

Information Pack

The logo for HLA Services Ltd. features the letters 'HLA' in a bold, blue, serif font. The letters are set against a light blue, stylized circular graphic that resembles a thick, curved line or a partial ring, creating a sense of motion or a protective shield.

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LEGIONELLA
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- What is Legionella?

- What is Legionnaire's Disease?

* Legionnaire's disease is potentially fatal pneumonia caused by legionella bacteria. It is the most well known and serious form of a group of diseases known as **legionellosis**. Other similar (but usually less serious) conditions include Pontiac fever and Lochgoilhead fever.

Infection is caused by breathing in small droplets of water contaminated by the bacteria. The disease cannot be passed from one person to another.

Everyone is potentially susceptible to infection but some people are at higher risk e.g. those over 45 years of age, smokers and heavy drinkers, those suffering from chronic respiratory or kidney disease, and people whose immune system is impaired.

- Where is legionella found?

Legionella bacteria are common in natural water courses such as rivers and ponds. Since legionella are widespread in the environment, they may contaminate and grow in other water systems such as **cooling towers and hot and cold water services**.

They survive low temperatures and thrive in temperatures between 20°C - 45°C if the conditions are right e.g. if a supply of nutrients is present such as rust, sludge, scale, algae and other bacteria. They are killed by high temperatures.

- All information correct as HSE guide for employers legionnaire's disease.

- What are my legal duties?

The L8 document provides guidance and is also a code of practice but is not in itself law.

In the past when outbreaks & tragedies have happened like the Barrow incident those responsible for ensuring adequate maintenance is in place have been prosecuted under the health and safety at work act and COSHH.

You can now be tried under the corporate manslaughter act.

Under general health & safety law, you have to consider the risks from legionella that may affect your staff or members of the public and take suitable precautions. As an employer or a person in control of the premises (e.g. landlord), you must:

- identify and assess sources of risk;
- prepare a scheme (or course of action) for preventing or controlling the risk;
- implement and manage the scheme – appointing a person to be managerially responsible, sometimes referred to as the ‘responsible person’;
- keep records and check that what has been done is effective: and,
- if appropriate, notify the local authority that you have a cooling tower(s) on site (see other duties section on page?)

● Risk Assessments – A Legal Duty

● Assessing the risk

The risk assessment is your personal liability as the employer or person in control of the premises. You may be able to carry out the assessments yourself but, if not, you should call on help and advice from within your own organisation or if this is not available, from outside sources, e.g. consultancies.

You need to find out if your water systems (including the equipment associated with the system such as pumps, heat exchangers, showers etc.) are likely to create a risk.

Ask yourself the following:

- Are conditions present which will encourage bacteria to multiply? For example – is the water temperature between 20-45°C?
- Is it possible that water droplets will be produced and, if so, could they be dispersed over a wide area? For example, consider showers and aerosols from cooling towers; and
- Is it likely that anyone particularly susceptible will come into contact with the contaminated water droplets?

Prevention and Control

A suitable and sufficient risk assessment is required to identify and assess the risk of exposure to legionella bacteria from work activities and water systems on the premises and identify any necessary precautionary measure.

If the assessment shows that there is a reasonably foreseeable risk and it is reasonably practicable to prevent exposure or control the risk from exposure, the owner/manager should put in place appropriate controls and monitor these controls for effectiveness. Person carrying out these assessments should be suitably able, experienced, instructed, trained and informed. In particular they should know:

- a) potential sources and the risks they present;
- b) measures to be adopted, including precautions to be taken for the protection of people concerned, and their significance; and
- c) measures to be taken to ensure that controls remain effective, and their significance

Where the above expertise can not be found in house it may be necessary to enlist the help of an outside organisation. A written scheme should be produced to include:

- a) an up to date plan showing layout of the plant or system, including parts temporarily out of use (a schematic plan would suffice);
- b) a description of the correct and safe operation of the system;
- c) the precautions to be taken;
- d) checks to be carried out to ensure efficiency of scheme and the frequency of such checks; and
- e) remedial action to be taken in the event that the scheme is shown not to be effective.

In general, proliferation of legionella bacteria may be prevented by:

- avoiding water stagnation, which may encourage the growth of biofilm
- avoiding the use of materials in the system that can harbour bacteria (and also provide a nutrient source for them);
- the use of suitable water treatment programme where it is appropriate and safe to do so; and
- ensuring that the system operates safely and correctly and is well maintained.

Monitoring & Cleaning

Hot Water

- Water in the boiler should be kept at a minimum of 60°C and at each outlet point above 50°C within a minute of running the water.
- It is recommended that these checks are carried out monthly, at the first and last tap on the run, and at representation of taps annually.
- Shower heads and hoses should be dismantled, cleaned and descaled at least quarterly.
- Any units, which are not regularly used must be flushed through and purged to drain without release of aerosols, at least weekly or immediately before use.
- Ensure that there are no areas of stagnation of water, which are not under control.

Cold Water

- Check that the cold water is stored below 20°C, and maintains a temperature below 20°C at the first and last taps on the run after running the water for up to 2 minutes, recommended at the same frequencies as hot water checks.
- Visually inspect the cold water tank annually. Ensure the tank is insulated and that there is a closed lid. Check for debris and if necessary, clean and disinfect.

Record all checks made and retain records for a minimum of 5 years.

For further information, obtain the following: The control of Legionella Bacteria in Water Systems – Approved code of practice and Guidance – HSE Books.

Monitoring	Frequency	Date of Checks	Signature
Calorifier outlet 60°C	Monthly		
Calorifier return 50°C	Monthly		
Hot water sentinel taps 50°C after 1 min (first and last tap on run)	Monthly		
Cold water sentinel taps ≤20°C after 2 mins (first and last tap on run)	Monthly		
Hot water feed pipes on Thermostatic mixing valves 50°C after 1 min	Monthly		
Temperature at representative taps in addition to sentinel taps 50°C after 1 min	Annually		
Cold water tanks are in good order	Annually		
Volume of cold water being used	Annually		
Schematics are up to date	Annually		
Draining, cleaning and inspecting the calorifiers	Annually		
Shower heads to be dismantled, cleaned and descaled	Quarterly		
Units that are infrequently used, flush and purge	Weekly		

Temperature Regimes & Sampling

Temperature control is a very effective way of controlling legionella, in hot & cold water systems legionella has been traditionally controlled by storing hot water above 60°C & cold water at below 20°C. This should be done regularly as part of an effective legionella control strategy & results recorded in a site log book as evidence that control is in place.

- **Should I take samples to test for legionella?**

It depends: Sampling and testing for the presence of legionella bacteria is just one way of checking that the system is under control. But is not a simple test sampling and detecting legionella requires specialist help. Further details on how to sample and the frequency of sampling in both cooling towers and hot and cold water systems can be found in part 2 of the ACOP and guidance L8 document.

Cold Water Storage Tanks

Storage tanks can be a haven for all kinds of bacteria including legionella this can be for a varied amount of reasons.

- Missing or incorrect lids

This can allow the tank to become contaminated with insects, birds or rodents.

- Inadequate or missing insulation

This would make the temperature of the stored water difficult to control & would allow bacteria to multiply.

- Tank configuration

I.e. the inlet & the outlet should always be on the opposite sides of the tank ensuring that there is less chance of stagnation.

- Misplaced or wrong overflows

Overflows should be screened so as to prevent birds, insects or rodents entering the tank.

- Corrosion
- Sediments or debris
- Wrong size tanks

The condition of cold water storage tanks should be inspected at least every 12 months, then be changed and chlorinated if required.

Calorifiers & Stored Hot Water

Stored hot water should be kept at 60°C & distributed above 50°C to all outlets. Calorifiers should be regularly serviced & cleaned at least annually.

Scale can be a major problem with stored hot water & calorifiers should be inspected annually and de-scaled if required.

- Keeping Records

If you employ five or more people you must record the significant findings of your risk assessment. This means writing down the significant findings of the assessment and details of any monitoring or checking carried out.

If you have fewer than five employees you do not need to write anything down. Although it is useful to keep a written record of what you have done.

You also need to keep records of your written scheme and who is responsible for managing the scheme. You should also keep the results of your routine monitoring. You need to keep these records for a minimum of five years.

Do I have legal duties to chlorinate?

Whilst there are no laws which specify the frequency that water systems should be chlorinated the L8 ACOP document recommends the following:

Taken from L8- Legionnaires' disease: The Control of Legionella Bacteria in Water Systems: Approved Code of Practice & Guidance

Cleaning and disinfection

The ACOP says the risk from exposure to legionella should be prevented or controlled; precautions include keeping the system and the water in it clean. The following section on cleaning and disinfection offers guidance on when to do this in hot and cold water systems.

Paragraph 190

Hot water services and cold water services should be cleaned and disinfected in the following situations:

1. If routine inspection shows it to be necessary
2. If the system or part of it has been substantially altered or entered for maintenance purposed in a manner which may lead to contamination; or
3. During or following an outbreak or suspected of legionellosis

In general good practice is:

Tanks over 1,000 litres should be inspected every 6 months.

Tanks less than 1,000 litres should be inspected annually.

Our Services

Here at HLA Services we can offer you anything from monthly temperature checks & quarterly chlorination to full L8 control packages that include:

- Risk assessment
- Temperature regimes
- Quarterly shower de-scale & disinfection
- Yearly tank cleaning & chlorination
- Calorifier & water system descaling
- Sampling (approved UKAS laboratories are used)
- Emergency disinfection
- Maintenance & servicing of plant & equipment

Please call our offices and ask for a free consultation on what would best suit your needs. We are always happy to offer advice or answer any concerns or queries you may have.

Our People

Mission Statement

To provide a service that exceeds our customer's expectations

Our Vision

To provide a facilities engineering product with a service and reputation second to none

Our Values

- Always looking to welcome customer feed back
- Learn from criticism and review methods
- Include staff in customer comments both good and bad
- Work together as one team
- Show engineers importance within the team
- Celebrate success
- Learn from mistakes
- Be honest and open with internal business
- Improvement and innovate the business
- Encourage fresh ideas
- Develop existing progress to operate in a proven way
- To maintain the highest possible health and safety policy possible
- Maintain and improve our service and develop our workforce

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