



Legionella Written Scheme of Control

Aim

The Control of Substances Hazardous to Health 2002 (COSHH 2002) and Management of Health & Safety at Work Regulations 1999 (MHSWR 1999) require employers to ensure that any control measures are properly applied and employees are provided with suitable and sufficient information, instruction and training. A written scheme of control should be devised and implemented (as stated in the ACOP L8) to design, maintain and operate the water services under conditions that prevent or control the growth and multiplication of legionella bacteria.


Policy Statement

Liskeard Town Council acknowledges and accepts its responsibilities under the Health & Safety at Work etc. Act 1974, COSHH 2002, MHSWR 1999 and the HSE Approved Code of Practice L8 'The control of legionella bacteria in water systems' 2013. The Council will comply with relevant guidance (HSG 274) issued by the Health and Safety Executive in this respect. The Council will take all reasonable precautions to prevent risk to health from exposure to legionellosis by implementing the appropriate control measures in all of its relevant buildings.

Written Scheme Review

This written scheme will be subject to review every 2 years or as necessary in line with any risk assessment findings.

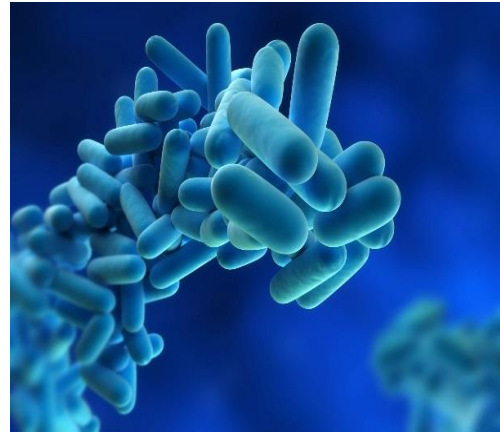
ISSUE RECORD SHEET		
Issue	Amendment Date	Comment
Draft	May 2017	First Draft
One		

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What is Legionnaires Disease?

Legionnaires' disease is an uncommon form of pneumonia caused by the legionella bacterium. The majority of cases reported are as single (isolated) cases but outbreaks can occur. All ages may be affected but the disease mainly affects people over 50 years of age, and generally men more than women. Smokers and the immunocompromised are at a higher risk.



The early symptoms of Legionnaires' disease include a 'flu-like' illness with muscle aches, tiredness, headaches, dry cough and fever. Sometimes diarrhoea occurs and confusion may develop. Deaths occur in 10-15% of the general population and may be higher in some groups of patients. The incubation period can range from 2 to 19 days with a median of 6 to 7 days after exposure.

Infection occurs when legionella bacteria that have been released into the air in aerosolised form from a contaminated source are inhaled. Once in the lungs the bacteria multiply and cause either pneumonia or a less serious flu like illness (Pontiac fever).

The bacteria are widely distributed in the environment. They can live in all types of water including both natural sources such as rivers and streams, and artificial water sources such as water towers associated with cooling systems, hot and cold water systems and spa pools. They only become a risk to health when the temperature allows the legionellae to grow rapidly, such as in water systems of poor design or installation or when poorly maintained.

Control and prevention of the disease is through treatment of the source of the infection, i.e. by treating the contaminated water systems, and good design and maintenance to prevent growth in the first place.

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1. Management structure for the control of Legionella

Lines of responsibility for the control of Legionella within Liskeard Town Council

DUTY HOLDER		RESPONSIBLE PERSON	
Name:	Liskeard Town Council	Name:	*****
Position:	-	Position:	*****
Contact Number:	01579 345407	Contact Number:	*****
DEPUTY RESPONSIBLE PERSON		OTHER KEY PERSONNEL	
Name:	*****	Name:	Tony Misson
Position:	*****	Position:	Facilities Manager
Contact Number:	*****	Contact Number:	01579 345407

LEGIONELLA CONTROL CONTRACTOR			
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Tasks Assigned:	Risk Assessment	Training	Consultancy

Staff will be properly trained and competent to carry out the appropriate measures, and the Council will facilitate such training as is necessary. No amendment shall be made to this written scheme or its procedures without the agreement of the responsible person.

2. Management responsibilities and staff functions

2.1 The Duty Holder

The duty holder is the owner, occupier, employer or other person ultimately accountable and on whom the duty falls for the safe operation of the Council. In the case of Liskeard Town Council, this is the Council Board. It is their responsibility to ensure that the necessary resources are available to the responsible person to ensure compliance with this document.

2.2 The Responsible Person

The responsible person is formally appointed by the duty holder to be managerially responsible for the Council's overall legionella management system. The nominated person must be a manager and have sufficient authority to ensure that all operational procedures are carried out in an effective and timely manner. The responsible person must also possess a sound understanding of the control of legionella through appropriate training

It is recognised that the responsible person cannot be an expert on all matters and must be supported by specialists in the necessary area of expertise.

Specifically, the role will involve:

- Ensuring overall compliance with the written scheme
- Ensuring building water system schematics are updated after any significant changes.
- Ensuring risk assessments are carried at least every two years or as necessary.
- Ensuring all relevant staff members are competent to carry out the aspects of legionella control to which they have been assigned.
- Taking reasonable steps to ensure contractors are competent

2.3 The Deputy Responsible Person

The responsible person will appoint a deputy to whom delegated responsibilities may be given to all occasions when the responsible person is unavailable. This Deputy must meet the criteria set out above under The Responsible Person

2.4 The Appointed Contractor

The appointed contractor for designated aspects of legionella control will be a member of a relevant trade professional body and the responsible person shall request, inspect and hold contractor staff-competency records.

3. Design and use of hot & cold water systems

3.1 Conditions that promote the growth of legionella bacteria

Legionella bacteria may contaminate water systems where the temperature is between 20 and 45°C. It is uncommon to find any significant growth below 20°C, the bacteria do not survive for any lengthy period above 60°C. The optimum temperature growth is 37°C

The presence of sediment, sludge, scale and organic material can act as a source of nutrients for Legionella bacteria. Commonly encountered organisms in water systems such as algae, amoebae and other bacteria may serve as a nutrient source for Legionella. The formation of a biofilm (slime) within a water system will also play an important role in harbouring and providing favourable conditions in which Legionella can proliferate.

The presence of water stagnation can also play a significant part in legionella growth. An example of this would be a building that has little to no use of its water systems during building refurbishment, mothballing or disused pipework that is still live.

If the conditions mentioned above are eliminated or controlled, the likelihood of legionella growth will be significantly reduced.

3.2 Design and installation of new or refurbished building services

All new or refurbished installations to domestic water systems shall comply with current water regulations and ACOP L8/HSG 274 guidance. It is important to ensure that potential hazards are designed out where possible before installation.

3.3 Cold Water Systems & Storage Tanks

The Council has no cold-water storage water tanks

3.4 Domestic Hot Water Services

Multi-point type water heaters (greater than 15L) should be maintained at a minimum temperature of 55°C. (checked on a monthly basis)

Low Volume Point of Use Water heaters (less than 15L) should be maintained at a minimum temperature of 50°C (checked on a six monthly basis)

Combi boilers (instantaneous) should be maintained at a minimum temperature of 50°C (checked on a six monthly basis)

Pipe work should be as short and direct as possible especially where it serves intermittently used taps and appliances.

Where people at risk of scalding are served by the hot water system, "fail-safe" thermostatically controlled mixing valves shall be used to reduce the hot water temperature at the outlet to 43°C. These are valves that are unaffected by changes in water pressure and automatically close the hot water supply if the cold water fails. They will be positioned as close as possible to the hot water outlets. People at risk of scalding include young children, the very old, and those with sensory loss.

Mixed water pipework from the thermostatically controlled mixing valve should be kept as short as possible.

3.5 Cooling Towers

The Council has no wet cooling towers, and such equipment will not be installed or operated by the Council.

3.6 Air Conditioning Systems

Ventilation and air conditioning systems shall be designed so that water, whether from the supply or from other sources such as condensation, cannot accumulate in ductwork or plant, which is subject to an air stream. All condensate drains shall incorporate an air break as near to the ventilation or air conditioning system as possible, to prevent potentially contaminated water from being drawn back into the system.

No domestic type air humidifiers, or any similar equipment which may compromise air quality, shall be put into use on the Council premises without the prior approval of the Responsible Person.

3.7 Ornamental water features

The council operates a single low risk ornamental water feature. Routine maintenance is carried out to ensure that the water feature and associated components are kept reasonably clean.

3.8 Operation of grounds sprinkler water systems

The Council does not currently operate ground sprinkler systems. In any future installations, a risk assessment will be carried out and the written scheme revised to take this into consideration

3.9 Handling and exposure to compost

Legionella is often found in compost and legionnaires disease has resulted in a small number of cases from inhalation of dust or moisture droplets.

All staff who come into physical contact with compost must ensure the following:

- Staff must ensure that themselves and any children wash their hands as soon as is possible after contact
- Compost bags should not be stored in direct sunlight
- Compost bags should be opened carefully as not to disturb contents
- Compost bags ideally should not be opened in enclosed spaces such as sheds or green houses

3.10 Use of rainwater supply (Water butts)

Water butts collect and contain rainwater. Non-potable water may contain potentially harmful bacteria. The water is often stagnant and may warm up during the summer months leading to significant bacteria growth.

They may be used for gardening purposes such as watering of plants through a water can or similar.

They must NOT be used in conjunction with a power washer:

4. Operation and Maintenance of Building Services

4.1 Water temperatures at outlets

Cold water outlet temperatures shall be measured after allowing the water to run at full flow for 2 minutes. The temperature should be less than 20°C, or if above 20°C should be less than 2°C above the incoming supply from the water supply company.

Hot water outlet temperatures shall be measured after allowing the water to run at full flow for up to 1 minute. The temperature should be at least 50°C. However, where mixing or blending devices are used which prevent the outlet reaching this temperature, the pipe surface immediately before the device should reach 50°C within 1 minute.

Representative outlets (outlets in between sentinels) will be measured on a rotational basis over a period of a year

4.2 Water System Maintenance

Maintenance staff who have undertaken "dirty" jobs (i.e. unblocking drains) must change into clean protective clothing and wash their hands thoroughly before working on domestic hot or cold water systems where there is a risk of contaminating that system.

Every year hot water calorifiers shall have their drain valve (where fitted) water visually inspected for signs or sludge, rust or scale. If visual contamination is identified cleaning should be carried out as necessary.

4.3 Little used outlets and showers

The Responsible Person shall review the need for intermittently or infrequently used taps and appliances (particularly showers) from time to time. If such taps and appliances are not necessary, the supplies shall be cut off close to the in-use supply pipe to ensure that no dead leg is formed. If it is not reasonably practicable to remove these outlets a weekly flushing regime should be implemented.

During periods of little use of the water systems such as during refurbishment, both hot & cold outlets should be flushed weekly for a determined period.

On a quarterly basis, or less frequently if it is shown to be necessary, shower heads and hoses will be dismantled, cleaned and descaled and the work logged on the shower maintenance log sheet. The completed log will be located within the legionella control logbook.

4.4 Planned Preventative Maintenance Schedules

The following table shows an example of the frequency of the necessary control measures to be scheduled as planned preventative maintenance.

The master PPM schedule will be retained in the legionella log and copies given to other relevant staff.

4.5.1 PPM Example for Liskeard Town Council Premises

Month	Week 1					Week 2					Week 3					Week 4					Week 5				
January	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
February	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
March	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
April	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
May	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
June	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
July	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
August	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
September	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
October	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
November	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
December	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F
W	Weekly - Flushing of little used outlets																								
M	Monthly / Six Monthly - Temperature checks of sentinel hot and cold water outlets & Water Heater flow temperature																								
Q	Quarterly - Cleaning and disinfection of shower heads																								

5. Record Keeping

The following records shall be kept on file for a period of 5 years in a log book held with the facilities manager. Additionally, electronic records can also be kept.

Test Records (with dates) or work carried out to prevent or control legionellosis.

Completed report sheets for:

- Weekly flushing of infrequently used outlets
- Monthly / Six Monthly hot & cold water temperature checks including flow temperature
- Quarterly shower head cleaning

6. Action in the event of an incident

In the event of a single case of legionellosis, possibly acquired within Council buildings then an emergency meeting shall be set up of a group comprising of:

- Responsible Person
- Other Relevant Person(s)

The group should meet daily as necessary, with others as appropriate, to co-ordinate investigation of the problem, and progress any necessary action. Minutes are to be kept and a log of actions taken and results of tests or inspections are to be recorded by the Responsible Person

Immediate action may include:

- Stopping admissions to affected site/area
- Sampling water from taps and showers prior to any disinfection or pasteurisation.
- Sampling of water from water heaters serving the affected site prior to any disinfection or pasteurisation
- Increasing hot water temperatures at outlets to a minimum of 60°C
- Inspection of maintenance records for legionellosis preventative work
- Disinfection of water services in accordance with BS EN 806

Legionnaire's disease is not a notifiable disease in England and Wales but if staff acquire the disease, cases may be notifiable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)

The Health & Safety Executive may be involved in the investigation of outbreaks under the Health & Safety at Work Act 1974.

7. Microbial Monitoring for Legionella

Legionella water samples shall be taken under the following circumstances:

- Where control levels of the treatment regime (temperature control) are not being consistently achieved
- When an outbreak or incident is suspected, or has been identified:
 - Samples will be taken in accordance with BS EN 7592 by suitably trained persons.
 - Analysis of water samples for legionella will be carried out by a UKAS accredited laboratory.

7.1 Interpreting Legionella Sample Results

ACOP L8 Table 4 details the action required following legionella sampling in hot and cold water systems. Table 4 is included below.

Legionella bacteria (cfu/l)	Recommended actions
>100 cfu/l and up to 1000	Either: <ul style="list-style-type: none">• if the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or,• if the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals afterwards until a satisfactory level of control is achieved

If disinfection of the water systems is necessary this work will be carried out by trained persons who have been deemed competent to carry out this task. Sections 2.5 and 4.3 should be observed.

8. Procedures for Legionella Control Measures

Procedures for cleaning and disinfection of water tanks and any other control measure will be obtained from the contractor by the Council prior to the works taking place.

All procedures used by Council staff will be held with the responsible person and distributed to other relevant staff.

8.1 Flushing of little used water outlets Procedure (Weekly)

- Identify little used outlet(s)
- Open outlet whilst minimising the release of water aerosol (reduce spray)
- Flush the outlet until the temperature at the outlet stabilises and is comparable with the supply water e.g. until cold water is cold or hot water is hot
- Keep written records of action and report any defects to the facilities manager.

Things to consider:

- Toilets should also be flushed by flushing through one cycle
- Drinking water vending machines and outside taps should also be included

8.2 Monthly / Six Monthly water temperature checks at outlets

Outlets without TMV's

- Identify outlet to be checked by following customised temperature form for the correct month
- Run hot tap on full flow for 1 minute and cold tap for 2 minutes
- Place temperature probe under outlet and record reading
- Report any defects to the facilities manager

Outlets with TMV's fitted

- Follow steps 1-2 then place surface probe attachment against hot inlet pipe to TMV ensuring a good contact and record reading. Due to heat loss through pipework material, add 3 degrees to final temperature reading.
- Cold water temperatures cannot be taken with surface probe attachment and must be taken as step 3.

8.3 Monthly temperature checks of Calorifiers

Ensure that you are confident in identifying the secondary hot water flow and return (where fitted) pipework and that it is safely accessible

- Place surface probe attachment against flow pipe ensuring a good contact and record reading. Due to heat loss through pipework material, add 2 degrees to final reading
- If secondary return loop is fitted, follow step 1
- Record results and report any defects to the relevant member of staff

8.5 Cleaning of shower heads and hoses (quarterly or as necessary)

- Flush shower through to purge any potential water stagnation
- Remove shower head and hose (if fitted)
- Place in a disinfection solution and clean thoroughly
- Refit and flush through to remove any residual disinfectant
- Record cleaning and report any defects to site manager