Date Reviewed	**October 2019**	**Next Review Date**	**November 2022**
Reviewed By	**Compliance Manager**	**Approval By**	**Executive**
Equality Impact Assessment	**N/A**	**Responsible Officer**	**Compliance Manager**

Hot & Cold Water Management Policy

Policy Statement

In the UK the main legionella regulations are underpinned by primary health and safety laws that include: The Health and Safety at Work Act 1974 Management of Health and Safety at Work Regulations 1999 Control of Substances Hazardous to Health Regulations 2002 (COSHH). BCHG shall comply with Approved Code of Practice L8 – The Control of Legionella Bacteria in Water Systems using guidance contained within the HSE publication HSG274.

This Policy is for the management of the hot and cold water systems within Black Country Housing Group's Stock, with particular emphasis on the prevention of infection by Legionella. The Policy:

- Aims to ensure that sources of risk are identified and assessed
- Refers to a control scheme used to prevent, reduce, control or remove risks.
- Provides for a system of management, monitoring and reporting.

It sets out who the Dutyholder and the Responsible Persons are, who is responsible for what, and whether responsibility is sole or shared.

This Policy is to ensure that the management of hot and cold water systems is carried out actively, continuously and effectively in line with ACOP L8 and HSG274 Part 2.

Approval

This Policy was approved by the Health & Safety Panel

Review

This Policy will be formally reviewed every 3 years or where there are changes to legislation, guidance or any other factors that indicate the need for interim review or amendment.

Scope

The Policy is written primarily to ensure compliance with the two pieces of guidance set out below.

1. **HSE publication ACOP L8 'Legionnaires' disease: The control of legionella bacteria in water systems - Approved Code of Practice as amended and re-published in November 2013.**
2. **HSE HSG 274 Part 2 technical guidance is now separate from the above and is entitled The Control of Legionella bacteria in hot and cold water systems'. This document was updated in April 2014**

ACOPs (Approved Codes of Practice) describe preferred or recommended methods that can be used (or standards which must be met) in order to comply. Compliance aims to protect BCHG employees, contractors, tenants, visitors and members of the public.

This Policy also acknowledges the requirements of the following:

- Health & Safety at Work Act 1974 (HASAWA)
- British Standard BS8580 - 1:2019 Water quality - risk assessments for Legionella, or latest version thereof.
- British Standard BS7592 Sampling for Legionella bacteria in water systems, or latest version thereof.
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)
- Control of Substances Hazardous to Health Regulations 2002 (COSHH)
- Health Protection (Notification) Regulations 2010.

Related BCHG Policies and other

- Health & Safety Policy
- Equality & Diversity Policy
- Void Policy
- Gas Safety and Servicing Policy
- Tenancy/lease Agreements
- Care and support policy and procedures

What is Legionnaires' disease?

Legionnaires' disease is a severe pneumonia caused by the Legionella bacterium. People become infected when they inhale aerosols from a contaminated source. Early symptoms include muscle aches, tiredness, headaches, dry cough and fever. Sometimes diarrhoea occurs and confusion may develop. Legionnaires' disease can cause long term health problems. It is not contagious infection is caused by breathing in small droplets of water containing the bacteria. Complications such as respiratory failure, acute kidney damage or severe sepsis can arise and it can be fatal. Anyone can contract Legionella however it is the number of bacteria encountered and the level of resistance within the individual which influences the severity of the infection. 10% mortality rate where contracted.

Where are Legionella bacteria found?

Legionella bacteria can grow in both hot and cold water both in water systems within buildings or in natural water courses. They can grow where temperatures are between 20°C and 45°C. Where temperatures are outside this range Legionella cannot survive or multiply. The ability of Legionella to grow can further be supported by the presence of a nutrient supply e.g. rust, sludge, limescale or algae, by the presence of other bacteria, or where water is stagnant allowing bacteria to multiply.

Legionella grows the best in water between 20°C and 45°C which has been stagnant for a period of time. This explains why the two main (core) control measures are to maintain correct water temperatures and the prevention of stagnant water. **What else can affect hot and cold water safety?**

There are also various organisms, contaminants and water conditions which can harm people:

Faecal bacteria e.g. E.coli, Salmonella – normally resides in the gut of humans, animals, wildlife. If they get into food or water (by release of faecal matter into water or by not washing after going to the toilet) they can cause illness which, in susceptible groups, can be severe or fatal.

Contaminants such as rust, sludge, lime scale, algae, bacteria – the presence of these can provide a nutrient source enabling bacterial growth. Where limescale exists it presents an infection control risk as many bacteria can colonise the lime scale deposit, including those which cause diarrhoea and vomiting, since routine cleaning cannot remove them. Limescale can only be effectively removed using chemical descaling.

Water temperature – requiring hot water to be kept hot in order to prevent Legionella growth can present risk to vulnerable users such as the elderly due to the risk of scalding. In such cases it may be necessary to use thermostatic mixer valves (TMVs) at appropriate points in the water system to blend hot and cold water to a safe and constant temperature. If TMV's are fitted these should be fitted as close as possible (within 0.5m) of outlet and flexible connectors should not be used post TMV as these have been shown to promote biofilm growth.

Abbreviations/terms used

- HSE Health & Safety Executive
- HPA Health Protection Agency*
- PHE Public Health England
- BS British Standard
- ACOP L8 HSE Approved Code of Practice Legionnaires Disease
- NOID Notification of Infectious Diseases
- TMV Thermostatic Mixer Valve.
- TVC Bacterial water test to detect contaminants such as E.coli
- Vulnerable groups The elderly, those with underlying health conditions (especially heart disease, smoking, immunosuppression and diabetes)

** = The Health Protection Agency became part of PHE 1 April 2013*

Dutyholder, Competent Persons and Responsible Persons

	Type of responsibility	**Name**
Statutory Dutyholder	The Duty holder has the overall corporate responsibility for compliance with legionella legislation. In the event of an investigation by the HSE the Duty holder is considered responsible and can face prosecution including prison. The Dutyholder must ensure that all employees involved in controlling legionella risks are given suitable and sufficient information, instruction and training. The Duty Holder is responsible for appointing the responsible persons and their deputies for properties or groups of properties.	Black Country Housing Chief Executive and Deputy Chief Executive (shared duty)
Competent Person	The Competent Person is responsible for ensuring the contractor employed and staff are competent to carry out their tasks, recording and bringing to attention of the responsible persons any non-conformities, rectifying those where possible and where not, bringing them to the attention of the health and safety panel. This person is responsible for re-evaluating the need to review legionella risk assessments. The competent person is responsible for ensuring the Duty holder is provided with appropriate, robust and frequent assurance about legionella compliance.	Compliance Manager

	This person should be appropriately trained to a sufficient level of competency.	
Responsible Person	The responsible person(s) should be managers or directors and are nominated for specific properties, working in conjunction with the competent person, having day-to-day responsibility for ensuring the delivery of safe hot and cold water systems. The responsible person(s) are required to provide the Competent Person and Duty holder with appropriate, robust and frequent assurance about legionella compliance. They should accept this responsibility in writing. This person should be appropriately trained to a sufficient level of competency.	Scheme Managers / Directors.
Deputy to the responsible person	The Deputy is the person who takes over from the responsible person if the responsible person is not available. For the avoidance of doubt the manager of the responsible person is their deputy in this scenario.	Further detailed below.

Responsible Persons
Who has responsibility for what and is the responsibility shared or sole:

1. Communal areas of properties with complex hot and cold water systems where BCHG is not responsible for day to day legionella control measures within individual dwelling flats.	**Shared** *Black Country Housing Group* must conduct risk assessments and deploy appropriate control measures. Appointed competent contractors and colleagues (Scheme Managers etc) who carry out control measures/repairs are responsible for completing works, for reporting any issues they find and for correctly recording their work. • Weekly flushing of little used outlets (outlets not used in a week). • Monthly temperature testing • Quarterly shower head replacement • Review Risk Assessments/Complete Risk Assessments • Complete and review schematics • Over a period of time assessing and recording our premises against the guidance notes which are to internally inspect the condition of Calorifiers. • Recording potential adverse cost and service continuity implications to heating and hot water to customers in Inspecting BCHG's water storage tanks and cylinders annually or as required based on previous inspections, referring to HSG 274 Part 2 table 2.1. *Contractors/ specialists* who carry out control measures/repairs from time to time are responsible for carrying out the control measures/repairs correctly, for reporting any issues they find and for correctly recording their work. Contractors are prohibited from fitting flexible hoses unless they are required for a monoblock tap or because movement is required (e.g. carer baths) and in these instances only using WRAS approved hoses.

	The nominated responsible person(s) for the premises are responsible for ensuring the control measures are carried out and recorded, reporting any non-conformity to the Competent Person or Duty Holder.
2. Individually rented houses and flats (which may or may not be within a scheme that has communal areas)	BCHG are responsible for ensuring that tenants understand the domestic preventative measures they can take to reduce legionella risk by communicating these simple control measures to them. Refer to tenancy agreement and website. Where BCHG is responsible for effecting repairs to parts of the hot/cold water system these must be carried out within a suitable timeframe to minimise the opportunity for legionella bacteria growth. *Operatives/trades* who carry out repairs are responsible for correctly carrying these out and for correctly recording their work. Contractors are responsible to NOT fit flexible hoses unless they are required for a monoblock tap or because movement is required (e.g. carer baths) and in these instances only using WRAS approved hoses. *All managers as mentioned above* are responsible for reporting problems they find or are reported about hot and cold water systems/components. *Tenants/residents* are responsible for conducting simple domestic control measures such as periodically flushing a rarely used water outlet or shower.
3. New builds/shared ownership/void properties – at time of handover	**Sole** If a water system is being modified or installed in a new or existing building the responsibilities of the designers, manufacturers, importers, suppliers and installers regarding legionella control are detailed in ACOP L8 Paragraphs 70-78. In the case of a shared ownership transaction or other sale the responsibility for preventing legionella by maintaining safe systems and carrying out simple domestic control measures becomes the sole responsibility of *the owner*. There is a tenant fact sheet provided in reference to legionella this can be accessed via the BCHG website this will also be provided in hard copy as applicable. Referenced as appendix 2
4.Individual tenanted hot and cold water systems	Tenants are advised to contact Black Country Housing Group's gas contractor if water heaters and associated water systems require repair. The domestic gas contractor is responsible for servicing heaters and to bring to the client's attention any significant matters affecting the control of legionella of which they have become aware, beyond the responsibilities of the contract. Within HSG 274 BCHG should be assessing the risk of its domestic dwellings and prioritising risk assessments and/or remedial works to include planned programmed replacements which reduce the risk. This will be done initially based on asset management data over a period of time. Priorities are primarily any buildings with cold water storage tanks

	(including combination units) and then next with stored hot water. Collate this data on the asset management system which is under implementation as at September 2019.

Risk assessment / Re-evaluation and Re-assessment.
The Dutyholder is responsible for ensuring that an initial risk assessment is carried out. ACOP L8 requires that a 'suitable and sufficient' assessment be carried out which identifies and assesses potential sources of legionella exposure.

Re-evaluation and re-assessment

The competent person is responsible for evaluating the validity of the existing risk assessments to ensure continues to be valid. This process will be managed through the asset management system using a standard set of questions to determine validity or otherwise of the existing risk assessment. If a risk assessment is deemed invalid then a reassessment of risk is required, this is the responsibility of the competent person to arrange and record.

	Properties with complex water systems and communal areas	**Individually rented flats and houses**
Take into account the individual nature of each property, style of building, occupants etc.	✓	✓
Consider the system as a whole and not component(s) in isolation	✓	✓
Identify deadlegs and rarely used components	✓	✓
Record temperatures at outlets	✓	
Conduct a risk assessment suitable to the property type	✓	
Conduct a full site survey	✓	
Create a register of assets	✓	
Create detailed schematic which includes identifying components temporarily out of use.	✓	

Risk assessment in individual houses and flats

The Control of Legionella bacteria in hot and cold water systems' ('HSG274 Part 2) April 2014 clarifies the responsibility landlords have for residential units within their property portfolios

Risk assessment of complex water systems

Larger buildings with more complex water systems account for the most cases of Legionnaires' disease. Aside from controlling water temperatures and preventing stagnation one or more additional control measures are usually required for these more complex properties as per the table:

Typical control measures	
System design	- Removal of dead-legs - Ensure thermal separation of cold and hot water pipework - Changes to piping configurations between multiple cold water storage tanks - Replacement of high risk components with low risk components
Usage	- Identify/remove/de-commission rarely used components and associated pipework
System maintenance	- Regularly maintain outlets so as to remove limescale - Regularly maintain outlets so as to disinfect them - Regularly maintain TMVs and service/replace as necessary - Regularly maintain water heating systems and remove limescale - Inspect cold water tanks for limescale, debris, sludge, algae or pests - Inspection of water heaters - Identify and carry out corrosion control in any parts of the system where this is deemed appropriate (especially in older parts)
Flushing regimes	- Run unused/not used outlets where necessary - Flush systems through following chemical treatments
Temperature control and monitoring	- Check at outlets listed in the Control Scheme including sentinel points - Water leaving and returning to heating systems - Incoming mains cold water (preferably in summer)
Bacterial sampling and testing	- Bacterial water sampling and testing upon the appropriate trigger - Samples processed at a UKAS accredited laboratory
Chemical treatment	- Use chlorine dioxide/bleach as a preventative practice or in cases where contamination has been found and remedial action is required - Test whether chlorine dioxide/bleach levels are safe following the above.

Further information on the above can be obtained in HSG274 Part 2.

Management Steps
There are 5 steps involved:

1. *Identify and assess risks*
   Risk assessments allow identification of risks and identify any non-conformities. This informs which control measures/actions are needed to address any initial non-conformities and ongoing management. Risk assessments must be reviewed when there is a significant change to a building's hot and cold water systems.

2. *Remedial actions*
   Works carried out to reduce the risk, e.g. removal of water tanks.

3. *Control measures*
   Control measures are to be implemented in each building following the risk assessment having been carried out. The bulk of control measures are day-to-day routine measures detailed in the written scheme of control, or guidance provided to tenants.

4. *Keep records*

Records of all day to day control, management and repairs to the hot and cold water systems must be kept and retained for at least five years. The BCHG legionella management system must be updated in a timely fashion by the Responsible Person so that an up-to-date picture of organisational compliance is possible at all times.

5. *Report*

There is a need to report organisationally to ensure that the Duty holder is aware of the current level of compliance with legionella legislation within the organisation. The Responsible Person will provide a compliance report to meetings of the Health & Safety Panel. The responsible person will bring to the attention of the Health and Safety Panel or Duty Holder and issues of concern.

6. *Revaluation of validity and Reassessment if necessary*

Following revaluation a reassessment may result from the following:

(a) changes to the water system or its use;
(b) changes to the use of the building in which the water system is installed;
(c) the availability of new information about risks or control measures;
(d) the results of checks indicating that control measures are no longer effective;
(e) changes to key personnel;
(f) a case of Legionnaires' Disease/ Legionellosis associated with the system

Appendices:

1. New development and modifications procedure
2. Advice sheet for tenants

Appendix 1

BCHG New Development and Modification Policy

Responsibilities of designers, Manufacturers, Importers and Installers of Water services and Equipment,

With regard to the elimination, reduction and control of Legionella Risks, suppliers to BCHG have a duty as detailed in ACOP L8 paragraphs 75-86 as detailed below;

ACOP L8 paragraphs 75-86

75 Designers, manufacturers, importers, suppliers and installers of water systems that may create a risk of exposure to legionella bacteria, must:

a) ensure, so far as is reasonably practicable, that the water system is so designed and constructed that it will be safe and without risks to health when used at work;
b) provide adequate information for the user about the risk and measures necessary to ensure that the water systems will be safe and without risks to health when used at work. This should be updated in the light of any new information about significant risks to health and safety that becomes available, so that duty holders can ensure relevant changes are made to their risk assessment and controls.
c) (note information required includes a legionella risk assessment, schematic drawings, detailed control measures, etc.

76 Suppliers of products and services, including consultancy and water treatment services, aimed at preventing or controlling the risk of exposure to legionella bacteria, must, so far as is reasonably practicable ensure that:

a) measures intended to control the risk of exposure to legionella bacteria are so designed and implemented that they will be effective, safe and without risks to health when used at work;
b) they provide adequate information on the correct and safe use of products, taking into account the circumstances and conditions of their use;
c) any limitations on their expertise or the products or services they offer are clearly defined and made known to the duty holder or the appointed responsible person(s);
d) any deficiencies or limitations which they identify in the duty holder's systems or written scheme to control the risk of exposure to legionella bacteria are made known to the duty holder or the appointed responsible person(s);
e) their staff have the necessary ability, experience, instruction, information, training and resources to carry out their tasks competently and safely.

77 All water systems must be properly installed, and commissioned as appropriate.

78 Anyone involved in the supply of water systems (designers, manufacturers, importers, suppliers and installers) must, as far as is reasonably practicable, ensure that the equipment is designed and constructed so that it is safe when used at work and enable safe and easy operation, cleaning and maintenance.

80 Hot and cold water systems should be designed and constructed so they:

(a) take account of and comply with the Water Supply (Water Fittings) Regulations 199911 and the Scottish Water Byelaws (see www.scottishwater.co.uk);
(b) aid safe operation (e.g. without dead legs, or if this is not possible, limit the length of dead legs limited and disconnect or remove redundant or non-essential standby plant);
(c) reduce stored cold water to the minimum needed to meet peak needs;
(d) aid cleaning and disinfection (e.g. by providing suitable access points in the system);
(e) minimise heat gain/loss (e.g. hot and cold water pipes and storage tanks should be insulated).
(f) note safe and adequate access for water storage tanks and heaters regarding inspection and cleaning should be facilitated.

81 Manufacturers and suppliers of water systems must provide adequate information and instructions on their safe use. This should include information about those aspects of operation and maintenance which have a bearing on the risk.

82 Those who supply services, such as water treatment or maintenance services should make clear to the responsible person any deficiencies in the water system or measures that may pose a significant risk of exposure to legionella bacteria. They should also make the dutyholder or the responsible person aware of any limitations in their own expertise, products or services so they can make arrangements to ensure that these deficiencies or limitations are addressed.

83 Service providers should also ensure that their staff and contractors are competent to carry out the task safely. They should be properly trained to a standard appropriate to the various tasks they perform, such as risk assessment, advising on water treatment measures, sampling or cleaning and maintaining water systems. The Legionella Control Association administers a Code of Conduct9 for organisations providing services to occupiers/owners of water systems. This Code of Conduct does not have legal status but may give guidance to dutyholders about the standards of service they should expect to receive from service providers who abide by the Code.

84 All staff and contractors should be suitably trained, managed and supervised and given appropriate resources or support. In particular, they should be aware of the action to take in situations outside their knowledge or experience.

This Policy should be presented to any supplier to BCHG involved in Design, Manufacture, and Installation of water services and Equipment.

Appendix 2

Advice sheet for tenants

What is legionella?

Legionella bacteria occur naturally in locations such as rivers, lakes and reservoirs. It may also be found in:

- Domestic water systems in people's homes
- Places where water droplets may be formed such as showers and taps.
- Hose pipes

The most likely way to be infected by legionella is by inhaling the bacteria when it is carried by water droplets.

Legionella bacteria thrive in any suitable water system, the temperature at which the bacteria will grow is within the temperature range of 20^0c and 46 ^{0}c. All hot water storage cylinders in our properties include a thermostat which makes sure that the hot water is stored at 60 ^{0}c

The risk of infection from exposure in domestic properties is very low but as part of the health and safety regulations we have **A DUTY OF CARE** to our residents to inform you of the risk and practical steps you can take to reduce the risk of being affected by legionella bacteria in water droplets.

Your responsibilities and how to reduce the risk of legionella

- If you feel that your hot water system is not working as it should please contact our repairs team 0300 555 0302. Hot water temperature at your taps should reach 50^0c within 1 minute of turning the tap on.

- Disinfect and descale your shower head every 3 months in addition to normal cleaning process (using a recognised shower head descaling product to remove lime scale build up) If you are unable to do this and you live in you must inform us.

- If you have a shower or water outlet you do not use regularly, you should flush the system at least once a week by running water through it for several minutes. If you don't use your shower head for a two week period we advise you that you should remove the shower head and allow the shower to run for a minimum of 2 minutes as hot as possible. You should then disinfect the shower head before re-fitting.

- You should flush garden hoses for several minutes without creating sprays each time they are used. You should flush through external hose pipes every week and if they are not used for two weeks or more you should remove the nozzle or adjust it so it will not produce a spray, you should let the hose run for 2 minutes. You should disinfect the nozzle before re-fitting.

- If you have been away from home for more than a week you should run every water tap and outlet for several minutes on returning to the property.

If you would like further information in reference to Legionella and Legionnaire's Disease, information can be found on the Health and Safety Executive website www.hse.gov.uk or you can contact compliance@bchg.co.uk