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OXFORD CITY COUNCIL

Legionella Policy

Glossary

- Calorifier - A calorifier is an indirect-fired water heater to provide hot water in a heating and hot water system. Indirect fired means the water heater does not contain a burner. It is a storage water cylinder with one or more heat exchanger coils which contain hot liquids (water or solar fluid).
- Dead leg pipes - A dead leg is a section of potable water pipe which contains water that has no flow or does not circulate. If the section of pipe is greater than 1.5 times the diameter of the pipe served, it is considered a dead leg and would require a method of flushing.
- Decant – Moving residents out of properties
- Thermostatic Mixing Valves - Designed to control the temperature of water by mixing hot and cold water supplies, thermostatic mixing valves (TMVs) maintain a consistent and safe water temperature output, preventing scalding. Thermostatic Mixing Valves

Context

1.1 Legionella is a bacterium which is common in natural water systems (such as streams, lakes etc) and can therefore be present in hot and cold water systems (such as, for example, storage tanks, pipework, taps and showers).

1.2 Legionnaires' disease is a type of pneumonia. It was named after an outbreak of severe pneumonia that affected a meeting of the American Legion in 1976. It is an uncommon but serious bacterial disease.

1.3 Legionnaires Disease is one of a group of similar diseases collectively known as legionellosis. The other forms, such as Pontiac Fever and Lochgoilhead Fever, have similar symptoms but are not as serious as Legionnaires' disease.

1.4 Legionnaires’ disease results in pneumonia-like symptoms, which in some instances may prove fatal. Symptoms can include high fever, chills, gastric problems, headache and severe muscular ache. This is followed by a dry cough and difficulty with breathing.

1.6 People of all ages and health conditions can be at risk of contracting Legionnaires' disease through becoming infected from contaminated systems.

1.7 Infection usually affects middle-aged or elderly people, and it more commonly affects smokers, alcoholics or people with other chest and respiratory problems. Those most at risk include older people and infirm people, people who suffer from substance, abuse, and those suffering from cancer, diabetes, chronic respiratory or kidney disease and patients using immunosuppressant medication.

1.8 Legionella bacteria are naturally occurring microbes, widespread in nature, mainly living in natural water systems such as rivers and ponds. Outbreaks of the illness

occur from exposure to Legionella growing in purpose-built systems where the water is maintained at a temperature high enough to encourage growth.

1.9 Infection is caused by breathing tiny airborne droplets of water contaminated by the bacteria and by drinking contaminated water. Any water application that causes the release of contaminated aerosols into the surrounding area can transmit Legionella bacteria. The bacteria have been proved to be transmitted by methods which includes wet air conditioning plant, cooling towers, evaporative condensers, showers, taps, humidifiers which create a spray of water droplets such as decorative fountains, whirlpool baths, hydrotherapy baths.

1.10 The bacterium can survive at low temperatures but special conditions are needed in water systems before the bacterium multiplies and thrives. This bacterium requires both a food source, such as the presence of biofilm, sludge, scale, rust, algae or organic matter, and a water temperature in the range of 20ºC and 45ºC.

1.11 Bacteria naturally aggregate biofilms and within the biofilm matrix, legionella can be protected from high water temperatures which is why routine disinfection of systems with stored supplied is required.

1.12 The factors which increase risk include:

- Not keeping water storage tanks and down-service pipe-work maintained, with biofilms being kept in check.
- Not maintaining stored hot water supply above 60oC, and distribution below 50oC
- Not maintaining the cold water supply at 20oC or below.
- Not maintaining the flow of water through all outlets.
- Not flushing infrequently used outlets
- Having the presence of dead legs in water pipes
- Not adequately managing void sites

1.13 Certain conditions increase the risk from Legionella include:

- Water temperature for growth - 20 to 45oC;
- Source of nutrients in water tanks such as biofilm, sludge, scale, rust, algae, and other organic matter for Legionella and other bacteria to feed on
  Creating and spreading breathable droplets, e.g. the aerosol created by a tap, shower head or even a toilet flushing.

Scope

2.1 This policy and any management procedures cover the requirement to ensure that all systems for the storage and distribution of water are managed so as to prevent the spread of legionella bacteria and subsequent cases either sporadic or outbreaks of Legionnaires' disease and to comply to the regulatory requirements published by the Health & Safety Executive.

2.2 The Council aims to minimise and control the risk from Legionnaires disease and will ensure the following:

- The Property Services Manager will have a duty to put in place an action plan to minimise the risk of legionella and to manage and monitor the necessary work systems and procedures.
- Identify and assess sources of risk, e.g. where conditions are present that may encourage legionella bacteria to multiply or where there is a means of creating and disseminating breathable droplets and establish any items of non-compliance.
- Assess the level of risk and look at the possibility of removal or replacement of any risks identified, thereby minimising the chance of the proliferation and dissemination of the legionella bacteria.
- Where required, arrange a programme of routine inspection and maintenance of water systems, including, where needed, a programme of disinfection.
- Where modification to any deficient systems and equipment are identified to manage the remedial activity to achieve compliance.
- Implement, amend and monitor precautions for all relevant systems and maintain records of maintenance, inspection and testing for a period of at least five years.
- Keep all relevant personnel adequately trained in practices and procedures with respect to the control of Legionella.

2.3 This policy will be reviewed on a annual basis or if new knowledge on the subject evolves and /or new guidance is issued.

2.4 The Health & Safety Executive (HSE) publish various documentation both legislative and for guidance purposes which reference the risk posed by water systems in relation to both Legionella and scalding:

- Approved Code of Practice (ACOP) L8 – 'Legionnaires Disease: The Control of Legionella Bacteria in Water Systems' Approved Code of Practice.
- The Health and Safety at Work Act 1974
- The Management of Health and Safety at Work Regulations
- The Control of Substances Hazardous to Health (COSHH) Regulations
- The Workplace (Health, Safety and Welfare) Regulations
- The Water Supply (Water Fittings) Regulations 1999 S I 1999 No 1148.
- The Water Supply (Water Fittings) (Amendments) Regulations 1999. S.I. 1506.
- BS6700: 2006 Specification for Design Installation, Testing and Maintenance of Services Supplying Water for Domestic Use within Buildings and their Curtilages.
- BS7942: 2000 Thermostatic Mixing Valves for use in Care Establishments.
- HELA Circular, Scalding risks for Hot Water in Health and Social Care, LAC Number 79/5.

Objectives

3.1 This policy and related management procedures cover the requirement to ensure that all systems for the storage and distribution of water are managed so as to prevent the spread of legionella bacteria to comply to the regulatory requirements published by the Health & Safety Executive.

3.2 The approach to risk assessment is based on the categorisation of involving a level of risk assessment in that the water system type (from Stored Water to Combi-Boiler type) together with the occupants of the site (from typical tenanted stock to supported accommodation for disabled or older people) are taken into account.

3.3 On-going maintenance / control scheme requirements will vary from full monthly temperature monitoring and regular cleaning of systems, to supplying tenants with on-going/ periodic information on how to minimise any risk from Legionella.

3.4 The risk categories based on their knowledge of the sites, their water systems and occupant types:

Risk Category	**Site Type**	**Control System**
High Risk Sites	Sites with vulnerable groups of tenants	High Risk Annual Assessment
Medium Risk Sites	Sites which have communal areas and / or with stored water / showers / calorifiers	Inspection and Disinfection of Shared Cold Storage and related services every 2 to 4 years (dependent on the circumstances of the specific component). Tenants provided with on-going/ periodic information on how to minimise any risk from Legionella.
Low Risk Sites	Sites with dedicated stored services contained within the site Sites with no stored water such as combination boilers	Review of these sites every five years. Residents provided with practical information in the form of Newsletter or Leaflets (annually) on how to minimise any risk from Legionella

3.5 It may be the case that in the initial stages of assessment it is not possible to assign a property into either category. In this case the higher risk category (High Risk) will be applied and the results of a full risk assessment will be utilised to properly determine the risk and risk category.

3.6 In addition, if the water system has been changed then a new risk assessment will be carried out to reflect changes and possible maintenance issues.

3.7 Suitably experienced and qualified consultants who will be either members of the Legionella Control Association (LCA) or the Water Management Society (WMSoc) will

be appointed by the Council to undertake risk assessment of the water systems within sites deemed to be High Risk.

3.8 The purpose of the risk assessment is to identify any areas in the water systems that present a hazard to the occupants of the property.

3.9 The Designated Person for addressing water assets must ensure that any property that has a water supply that could reasonably produce a water aerosol is subject to a risk assessment.

3.10 It is acceptable for a desk-top study and archetypal survey programme to be carried out where there are large numbers of similar properties such as terraced houses or apartments.

3.11 Where a desk-top approach is taken and the sites is deemed to be low risk and not requiring site visits to physically assess the risk, a sample will be taken to confirm the desk-top risk assessments findings. An acceptable figure will be 5% of each property type.

3.12 In order to provide a full risk assessment as required for High Risk sites, it is necessary for a survey to be undertaken of the water systems within a property. This is used to assess the potential of exposure of persons to Legionella bacteria.

3.13 The full risk assessment will highlight areas of concern and will recommend where changes (both physical and procedural) are required and will form the basis of a written scheme for controlling the risk from exposure.

3.14 Physical changes would range from replacement/ reconfiguration of parts of the system through to increases in temperatures and throughputs required to reduce the potential proliferation of legionella bacteria and other microorganisms.

3.15 Procedural changes will involve the keeping of records to ensure that the system operating parameters identified as being required are not deviated from.

Scalding

4.1 Scalding may occur in many situations in all types of buildings and applications. The degree of potential scalding depends on the water temperature, contact time, susceptibility of individuals and the volume of water delivered.

4.2 The risk of burns and scalding is higher with regard to older people, people with mental illness or learning disabilities, unsupervised children, anyone with reduced sensitivity to temperature and people with disabilities (who may not be able to recognise high temperatures or respond appropriately or quickly). Fatal accidents have occurred in the case of whole-body immersion of vulnerable people in baths and showers.

4.3 Although susceptibility varies from person to person, it is generally accepted that the risk is of scalding is significantly increased at temperatures in excess of 45ºC.

4.4 As the primary method for controlling the risk of legionella in simple domestic water systems relies predominantly on increasing temperature, tenants in the previously

identified at risk groups will be assessed by either a Support Worker, Social Worker an occupational therapist or other similar support agency.

4.5 Where identified, appropriate remedial actions in the form of either the installation of Thermostatic Mixing Valves (TMVs) or appropriate signage will be undertaken.

4.6 Similar assessments of outlets in public areas will be undertaken and actions taken as deemed necessary.

4.7 In order to control the growth and multiplication of Legionella bacteria, it is necessary to raise hot water temperatures to a level which significantly increases the risk of scalding. In order to address this increased risk, it is necessary to implement precautionary measures to hot water outlets which are accessible to the high risk groups such as installing thermostatic mixing valves (TMVs).

Risk Assessment Review

5.1 In High Risk Sites where full Risk Assessments have been conducted, the Council will arrange for the risk assessment to be reviewed annually. The Designated Person for water assets will keep records of the dates of the last risk assessment and arrange for repeat inspections to be carried out.

5.2 It would be necessary to carry out ad hoc risk assessment reviews at other times, for example following major refurbishment works or changes of use to the building.

5.3 In Medium Risk Sites where annual Inspection and Disinfection of shared stored cold water services are carried out, the annual Inspection and Disinfection Certificate will be retained by the Responsible Person who will keep records of the dates of the last inspection / disinfection and arrange for repeat inspections to be carried out annually.

5.4 Health and Safety (H&S) Manual High Risk Sites – Council staff shall be provided with a H&S manual which will incorporate a water hygiene section that complies with Paragraphs 66 to 69 of the Health and Safety Commission's ACOP and Guidance document "Legionnaire's Disease: The control of legionella bacteria in water systems" (L8), and will contain the following:

• Confirmation of the 'responsible person', their duties and any tasks delegated to other personnel under their control.

• Provision for recording all inspections and work undertaken by contractors or site personnel on the water systems.

• A copy of the risk assessment including schematic diagram of the water systems and any necessary precautionary measures.

• Routine monitoring record sheets.

• The manual must be retained for the life of the building. All inspection reports and records must be filed in the appropriate section of the manual, which needs to be retained for at least 5 years from the date of the inspection.

5.5 As identified from the Risk Assessment, checking, inspection, monitoring and cleaning procedures must be carried out as required, by or under the control of the Responsible Person.

5.6 The basic temperature monitoring and flushing will be carried out by the nominated officers. Cleaning and disinfection works will be carried out by contractors.

High Risk Sites

6.1 A calibrated and certified digital thermometer is required to meet the legal requirements for temperature monitoring

Procedure	Frequency	Progress
Flushing of little used outlets (as identified by the Risk Assessment	Weekly	Flush through and purge to drain without the release of aerosols all little used outlets – including taps, showers and toilets. Outlets should run for 5 minutes, with care being taken regarding drainage capability.
Cold Water Systems Temperature Checks	Monthly	Check and record temperatures at the cold water sentinel taps. The temperature should be less than 20ºC within two minutes. If the required temperature of 20ºC is not recorded, relevant officers should be consulted (however, it should be noted that during the warmer summer months, water temperatures in excess of 20ºC can occasionally be recorded.
Hot Water System Temperature Checks	Monthly	Taps Check and record temperatures at the hot water sentinel taps. The hot water supply should reach 50ºC within one minute. If the required temperature of 50ºC is not recorded, the Asset and Health and Safety Officers should be consulted. Where a Thermostatic Mixing Valve (TMV) is fitted the hot water supply prior to

		the TMV should reach 50ºC within one minute. A temperature check should be made using a surface temperature probe placed on the hot water pipe entering the TMV. Calorifier (Recirculating Systems Only) Check and record temperature of the water leaving and returning to the calorifier. (Where suitable gauges are not installed the check is made by placing a thermometer with a surface probe on to the pipes). Outgoing should be at least 60ºC, return not less than 50ºC.
Shower Head / Spray Tap Cleaning	Quarterly (minimum) or more frequently if necessary	Dismantle and disinfect all showerheads using suitable materials. Use a de-scale agent (as required) to remove lime scale by soaking the showerhead for 30 minutes, or until the lime scale has been removed. All disinfection, de-scaling and cleaning products must be used in accordance with the COSHH risk assessment for the products.
Hot Water Systems Temperature Checks for Scalding prevention	Six monthly	Carry out inspection and test of all TMV's in line with NHS Model Engineering Specification D08 and or manufacturer's instructions.
Cold water storage tanks	Six monthly	Test temperatures at the incoming water inlet (or closest point) and at a point remote from the ball valve. Tests to be taken once in the winter and

		once in the summer, temperature should be below 20ºC.
Calorifier inspection	Annually	Drain the calorifiers. Check for debris at base of unit. Clean and disinfect as required
Cold water storage tanks	Annually	Visual inspection of the cold water storage tanks to ensure that the tanks are in a sound clean condition and conform to all current legislation. If necessary any faults should be rectified and the tanks should be disinfected with certificates issues upon completion.
Cold Water Systems Temperature Checks	Annually	Test water temperature at a representative number of outlets to ensure that the system is reaching satisfactory temperatures throughout. Temperatures to be >50 ºC after 1 minute All outlets should be covered over the annual period
Hot Water Systems Temperature Checks for Scalding prevention	Annually	Carry out service to all TMV's in line with NHS Model Engineering Specification D08 and or manufacturer's instructions.

Medium Risk Sites

7.1 A calibrated and certified digital thermometer is required to meet the legal requirements for temperature monitoring

Procedure	**Frequency**	**Progress**
Cold water storage tanks	Annually	Test temperatures at the incoming water inlet (or closest point) and at a point remote from the ball valve. Temperature should be below 20ºC. Visual inspection of the cold water storage tanks to ensure that the tanks are in acceptable

		condition and conform to all current legislation. Tanks and down-services to be disinfected using appropriated product and method with certificates issued upon completion

Action in the Event of a Case of Legionnaire's Disease

8.1 If it is suspected or confirmed that an employee or resident has contracted Legionnaires Disease there is a legal obligation to report this to the Health and Safety Executive (under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations - RIDDOR).

8.2 If the outbreak is confirmed as originating within a property, the relevant officer will provide any such details and records as the investigating department require. The relevant officer will also ensure that the Chief Executive and Insurers are informed of a potential investigation. An emergency action team will be set up to deal with any requirements for rectifying the situation. Depending on the immediate circumstances, this could involve but not be limited to

• Decanting of tenants

• Clean and disinfection of the system

• Microbiological analysis of the water system

• Evaluation of monitoring/cleaning records

• Co-operation with investigating bodies

• Dealing with media enquiries

Void Property Management

9.1 If a property is to remain unused for an extensive period of time (over 4 weeks), the water systems will be fully drained, ensuring that all calorifiers and water heaters are taken off-line.

9.2 For shorter periods that exceed one week the procedure will be:

• Flush through and purge to drain without the release of aerosols including with taps, showers and toilets.

• Outlets should run for 5 minutes, with care being taken regarding drainage capability.

9.3 If a system has been out of use and not regularly flushed, it will require disinfecting prior to being used. This process will be carried out by a competent person as the levels of disinfectant must be carefully controlled. There may be airlocks within the system that will require removal if it has been drained down and refilled.

Procedures

10.1 To comply with legal duties the Council as both an employer and as the landlord for the housing stock, is required to:

- Identify and assess sources of risk;
- Prepare a scheme for preventing or controlling the risk;
- Implement, manage and control the scheme of precautions;
- Keep records of the precautions implemented
- Appoint a person to be managerially responsible
- Provide suitable and sufficient training for all relevant personnel to carry out their duties with respect to the control of Legionella.

Equality, diversity, inclusion, and vulnerability (including most at risk groups)

11.1 An Equality Impact Assessment (EqIA) has been carried out to determine whether the policy would have an impact on any member of staff, tenants, or contractor workforce, which unfairly discriminates or disadvantages them in the context of the Equality Act 2010.

11.2 Whilst the EqIA has identified that there are no particular groups who will be unlawfully disadvantaged by this policy, it is identified that there are certain groups at increased risk. These groups are:

- children
- adults with learning difficulties
- oxygen users
- people taking certain medication
- those suffering the effects of drugs and alcohol
- adults aged 65 and older
- people with disabilities
- Individuals being supported by the Community Safety team and related support services

11.3 An EqIA will be undertake on an annual basis.

Resident communications

12.1 The Council will regularly share information with residents so that they understand their responsibilities in relation to legionella and know how to raise any concerns with the Council. This is undertaken through the Council's resident community strategy which includes sharing regular safety messages through resident emails, letters, leaflets, and social media.

12.2 Key content from this policy will be included in the Oxford City Council Welcome Pack which is sent to new tenants and Oxford City Council webpage for residents to access.

12.3 Oxford City Council is committed to providing a high level of customer care and positive communication which is vital to effective safety. This will support residents in their understanding of safety risks, advise them of how they can manage the risks within their properties, and encourage them to report any concerns about fire safety.

12.4 Further monitoring of feedback will take place through resident surveys and this intelligence will be used to inform future reviews of this policy.

12.5 Periodic engagement with residents will take place to ensure that this policy, along with other policies, remain customer facing.

12.6 Residents who are wanting to report a non-urgent safety concern can do so by using the link below: Report a Building Safety Concern with council housing | Instructions – Oxford City Council

12.7 All emergency safety reports should be made to 01865 249811.

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