to:

- ensure that service contracts are in place and reviewed as necessary that enable the Group to comply with legislative/regulatory requirements relating to legionella management;

- ensure that water hygiene records are maintained and are up to date;
- regularly report on water hygiene compliance to the Group Head of Health and Safety; and
- Undertake an annual review of the programme of works scheduled by the National Compliance team (NCT).

3.4 Director of Operations - Duty Holder

3.4.1 The Director of Operations is the Duty Holder for ensuring that Legionella Risk Assessments are conducted at premises within their area, that action plans to manage legionella risks are drawn up and implemented and appropriate management plans are in place. Directors are responsible for nominating a suitable Responsible Person to carry out this function on their behalf.

3.5 NCT - Nominated Person

3.5.1 National Compliance Coordinators, nominated by the Operations Director - Maintenance, are responsible for:

- monitoring and reviewing the actions arising from water hygiene risk assessments
- ensuring that all actions identified are undertaken within appropriate timescales and that necessary remedial works to installed systems are completed.
- confirming completion of all such identified works/actions to the Head of Compliance

3.6 Approved Appointed Contractor - Appointed Person

3.6.1 The approved contractor has been appointed to carry out programmed testing, management and risk assessments as per the contractual agreement with the Group. Only an approved contractor will be used.

3.6.2 All legionella risk assessments completed will be sent electronically to the NCT to log. A copy, in either paper or electronic format, will be sent to the Scheme Manager/Housing Officer/site Responsible Person for the property, within a six-week deadline from the time the risk assessment was conducted.

3.6.3 The approved contractor must ensure they have the appropriate address to send the original copy, as not all properties are operationally manned.

3.6.4 The appointed contractor will be required to attend regular meetings with the nominated person and the Group Head of Health and Safety to discuss:

- monitoring schedules are up to date and being followed as per the schedule;
- feedback of any positive sampling identified during the monitoring schedule, as detailed in **Appendix 9**; and
- information required for reporting purposes is received in a timely manner.

3.7 Scheme/premises manager/Housing Officer/Site Responsible Person

3.7.1 Scheme/premises manager, Housing Officer, or those responsible, with sufficient authority, a general knowledge of the property and installation, and competency will be identified and advised of their role by their line manager. They will be provided with sufficient training and guidance to enable them to carry out their role, to take local responsibility and ensure any works have been carried out.

3.7.2 They must ensure that all information for the implementation of the necessary precautions as identified in the original legionella risk assessment is retained in:

- The Group Water Systems log book (**Appendix 1**) or
- The Water Quality Records Book (Sanctuary Care North only) (**Appendix 8**) or
- Combination of local records and the Appointed Persons online records system accessed via the online portal (Sanctuary Students Scotland)

3.7.3 Scheme Manager/Housing Officer/Site Responsible Person must ensure there are sufficient numbers of identified staff who are suitably competent and take local responsibility for the legionella monitoring at the property.

3.8 Competent staff

3.8.1 Individuals will be identified on each site in order to complete certain tasks to assist in the local control and management of legionella. Clear instructions and training, as shown in Detailed Procedures - Section 5, will be provided as necessary to ensure that identified individuals are able to carry out the necessary tasks.

3.9 All employees

3.9.1 It is the responsibility of all employees to ensure that these policies and guidelines are followed and that they:

- provide such assistance to their line manager as is necessary to ensure they are able to meet their responsibilities; and
- report to their line manager immediately any safety hazard or defects relating to water systems, which they suspect or consider to be likely to endanger the safety of themselves or any other person.

3.9.2 Where the site competent person conducts local monitoring the following Group procedures should be read in conjunction with this procedure:

- [Personal Protective Equipment - Group Procedure](#)
- [Accident Reporting and Investigation - Group Procedure](#)
- [First Aid - Group Procedure](#)
- [Confined Spaces - Group Procedure](#).

3.10 Group Head of Health and Safety

3.10.1 It is the responsibility of the Group Head of Health and Safety to:

- ensure that changes in legislation are identified and that this procedure reflects the changes;
- provide support and advice to the Group and its subsidiaries; and
- ensure that this procedure is regularly reviewed.

3.10.2 The Group procedures form the basis of all subsidiary procedures. For more detailed information on responsibilities for implementation of this and other health and safety procedures, please refer to individual operation procedures.

4. What's new - What's different?

4.1 June 2020 - Amendment to this procedure. The Group is appointing two new contractors in relation to Water Hygiene, with effect from 27 July 2020. During a three month transitional period commencing on 1 August 2020, this procedure and associated appendices will remain in operation in relation to control of legionella. The procedure will then be subject to a formal review, following the transitional period ending on 31 October 2020.

4.2 May 2019 - Formal review, following changes made:

- Reordering of appendices to aid reader understanding.
- Addition of a new **Appendix 5** - Frequency of checks and inspections for hot and cold water systems.
- Services with access to Radar, now referenced as Sanctuary Care North.
- Addition of information regarding new builds and commissioning.
- Addition of information regarding microbiological testing, cleaning, and disinfection.
- Addition of information regarding remedial actions completion timescales.

5. Definitions

5.1 The following definitions support the user's understanding of this procedure:

<i>Calorifier</i>	An apparatus used for the transfer of heat to water in a vessel by indirect means, the source of heat being contained within a pipe or coil immersed in the water.
<i>Cold water service</i>	An installation of plant, pipes and fittings in which cold water is stored, distributed, and subsequently discharged.
<i>Copper/Silver Ionisation</i>	The term given to the electrolytic generation of copper and silver ions providing a continuous release of ions in water.
<i>Dead end/ Blind end</i>	A length of pipe closed at one end through which no water passes.

Deadleg	A length of water system pipework leading to a fitting through which water only passes infrequently when there is draw off from the fitting, providing the potential for stagnation.
Hot water service	An installation of plant, pipes and fitting in which water is heated, distributed and subsequently discharged (not including cold water feed tank or cistern).
Inserts/aerators	The aerator is a small attachment that either fits onto the end of the tap or can be inserted inside of the existing spout. It acts as a sieve, separating a single flow of water into many tiny streams which introduces the air into the water flow.
Legionella Pneumophila	One of a group of related bacteria, exposure to which under certain conditions can result in the development of legionnaire's disease. The bacterium can be found naturally in environmental water sources such as rivers, lakes and reservoirs, usually in low numbers. As they are commonly found in environmental sources, they may also be found in purpose-built water systems, such as tanks and pipework.
Legionellosis	The collective name given to the pneumonia like illness caused by legionella bacteria, it includes the most serious legionnaires disease as well as the similar but less serious conditions of Pontiac Fever and Lochgoilhead fever.
Legionnaires Disease	A potentially fatal form of pneumonia which can affect anybody, but which principally affects those who are susceptible because of age (particularly those over 50 years old), suffering from illness such as chronic respiratory or kidney disease, have an impaired immune system, smoking, heavy drinking, etc.
Representative Point	Any outlet within the system not identified as a sentinel point.
Sentinel Point	For hot water services - the first and last taps on a recirculating system. For cold water services (or non-recirculating hot water systems), the nearest and furthest taps from the storage tank. The choice of sentinel taps may also include other taps which are considered to represent a particular risk.
Tenancy	This terminology covers all service users encompassing licences, shared owners, leaseholders and clients on individual contracts with a commissioner or self-funder.
Thermostatic mixing valve (TMV)	A mixing valve in which the temperature at the outlet is preselected and controlled automatically by the valve.

Water Hygiene Initial Assessment	Where it is unclear, that a property within the Group portfolios, is not already on the planned programme of works for a full Water Hygiene Risk Assessments, the Nominated Person(s) can initiate a visit from the Appointed Persons(s) to determine if the property falls under the planned programme of works for a full Water Hygiene Risk Assessment to be conducted.
Water Hygiene Risk Assessment	A report arising from a thorough and systematic inspection of the hot and cold water services within a building.

Detailed Procedures

1. Establish site ownership

- 1.1 A register of premises where water hygiene risk assessments are required will be maintained. This is managed by the NCT.
- 1.2 Properties owned and managed by the Group
 - 1.2.1 The Group is responsible for managing the risks from exposure to legionella bacteria that may arise from work activities, for ensuring the implementation of the precautionary measures, and communication of relevant information to employees, and others who may be affected.
 - 1.2.2 The Group as a provider of residential accommodation, is the person in control of the premises and responsible for the water systems in those premises. The Group has a legal duty to ensure that the risk of exposure of customers to legionella is properly assessed and controlled, and it is currently committed to a programme of desk top risk assessment of 60,000 domestic properties.
 - 1.2.3 The Group will assess the potential likelihood of risk from the exposure to legionella bacteria to domestic customers within general needs property's, as part of the voids process, as detailed in **Appendix 3 - Water systems screening in Social Housing**.
 - 1.2.4 Tenants will be issued with information to ensure that they are aware of the legionella risk to health, and precautions they should take in order to prevent it. As detailed in **Appendix 4 - Legionella Information leaflet**. This will be re-issued to new tenants as part of the new tenants' pack, and to existing tenants as determined by risk assessments.
 - 1.2.5 Assessments will be prioritised based on asset information such as building age, types of water system, for example direct mains fed or stored water and when the system underwent an upgrade/replacement during the previous seven years. Legionella assessments for premises will be cloned only on the basis of similar design, size, age, and water supply.

- 1.3 Properties leased from another organisation
- 1.3.1 The owner of a property is generally responsible for managing the risk from legionella.
- 1.3.2 In all circumstances where the Group is the sole tenant or leaseholder, the owner must have all the necessary information for the risk assessment and the Group's co-operation with the implementation of any precautionary/control measures identified by the risk assessment.
- 1.3.3 It must be clearly established and agreed between all parties, who has the responsibility for which aspects of the water management process and formalised within the tenancy agreement. Copies of the documentation must be sent to the owner of the premises, managing agent and a copy is to be kept on site in the Operations Manual or as part of the property health and safety file.
- 1.4 Properties owned by the Group and managed by an external body
- 1.4.1 The Management Agreement must clearly identify who has responsibility for which aspects of the water management process. Copies of the documentation must be held by the Group and sent to the managing agent.
- 1.5 New build properties
- 1.5.1 New build properties will be assessed during the handover of the property prepared by the Principal Designer as part of the health and safety file.
- 1.5.2 Plant or water systems will be designed and constructed to be safe and without risks to health when used at work. The type of system installed depends on the size and configuration of the building and the needs of the occupants, but the water systems should be designed, managed and maintained to comply with:
- [The Construction \(Design and Management\) Regulations 2007](#)(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 Public Water Supplies \(Scotland\) Regulations 2014](#)
 - for systems provided with water from private sources - [The Private Water Supplies Regulations 2009](#) ; [The Private Water Supplies \(Wales\) Regulations 2010](#) 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*.
- 1.5.3 Any subsequent changes within buildings may result in modifications to water systems that incorporate features from different design styles and materials.

1.5.4 Any modifications should comply with the required standards stated above.

1.6 Water system design considerations

1.6.1 The design of the water systems should identify and take into account the following factors:

- the source of the water must meet [The Water Supply \(Water Quality\) Regulations 2016](#) or [The Private Water Supplies Regulations 2009](#) and equivalent legislation for Wales and Scotland and must be wholesome at draw-off points;
- water components that may increase the risk of colonisation, for example blending valves, flexible hoses, etc.; and
- the potential for stagnation leading to microbial growth where buildings are not to be fully occupied immediately or where systems are commissioned as occupation occurs, for example infrequently or intermittently used buildings.

1.6.2 A well-designed system should incorporate the following points:

- an adequate supply of hot and cold water available, particularly at periods of peak demand, while avoiding excessive storage. In buildings where stored water is not essential, consideration should be given to direct mains systems with local point of use (POU) water heaters;
- all parts of the system including storage tanks, water heaters, pipework and components and associated equipment containing water are designed to avoid water stagnation by ensuring flow through all parts of the system. Low use outlets should be installed upstream of frequently used outlets to maintain frequent flow, for example an emergency shower installed upstream of a frequently used toilet. Consideration should be given to self-flushing fittings which are validated to show they are effective and do not introduce any additional risks;
- avoidance of temperatures in any water storage vessels, distributed water pipework and any associated equipment that support microbial growth, including legionella;
- single check valves are commonly used to prevent backflow of hot water to the cold feed. These valves should be rated for hot water use, as one side will be in contact with potentially hot water. Where applicable, an anti-gravity loop should be installed in the supply pipework as a failsafe mechanism should the single check valve fail; and
- design measures to improve energy efficiency targets and reduce water usage should be assessed at the design stage to ensure the control of legionella is not compromised.

1.6.3 Guidance on hot and cold water systems can be found at **Appendix 5**.

2. Risk Assessment process

2.1 A suitable and sufficient risk assessment of the water system must be undertaken to assess the risk of exposure to legionella by residents, employees and others who may be affected, for example, employees of other companies who share the premises, contractors, visitors and members of the public. For domestic properties, a project of desk top assessments is currently being undertaken.

2.2 Areas assessed

2.2.1 Legionella Risk Assessment - the following tasks are required:

- auditing of existing water log book;
- random outlet temperature checks;
- TMV temperature outlet checks;
- risks and action plan documentation;
- non-compliance report;
- one x complete bound hard copy;
- schedule of works by mandatory and recommended works; and
- engineer's site visit report - including all down services as per schedules agreed with the National Compliance Manager and ensuring compliance with the Approved Code of Practice L8 [HSG274: Legionnaires disease. Part 2: The control of legionella bacteria in hot and cold water systems.](#)

2.2.2 The risk assessment will include an assessment of, pipe work to its storage point (both hot and cold), water storage tanks and the furthest outlet, pipe work to deliver water to the outlet (tap, shower, hose, toilet, etc.) and condition of the source of outlet.

2.2.3 Responsibility for water quality to the point of the town cold mains inlet to the premises is that of the local water provider.

2.3 Competence

2.3.1 In conducting the assessment, the corporate delegated Duty Holder and nominated person(s) must appoint an approved contractor, known as the appointed person, to help them meet their health and safety duties. The assessment must:

- consider the individual nature of each site;
- identify potential sources i.e. an asset register;
- evaluate potential sources;
- consider prevention of exposure to Legionella;
- include the means of controlling any residual risk;
- consider the factors affecting the risk such as:
 - the presence of Legionella;
 - the means of distributing aerosols;
 - the population that may be affected;
 - the location of the system;
 - conditions for proliferation such as temperature, scale, sludge, corrosion, algae, organic matter, etc.;

- the water supply quality;
- the possibility of contamination;
- normal and unusual operating conditions that are 'reasonably foreseeable'; and
- contain a complete system schematic to include dead legs and parts used intermittently.

2.3.2 If the risk assessment concludes there is no reasonably foreseeable risk, or the risks are insignificant and are managed, the assessment is complete. Although no further action may be required at this stage, existing controls **must** be maintained.

2.4 Legionella action plan

2.4.1 The risk assessor will list any associated hazards that are likely to cause the introduction and growth of legionella, within the premises water systems by means of an action plan.

2.4.2 This action plan forms part of the overall risk assessment and identifies those measures needed to eliminate or control the hazards identified during the inspection. Each hazard identified is given a risk rating of high, medium or low to assist in the setting of priorities. It will include an indication of who is responsible for the management of the action, and the expected time within which the required works need to be completed. Copies of the risk assessment including the action plan will be held on/ accessible by sites and sent to the NCT to save electronically against the appropriate property.

2.4.3 The action points will fall into two categories:

- **Management** - carried out by the premises staff or staff designated by the Group as the Responsible Person. These are mainly tasks such as recording temperatures (within the water log book) or arranging non water associated tasks (signage, collating paperwork). These actions must be recorded and signed off as complete by the Responsible Person.
- **Specialist Work** - carried out by contractors (plumber, water consultant). This should be arranged in consultation with the Nominated Persons, who in conjunction with the Responsible Person, will ensure that the action plan held on/accessible by the site, is evidenced to confirm that the specialist works have been completed.

2.5 Legionella written control scheme

2.5.1 Once the risk is identified and assessed, a written control scheme must be prepared, implemented and properly managed for preventing or controlling legionella.

2.5.2 The scheme will specify the various control measures required, how to use and carry out those measures, describe the water treatment regimes and the correct operation of the water system. The scheme will be specific and tailored to the system covered by the risk assessment.

2.5.3 The information to include in a legionella written control scheme includes:

- purpose;
- scope;
- risk assessment;
- management structure:
 - Duty Holder(s);
 - Responsible Person(s) and communication pathways;
- training;
- allocation of responsibilities, i.e. to the Duty Holder(s), Responsible Person(s) and water treatment service provider;
- up-to-date schematic plan showing the layout of the system(s) and its location within and around the premises - this should identify piping routes, storage and header tanks, calorifiers and relevant items of plant, especially water softeners, filters, strainers, pumps, stand by equipment, and all water outlets;
- source of water supply, for example whether from a mains supply or not;
- the correct and safe operation of the system;
- precautions in place to prevent or minimise risk associated with the system;
- analytical tests, including microbiological testing, other operational checks, inspections and calibrations to be carried out, their frequency and any resulting corrective actions;
- remedial action to be taken in the event that the scheme is shown not to be effective, including control scheme reviews and any modifications made;
- health and safety information, including details on storage, handling, use and disposal of any chemical used in both the treatment of the system and testing of the system water;
- incident plan, which covers the following situations:
 - major plant failure, for example chemical system failure;
 - very high levels or repeat positive water analyses for legionella;
 - an outbreak of legionellosis, suspected or confirmed as being centred at the site; and
 - an outbreak of legionellosis, the exact source of which has yet to be confirmed, but which is believed to be centred in an area which includes the site.

2.5.4 This procedure and each site's specific water log book, sets out the control measures and the management systems utilised by the Group (known also as the legionella written control scheme), to manage and control the risk of Legionellosis and Legionnaires Disease and complies with the 'ACoP L8'.

2.6 Record keeping

2.6.1 The Responsible Person must ensure that the significant findings of the risk assessment are recorded; this should include details of any persons identified as being particularly at risk and the steps taken to prevent or control the risks. Appropriate records must be kept, both centrally by NCT and on site for tasks completed locally by competent and identified persons.

2.6.2 Records should include details of the following;

- the person or people responsible for conducting the risk assessment, managing, and implementing the written scheme;
- any significant findings of the risk assessment;
- the written control scheme and its implementation; and
- the results of any inspection, test or check carried out, and the dates.

2.6.3 Regulations require that records are to be retained throughout the period for which they remain current and for at least two years after that period. Records kept in accordance with inspection, test or checks carried out should be retained for at least five years.

2.6.4 The Group require records of inspection, checks and testing to be kept for 6 years in accordance with the retention schedules as detailed in the [Health And Safety Retention Schedule](#).

2.7 Legionella Risk Assessment review process

2.7.1 Legionella risk is to be managed via a programme of works scheduled by the NCT, where every year each property identified on the contractual program of works, will require a six-monthly interim inspection and an annual interim audit including a desktop review.

2.7.2 The following tasks are undertaken during each of the following inspections.

Six month interim inspections:

- check tank water temperature remote from ball valve and mains temperature at ball valve;
- note maximum temperature recorded by fixed max/min thermometers where fitted;
- auditing of the water log book; and
- engineer's site visit report.

Annual interim audit:

- from onsite meeting, understanding of existing Risk Assessment;
- check for additional water systems work to property;
- auditing of existing water log book;
- check tank water temperature remote from ball valve and mains temperature at ball valve;
- note maximum temperature recorded by fixed max/min thermometers where fitted;
- engineers site visit report;
- visual inspection of cold water storage tanks for compliance to Approved Code of Practice L8, risk assess as required;
- calorifier:
 - drain off water inspected for colour, scale and debris; risk assess as required;
- random outlet temperature checks;

- composition of necessary remedial works report;
- production of follow-up risk assessment report if required;
- schedule of works by mandatory and recommended works if required;
- engineer's site visit report; and
- authorised certificate of follow-up risk assessment.

2.7.2 The assessment of risk is an **ongoing** process and not merely a paper exercise. Responsible Persons should arrange to review the assessment regularly and specifically when there is reason to suspect it is no longer valid. An indication of when to review the assessment and what to consider should be recorded and this may result from:

- a change to the water system or its use;
- a change to the use of the building where the system is installed;
- new information available about risks or control measures
- the results of checks indicating that control measures are no longer effective;
- disease/legionellosis associated with the system; and/or
- if the assessment is thought to be no longer valid

2.7.3 Where there is a change to key personnel particularly related to the management of legionella, the newly appointed individual must be immediately informed of their duties and be aware of the risk assessment applicable to the property being managed.

2.7.4 All Care Quality Commission registered properties in addition to the above review criteria, will have a full risk assessment every two years.

2.8 Remedial actions

2.8.1 Remedial actions may arise from a new or revised water hygiene assessment, local monitoring (e.g. temperature monitoring), or routine servicing by the appointed water hygiene contractor. In all cases actions will be allocated a priority code, as shown below. Actions will be managed and monitored by NCT.

Rating	Description	Compliance period
Low	Slight risk under exceptional operating conditions	12 months
Medium	Slight risk under normal operating conditions	6 months
High	Serious risk present	1 month

2.8.2 In all cases where a risk is categorised as High immediate measures will be put into place to reduce that risk, these measures may be short term compensatory measures such as taking a communal shower room out of use, which are intended to reduce risk to a low or medium level whilst a longer term solution is investigated. These measures will be put into place after advice has been obtained from the appointed water hygiene contractor via NCT and a record made in the water hygiene risk assessment.

2.8.3 In all cases where a risk is categorised as Medium or Low remedial actions will be raised within 10 days of the receipt of the recommendation and will be completed in line with the individual quotation timescales, this will be detailed in SAP and monitored via Business Information reporting by the NCT.

3. Controlling the risk

- 3.1 Legionnaires' disease is a potentially fatal form of pneumonia and everyone is susceptible to infection. There are a number of factors that increase susceptibility including increasing age (particularly those over 50 years); those with existing respiratory diseases or certain illnesses and conditions such as cancer, diabetes, kidney disease; alcoholics; smokers; and those with an impaired immune system.
- 3.2 Duty Holders are required to prevent or control the risk from exposure to legionella. For control measures to be effective, it is essential to keep the whole system clean, as biofilms or inorganic matter such as scale can reduce the efficacy of any type of control measure significantly.
- 3.3 Special consideration should be given to occupants within healthcare premises, residential or care homes where they are exposed to water systems, and a range of potential sources of waterborne infection, for example patient ventilation humidification systems that are not necessarily present in a non-healthcare setting.
- 3.4 Flushing of outlets
- 3.4.1 The risk from legionella is increased in peripheral parts of the hot and cold water system where there are remote outlets such as hand washbasins, and deadlegs, and outlets which have minimal use. Where reasonably practicable, deadlegs should be removed or the risk minimised by regular use of these outlets.
- 3.4.2 Flushing involves the regular movement of hot and cold water in distribution pipework and outlets, particularly those that are little used, and must be conducted weekly for several minutes to ensure water cannot stagnate in the hot and cold water systems and the POU filters.
- 3.4.3 If there has been a lapse in the flushing regime, the stagnant and potentially contaminated water from within the shower or tap and associated dead leg should be purged to drain without discharge of aerosols before the appliance is used.
- 3.5 Temperature control
- 3.5.1 Temperature control is the traditional strategy for reducing the risk of legionella in water systems.
- Cold water systems should be maintained, where possible, at a temperature below 20°C.

- Hot water should be stored at least at 60°C and distributed so that it reaches a temperature of:
 - 50°C in non-healthcare and homecare premises or
 - 55°C in healthcare premises, within one minute at the outlets.
- 3.5.2 Where temperatures present outside the ranges quoted above, the Responsible Person must make the necessary evidential recording, and process a request for investigation/remedial action through the repairs process.
- 3.6 Scalding and Thermostatic Mixing Valves (TMVs)
- 3.6.1 Much higher temperatures should be avoided because of the risk of scalding.
- 3.6.2 Potential scalding risk should be assessed and controlled in the context of the vulnerabilities of users. At 50°C, the risk of scalding is low for most people, but the risk increases with higher temperatures and for longer exposure times. However, the risk particularly to the elderly, disabled, young children, and those with sensory loss who may not be able to recognise high temperatures and respond quickly, will be greater.
- 3.6.3 The use and fitting of TMVs should be informed by a comparative assessment of scalding risk versus the risk of infection from legionella. Where a risk assessment identifies the risk of scalding is insignificant, TMVs are not required.
- 3.6.4 TMVs are valves that use a temperature sensitive element and blend hot and cold water to produce water at a temperature that safeguards against the risk of scalding, typically between 38°C and 46°C depending on outlet use.
- 3.6.5 The most serious risk of scalding is where there is whole body immersion, such as with baths and showers and TMVs should be fitted at these outlets.
- 3.6.6 For most people, the scalding risk is minimal where water is delivered up to 50°C and using hot water signs may be considered sufficient, where a TMV is not fitted, however where a risk assessment identifies a significant scalding risk is present, fitting the appropriate TMVs at outlets, such as hand washbasins and sinks, is also required.
- 3.6.7 Where the risk assessment considers fitting TMVs appropriate, to maintain protection against scald risk, they require regular routine maintenance carried out by competent individuals in accordance with the manufacturer's instructions, as the blended water downstream of TMVs may provide an environment in which legionella can multiply, thus increasing the risks of exposure. Strainers or filters should be inspected, cleaned, descaled and disinfected annually or on a frequency defined by the risk assessment, taking account of any manufacturers' recommendations.

3.7 Biocide treatments

3.7.1 Due to the complexity of hot and cold water systems found in healthcare facilities and the responsibility of maintaining a temperature control regime, the use of chemical and other water treatments that have been shown capable of controlling and monitoring legionella should be considered. Such measures should only be used in addition to maintaining temperature control of hot and cold water systems.

3.7.2 Where biocides are used to treat water systems, like the temperature regime, they require meticulous control and monitoring programmes in place if they are to be equally effective.

3.8 Chlorine dioxide

3.8.1 Chlorine dioxide is an oxidising biocide/disinfectant that when used correctly, has been shown to be effective at controlling both legionella and biofilm growth in hot and cold water systems. In the appropriate application, it may be used to aid legionella control where maintaining a conventional temperature regime is difficult, or where the removal of all dead legs and little used outlets is impractical.

3.9 Copper and Silver Ionisation

3.9.1 Ionisation is the term given to the electrolytic generation of copper and silver ions providing a continuous release of ions in water. These are generated by passing a low electrical current between two copper and silver electrodes; copper and silver alloy electrodes may also be used. When used correctly, copper and silver ionisation is shown to be effective at controlling legionella and can penetrate and control established biofilms.

3.9.2 Details of the checks, testing and inspection requirements for such treatment systems are contained in **Appendix 6** - Frequency of checks and inspections for hot and cold water systems

4. Operational requirements

4.1 Checks, testing and inspections

4.1.1 For precautions to remain effective, the condition and performance of the system will need to be monitored. The Responsible Person will oversee and manage this. Management should involve:

- checking the performance and operation of the system;
- inspecting the accessible parts of the system for damage and signs of contamination; and
- monitoring to ensure that the treatment regime continues to control to the required standard.

- 4.1.2 Routine checks, inspections and testing will be completed by a combination of approved water contractors (appointed persons) and identified Group Staff designated with specific responsibilities and tasks relating to the management of water hygiene on sites.
- 4.1.3 The frequency of checks and inspecting of hot and cold water systems will depend on their complexity and the susceptibility of those likely to use the water. The risk assessment will define the frequency of inspection and monitoring depending on the type of use and user and particularly where there are adjustments made by the assessor to take account of local needs.
- 4.1.4 **Appendix 6** contains a check list for hot and cold water systems with an indication of the frequencies of required checks and inspections.
- 4.2 Voids
- 4.2.1 The term 'void' relates to a building (or part) that remains unoccupied for a period i.e. a room in a shared house or a self-contained flat/ apartment where the Group has responsibility for the management of the property.
- 4.2.2 Where a building, part of a building or water system is taken out of use, it should be managed so that microbial growth, including legionella, in the water is appropriately controlled.
- 4.2.3 Guidance on the process for management of water hygiene in voids is contained within **Appendix 7**.
- 4.3 Commissioning
- 4.3.1 The commissioning of a water system means the bringing of a new system into operation and applies to all component parts of a building water system including attached equipment. The aim of commissioning is to check the system is performing to design specifications, that there are no leaks and that the flow of the hot water system is balanced.
- 4.3.2 From a microbiological perspective, the period between filling the system and bringing it into normal use is potentially the most hazardous. A risk assessment should be performed before commissioning, to identify and take into account the potential for stagnation as this may lead to microbial growth where buildings are not to be fully occupied immediately or where systems are commissioned as occupation occurs, e.g. infrequently or intermittently used buildings.
- 4.3.3 Before commissioning, the nature of the incoming water supply must be determined. If it is a public water supply, the water supplier will be able to provide details of the testing carried out in the local water supply zone in which the building is situated. If the building has a private water supply, the local authority should be contacted to carry out a private water supply risk assessment, if this has not been done already.

- 4.3.4 The building owner is responsible for complying with the regulatory requirements as notified by the water supplier or the local authority, as appropriate, irrespective of whether it is a public or private water supply, or a combination of both.
- 4.3.5 Any new water system will require, as a minimum, flushing and disinfection before being brought into use, and larger more complex systems may also require disinfection. The building commissioning process should take into account the size and complexity of the water system. A new, correctly designed and installed water system should provide wholesome water at every outlet and where there are any problems, the design or installation defect should be identified and rectified.
- 4.4 Record keeping
- 4.4.1 Actions undertaken to remove hazards identified in the risk assessment and all ongoing management actions taken to control the risk of legionella arising must be recorded.
- 4.4.2 For this purpose, a water log book specific to the site as detailed in **Appendix 1** must be held at the site and completed by the Responsible Person and Competent Person, appointed water contractors and other staff designated with specific responsibilities and tasks relating to water hygiene management.
- 4.4.3 Sanctuary Care North use the Water Quality Records Book to monitor water temperatures and management actions, which is detailed at **Appendix 8**.
- 4.4.4 Records should be retained throughout the period they are current and for at least two years afterwards.
- 4.4.5 Records of any monitoring, inspection, test and checks carried out, and the dates are to be retained for at least five years.
- 4.5 Monitoring
- 4.5.1 Each business area is required to implement a monitoring system to ensure that action plans are being signed off and water management logs are being completed.
- 4.5.2 The appointed contractor will also inspect both the risk assessment action plan and site water log book six monthly
- 4.6 Microbiological monitoring
- 4.6.1 Microbiological monitoring, Sampling, for legionella is conducted in hot and cold water systems annually by the appointed water contractor in all properties where a full legionella risk assessment has been completed. The risk assessment should specifically consider systems supplied from sources other than the mains, such as private water supplies, where sampling and analysis may be appropriate.

4.6.2 Microbiological monitoring will be carried out in accordance with BS 7592 *Sampling for Legionella organisms in water and related materials* where there is doubt about the efficacy of the control regime or it is known that recommended temperatures, disinfectant concentrations or other precautions are not being consistently achieved throughout the system.

4.6.3 The circumstances when monitoring for legionella would be appropriate include:

- water systems where the control levels of the treatment regime, for example temperature or disinfectant concentrations, are not being consistently achieved. In addition to a thorough review of the system and treatment regimes, frequent testing, for example weekly, should be carried out to provide early warning of loss of control. Once the system is brought back under control as demonstrated by monitoring, the frequency of testing should be reviewed;
- where risk assessment considers it appropriate to monitor in high-risk areas or where there is a population with increased susceptibility, for example in healthcare premises including care homes;
- water systems suspected or identified in a case or outbreak of legionellosis where it is probable that it will be required for samples to be taken for analysis; and
- water systems treated with biocides where water is stored, or distribution temperatures are reduced. Initial testing should be carried out monthly to provide early warning of loss of control. The frequency of testing should be reviewed and continued until such a time as there is confidence in the effectiveness of the regime.

4.6.4 Guidance notes on the action post confirmation of a positive sampling can be found at **Appendix 9**.

4.7 Cleaning and disinfection

4.7.1 The risk from exposure to legionella must be controlled by keeping the water system and water within it clean and free from nutrients, including those arising from contamination and corrosion, and maintaining its cleanliness.

4.7.2 Where necessary hot and cold water systems should be cleaned, flushed and disinfected in the following situations, as specified by 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;
- where 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;
- on routine inspection of the water storage tanks, where there is evidence of significant contamination or stagnation;
- if the system 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.

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

- Thermal Disinfection - for example, by raising the hot water system 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 of time (the contact time).
- Chemical Disinfection - for example, 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 (contact time). This method is commonly used when it is necessary to disinfect the cold water storage tanks and the whole system.

4.7.4 Evidence of the competence of individuals undertaking these forms of disinfection should be confirmed by the Appointed Persons, indicating that the knowledge and experience of the operatives is satisfactory for undertaking the proposed works.

4.7.5 A suitable safe system of work, or for more complex systems, a site specific method statement should be obtained before the start of any cleaning and/or disinfection of a water system. The documentation should clearly define the process to be undertaken and should be derived from risk assessments of the typically encountered hazards, which may include:

- access/egress, storage and special site hazards such as asbestos;
- machinery and equipment isolation;
- working in confined spaces;
- manual handling;
- work at height;
- slip, trips and falls;
- electrical equipment;
- chemicals to be used;
- personal protective equipment required; and/or
- waste disposal and chemical neutralising process (a discharge permit may be required from the water utility).

5. Training and competence

5.1 The Group must ensure that those appointed to carry out the risk assessment, draw up the written control scheme and assist in the management of water hygiene have the ability, experience, instruction, information, training and resources to enable them to carry out their tasks competently and safely. This will be ensured by the Group procurement and contractor approval process.

5.2 Identified Nominated Persons - NCT Water Hygiene team members

5.2.1 The Chartered Society for Worker Health Protection (BOHS), P901 Control of Legionella in Domestic Hot and Cold Water Systems, provides an overview of legionella bacteria risk, and how it can be controlled in hot and cold water systems in compliance with regulatory requirements. This is a one-day course with a written theory examination, successful completion of which achieves a qualification equivalent to NVQ Level 4 and HNC level.

5.2.2 The persons appointed by the Group to take day to day responsibility for controlling any identified risk from legionella bacteria must have sufficient authority, competence and knowledge of the installation to ensure that all operational procedures are carried out effectively and in a timely manner.

5.2.3 The Group will also ensure that all employees involved in work that may expose them or any other person to legionella are given sufficient information, instruction and training to enable them to safeguard themselves and others.

5.3 Legionella awareness training

5.3.1 Legionella training is provided for all managers, supervisors and any other identified member of staff who has responsibility for managing or maintaining water systems in order to control the risk of Legionella, in accordance with the business operations training matrices.

5.3.2 The course content includes:

- an introduction to legionella and identification of the people most at risk;
- conditions required for the growth of legionella bacteria;
- installations and conditions that may result in the transmission of Legionnaires' disease;
- legionella risk assessment and associated documentation;
- maintenance of systems to control legionella in hot and cold water systems, air conditioning and other installations;
- managing Legionella 'The Responsible Person' and monitoring the water log books; and
- the legal requirements

5.3.3 Further details and places on training courses can be booked via The Learning Academy.

5.4 Copper/Silver Ionisation and Chlorine Dioxide Systems Monitoring

5.4.1 Training is available for all managers, and any other identified member of staff who has responsibility for managing or maintaining copper/silver ionisation or Chlorine Dioxide systems.

5.4.2 Further details and places on training courses can be booked via The Learning Academy.

6. Action to take in the event of a legionellosis outbreak

- 6.1 In England and Wales, Legionnaires' disease is notifiable under the Health Protection (Notification) Regulations 2010 and in Scotland under the Public Health (Notification of Infectious Diseases) (Scotland) Regulations 1988. Under these Regulations, human diagnostic laboratories must notify Public Health England (PHE), Public Health Wales (PHW) or Health Protection Scotland (HPS) of microbiologically confirmed cases of Legionnaires' disease.
- 6.2 An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection, with or without microbiological evidence.
- 6.3 If a water system is implicated in an outbreak of Legionnaires' disease, emergency treatment of that system should be carried out as soon as possible. This will usually involve the processes detailed in **Appendix 9** of this procedure.
- 6.4 A report must be made by the Responsible Person as soon as possible in accordance with the [Group Accident Reporting and Investigation Procedure](#)

Supporting Information

1. Additional support and guidance

- 1.1 For further information and advice regarding legionella management please contact the Group Health and Safety team via healthandsafety@sanctuary-housing.co.uk.

2. Period of review

- 2.1 Until a new procedure is formally adopted this document will remain in force and operational.
- 2.2 This procedure will be reviewed in accordance with the policy review programme agreed by Executive Committee.
- 2.3 If there are significant changes to legislation or regulation or there are found to be deficiencies or failures in this policy, as a result of complaints or findings from any independent organisations, the Group Director - Corporate Services/Group Head of Health and Safety will initiate an immediate review.
- 2.4 Where appropriate, key stakeholders, customers and interested parties will be consulted as part of any review of this procedure.