



WATER SAFETY - LEGIONELLA

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1. Introduction

1.1 Background

Framework is committed to ensuring that all employees, residents, and others affected by our activities are safe and protected from the effects of workplace hazards. To this end Framework takes steps to identify potential Legionella hazards in water systems under its control, and to prevent or minimise the risk of exposure to Legionella bacteria. All water systems that could be a potential source of infection are identified and assessed for risk. Where necessary, control schemes are implemented to minimise the risk of exposure. Instruction and training are provided for relevant staff to ensure control schemes are operated in an effective manner.

1.2 Legionnaire's Disease

Legionnaires' disease is a serious lung infection caused by legionella bacteria infecting the lungs. It is usually caught by breathing in small droplets of contaminated water. The infection isn't contagious and can't be spread directly from person to person. Legionella bacteria is usually found (often in harmlessly low numbers) in sources of water, such as ponds, rivers and lakes. However, the bacteria can rapidly multiply if they find their way into artificial water supply systems in large buildings, such as office blocks and housing schemes. Framework have assessed the risk of contamination and have taken steps to prevent this.

1.3 Policy and Procedure

This document is intended to provide a suitable approach for the management of Legionella risk within water systems that are the responsibility of Framework. It also provides a means of compliance by following guidance and good practice set out in the HSE Approved Code of Practice and Guidance (ACOP L8) – Legionnaire's Disease: The Control of Legionella Bacteria in Water Systems. This document applies wherever water is stored or used in such a way that it may create a foreseeable risk of legionellosis and particularly to the following water systems:

- Hot and cold-water systems
- Water systems including cooling towers or evaporative condensers
- Other plant and systems containing water which is likely to exceed 20°C, and which may release a spray or aerosol during operation or maintenance, e.g. air conditioning units

Framework's portfolio does not include cooling towers, therefore references to legal and best practice duties for the management of cooling towers is omitted from this procedure.

2. Responsibilities

2.1 Chief Executive

The Chief Executive fulfils the role of Duty Holder under the ACOP L8 and holds the main responsibility for the management of Legionella and for ensuring that Framework complies with L8 and that the procedures contained within this document are followed.



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2.2 Corporate Services Director

The Corporate Services Director is responsible for ensuring that adequate resources, support, processes and competencies are in-place to discharge the responsibilities placed on Framework within this procedure.

2.3 Property Services Manager and Head of SHEQ

The Property Services Manager & Head of SHEQ Fulfill the role of the Appointed Responsible Person (under HSE ACOP L8) and are responsible for management of the water hygiene risk assessment process and for ensuring that appropriate measures are identified to adequately manage legionella risk within all premises under Framework's control.

2.4 Repairs and Compliance Manager and Health & Safety Manager

The Repairs and Compliance Manager alongside the H&S Manager are the Deputy Responsible Person (under HSE ACOP L8) to oversee the day to day management of Legionella, to ensure that:

- Risk assessments are carried out
- Water hygiene management regimes are implemented where appropriate
- Records are kept where appropriate
- All staff, consultants and contractors engaged to carry out such work are competent to do so

2.5 External Specialists

The use of external specialists will provide a technical support service where required to the Duty Holder and Appointed Responsible Persons, alongside this an audit of Water Safety compliance will be carried out frequently and report findings to the Duty Holder.

3. Legionella Risk Assessment

3.1 General Approach

Framework has an extensive housing portfolio and it is our philosophy that buildings with water systems that pose the highest risk should be dealt with in order of priority. A number of factors need to be considered when prioritising properties on a risk basis. These include the likelihood of bacteria proliferating within a system on a sufficient scale to pose a significant health risk, the opportunity for that bacteria to be inhaled as an aerosol (most likely from shower heads), the vulnerability of the people who might be exposed (age range and health) and the numbers of people that might be exposed. It is perceived that the greatest potential risk will exist in communal systems where the susceptibility of users and the frequency of all outlet usage is difficult to quantify. Properties types with independent water supplies are considered to be medium risk and those with independent supplies and combi-boilers (so there is no stored water) will be considered low risk.



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The process for carrying out Legionella Risk Assessments in compliance with L8 and HSG 274 will be as follows:

3.2 Desk Top Risk Assessment

A desk top high-level risk assessment is to be carried out in which every property is to be allocated a Legionella priority risk rating of 1 to 3. This will form the basis for priority, frequency and type of risk assessment. Priority ratings are to be based on the following criteria:

- Priority 1 –All buildings where the susceptibility of people is unknown and there are shared, communal water supplies or stored hot or cold water.
P1 Properties will undergo an initial site-based risk assessment and where it is applicable, suitable control measures implemented as per the written scheme'
- Priority 2 – Buildings where there are individual cold-water tanks for each dwelling that only feed a water heater and therefore water is likely to undergo thermal disinfection
P2 properties are considered to be medium Risk due to the small quantity of stored water and the water going through a process of thermal disinfection prior to use. These will be subject to an initial site-based simple risk assessment of a representative proportion of the properties in the scheme using an external specialist consultant. Remedial Works identified in the risk assessment will be carried out assuming the proportional assessment reflects the condition of the entire block. Where necessary, a water hygiene management regime will be implemented. It is anticipated that in these properties there will not normally be a requirement for monthly monitoring and an inspection every 2 years will be sufficient.
- Priority 3 – All properties without stored water, using combi-boilers without excessive pipe runs or 'dead legs' or using mains fed 'point of use' water heaters
P3 properties are considered Low Risk as there is no stored water. These properties will be subject to a desktop archetype risk assessment which will be reviewed on an individual basis as part of the Framework programme of stock condition surveys.

3.3 Formal Risk Assessment

Formal risk assessment will:

- Be carried out by a competent person.
- Be suitable and sufficient, based on the level of risk as set out in the priority ratings above – For medium and low risk properties a simple risk assessment format will normally be used
- Describe the means by which exposure to the Legionella bacterium will be prevented and be effectively communicated to relevant persons so they understand the controls that are required to maintain a safe place of work or safe dwelling, and
- Be reviewed regularly or when there is a reason to believe that it is no longer valid. Review periods will vary depending on level of risk or other triggers

Where the risk assessment demonstrates that risk levels are low a condition survey will be performed frequently to monitor any changes, where there is no reasonably foreseeable risk or that risks are insignificant and unlikely to increase, no further assessment or measures are necessary.



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A number of factors shall be considered in the risk assessment and report, and will vary depending on the priority ratings above. The following will be included:

- Description of the water system including schematics
- Asset registers of all associated plant, pumps, tanks etc.
- System supply source, e.g. mains

The report will then consider the extent to which:

- Conditions are present that will encourage bacteria to multiply (temperature, dead legs, sediment etc.)
- There is a means of creating and disseminating breathable droplets, e.g. shower, taps, hoses etc.
- Who may be exposed

Risk assessments will be carried out on a priority basis by contractors or staff who have been suitably appraised for their competence to do this work. The relevant responsible person shall provide the assessor with all the necessary information pertaining to the property in question i.e. number of flats and number of bedrooms in each flat; whether the flats have communal down water services or communal heating etc.

For individual dwellings without communal tanks or communal hot water supplies, the risk assessment can be a simple assessment, looking primarily at the size and condition of any individual tank, and the likelihood of any dead-legs in the system. In most cases, it is anticipated this type of property will only require advice for the Customer on managing risks and as such will not require the level of management required for P1 properties.

On completion of the risk assessment or group of risk assessments the assessor shall provide a priority schedule defining buildings that need immediate attention and the others that are at risk and the priority in which they should be refurbished.

When the risk assessment reports have been completed for each area or group of buildings they will be uploaded in to the business compliance system to provide sufficient information to enable Framework to assess the buildings as a whole, both on a technical and cost basis.

4. Elimination or Control of Risk

Where the risk has been assessed at P1/P2 a written scheme shall be prepared for preventing or controlling it. This is referred to as a water hygiene management plan. The primary objective shall be to avoid conditions which permit Legionella bacteria to proliferate and to avoid creating a spray or aerosol. Legionella bacteria may be present in very low numbers in many water systems, but careful control will prevent them from multiplying.

The written scheme shall specify measures to be taken for P1 and P2 properties, and shall include as a minimum:

- Identified roles and responsibilities to manage risk
- Up-to-date plan showing layout of the system e.g. schematic diagram (for P1 and P2). Reference to safe and correct operation of the system
- Precautions to be taken, checks to be carried out and frequency of such checks



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- Temperature monitoring
- Flushing of little used outlets
- Microbiological testing
- Remedial action in the event of the scheme being ineffective In general, proliferation of legionella bacteria may be prevented by:
 - Avoiding water temperatures in the range of 20° to 45° Celsius
 - Ensuring temperatures are maintained 50°Celsius or above, 55°Celsius within Healthcare settings.
 - Avoiding water stagnation which may encourage growth of biofilm
 - Avoiding use of materials which can harbour or provide nutrients for the bacteria
 - Keeping the system clean to avoid build-up of sediments
 - The use of a suitable water treatment programme

5. Voids

At sign-up for all accommodation units, staff will run all taps and showers for at least two minutes, and flush the WCs. This will flush through the pipework with fresh water. This is not needed in shared bathrooms and kitchens, however, provided that other residents are already using the water services

Property Services will arrange for water services to be either drained down in any properties that are empty for more than 30 days or instigate a regime where the system will be flushed every 7 days. The water services will be re-primed immediately prior to re-letting of the properties where systems are drained.

6. Water Hygiene Management Plan

The water hygiene management plan shall be held electronically, where required, which is to be retained and will serve as a record of attendance. All other information and actions as they are taken will be stored in the Compliance management System.

Actions arising out of the plan will be carried out by an appropriate person, which may be a specialist contractor or a trained member of Framework staff, depending on the requirements of the action. Responsibility for the site and electronic log rests with the specialist provider.

7. Emergency Management

Where a water system has been found to be contaminated, the person responsible for the site management is to advise the responsible person or the Health and Safety Manager immediately. The relevant outlets should be isolated and arrangements made to carry out disinfection of the system. Resampling for Legionella should be carried out one week after disinfection and again as required by the specialist consultants until such time as results indicate Legionella contamination has been removed from the system.

An investigation shall be carried out immediately or as soon as practically possible thereafter to review the suitability of existing controls to assess and identify likely root causes and make recommendations to prevent a recurrence including appropriate time frames. The H&S



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Manager shall be responsible for instigating the investigation using whatever resources are deemed necessary.

8. Training and Competency

It is the responsibility of the Duty Holder to ensure that all persons involved in the management of Legionella risk are suitably trained and competent.

The Duty Holder and the Appointed Responsible Person shall be trained to a level so they can appreciate the nature of the Legionella risk and the scope of their duties and responsibilities.

Other nominated responsible persons shall attend appropriate training courses to allow them to understand the nature of the Legionella risk and to be able to discharge their duties and responsibilities. All training shall be recorded and logged with Human Resources and or the Training team.

Employees shall be consulted through their representatives and provided with adequate information about the risks associated with Legionella.

Initial Legionella risk assessments shall be completed by a competent person. For high risk properties (P1 and P2) this will normally be a specialist consultant with experience or background in water systems management, water chemistry or microbiology etc. For lower risk properties this could be a suitably trained member of Framework staff.

Where the expertise is not possessed by the nominated persons then it will be necessary to enlist additional support.

9. Record Keeping

The main record pertaining to the Legionella management of a particular system is contained within the Business Compliance System. This will be stored electronically with just simple records kept onsite where appropriate.

Risk assessments are stored electronically, and can be accessed by contacting the Compliance Coordinator or Property Services.

All records shall be signed by those people performing the various tasks assigned to them. Records shall be retained throughout the period for which they remain current and for at least 2 years after that period.

Records kept in accordance with results of monitoring, inspection, test or check shall be retained for 5 years.



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10. Appendix A: Statutory and Regulatory Issues

- A.1 Duties under the Health and Safety at Work etc. Act 1974 extend to the risks from Legionella arising from work activities
- A.2 The Management of Health and Safety at Work Regulations 1999 require risk assessments to be completed by competent persons and control measures implemented if the risk level is shown to be unacceptable
- A.3 The Control of Substances Hazardous to Health Regulations 2002 (COSHH) encompasses risks from biological hazards such as Legionella
- A.4 The HSE ACOP (L8) Legionnaire's Disease: The Control of Legionella Bacteria in Water Systems (4th edition) provides guidance on standards that must be met in order to comply with legal requirements
- A.5 HSG274 (Part 2) (guidance on the management of Legionella risks) provides the only guidance specific to landlords of residential properties and is of a very limited nature
- A.6 Under the above legislation, Framework, as employer or landlord has the following responsibilities:
 - Appoint a Duty Holder to have overall management responsibility for Legionella risk
 - Appoint a Responsible Person to support the Duty Holder and be responsible for day-to-day Legionella management activities
 - Carry out written risk assessment of systems for control of Legionellosis
 - Prepare a written scheme for the prevention or control of the risk from exposure
 - Ensure the implementation and management of precautions
 - Ensure that those involved in implementing precautions have received adequate training and are competent
 - Ensure adequate records are kept
 - Review the risk assessment whenever there is reason to believe that the original assessment may no longer be valid
- A.7 The reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) state that cases of Legionellosis are reportable under RIDDOR if a doctor notifies the employer and if the employee's current job involves work on or near hot or cold-water service systems in the workplace. Legionnaire's disease is not notifiable under public health legislation. The occurrence of Legionella bacteria in water systems is not reportable.

11. Appendix B: Legionnaire's Disease

- B.1 Legionnaires disease (or Legionellosis) is a potentially fatal form of pneumonia which can affect anybody, but which principally affects those who are susceptible because of age, illness, immuno-suppression, or smoking. It is caused by the bacterium Legionella Pneumophila and related bacteria. Legionella bacteria can also cause less serious illnesses which are not fatal or permanently debilitating such as Pontiac Fever, a mild flu-like illness.
- B.2 Legionnaires disease is normally contracted by inhaling Legionella bacteria into the lungs via contaminated water aerosols. Person to person spread of the disease has not been documented. Initial symptoms include high fever, chills, headache and muscle pain. It can be treated effectively with appropriate antibiotics.



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- B.3 The Legionella bacteria is widespread and can be found in almost any source of fresh water, and it is likely that the general population may be in regular contact with low numbers of these bacteria, but at such levels it is considered that they present no significant risk. In order to produce an infection, it is considered that 'high' numbers of the bacteria must grow within a water system from where they can be presented to a susceptible host in an aerosol form. Typically, this would be via a mechanism that can cause a spray, e.g. shower, spa-bath.
- B.4 In order for the Legionella bacteria to grow, the following favourable conditions will need to be present:
- Water temperature in the range of 20° to 45° Celsius
 - A source of nutrients and presence of biofilm (surface slime)
 - Sediment, sludge, scale
 - Relatively stagnant water that may be found in pipework 'dead legs'