



## **White Paper**

# **Leading the way with your Legionella compliance post pandemic**

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# Leading the way with your Legionella compliance post pandemic

As well as a host of new risks and control measures to manage, during 2020/2021 we have also seen the longer-standing subject of Legionella come up on a regular basis.

Despite it being an ongoing management issue for those responsible for buildings and other water systems, we have seen a degree of wheel re-inventing and a plethora of new solutions – with their associated costs – also being proposed.

So, what should the smart management approach be for Legionella in the post pandemic world?

## What is the big picture with Legionella?

- Legionella is a species of bacteria that inhabits wet and moist environments, from open water to damp soil. It can also be found in mains water supplies.
- Legionella can multiply anywhere between 20°C and up to 50°C and are also more resistant to low levels of chlorine than many other bacteria. They therefore can colonise a wide range of water systems and services where conditions are right.
- Legionella also require ferric iron and an amino acid L-cysteine, to grow; so poor condition, maintenance and cleanliness of water systems/services, along with stagnation, can further aid proliferation of the bacteria.
- The primary route of infection for Legionella is through the inhalation of water droplets/aerosols, contaminated with the bacteria.
- Legionella causes a range of respiratory infections, from Legionnaires' disease – a sometimes fatal form of pneumonia - to Pontiac fever and Lochgoilhead fever – both non-fatal flu-like illnesses.
- Susceptibility to developing Legionnaires' disease is increased with age (over 50), gender (men are three times more likely to develop infections than women) and general health (underlying illness (e.g. heart disease, diabetes), smoking and immunocompromised individuals are at greater risk).
- Legionnaires' disease is a reportable disease in all parts of the UK. Numbers of reported cases in England and Wales are rising from around 200 per annum in the 1980's to over 400 per annum currently (extrapolated from PHE data). However, some studies indicate as many as 4,000 to 6,000 cases could be occurring each year.
- While cases of reported Legionnaires' disease occur throughout the year, the majority (60%) happen during the Summer months.
- The specific legal requirements in place to control Legionella were first published in 1991. These combine all aspects of our regulatory hierarchy from Acts to technical guidance (more detail in the next section).
- Recent prosecutions for failing to adequately manage Legionella has seen fines in the millions as well as custodial sentences.

## Have the regulations regarding Legionella changed because of the pandemic?

The simple answer is no.

The existing structure through the Health and Safety Executive (HSE) Approved Code of Practice - Legionnaires' disease: The control of legionella bacteria in water systems (L8) as enabled through the Health and Safety at Work etc. Act 1974, Control of Substances Hazardous to Health Regulations 2002 and The Management of Health and Safety at Work Regulations 1999.

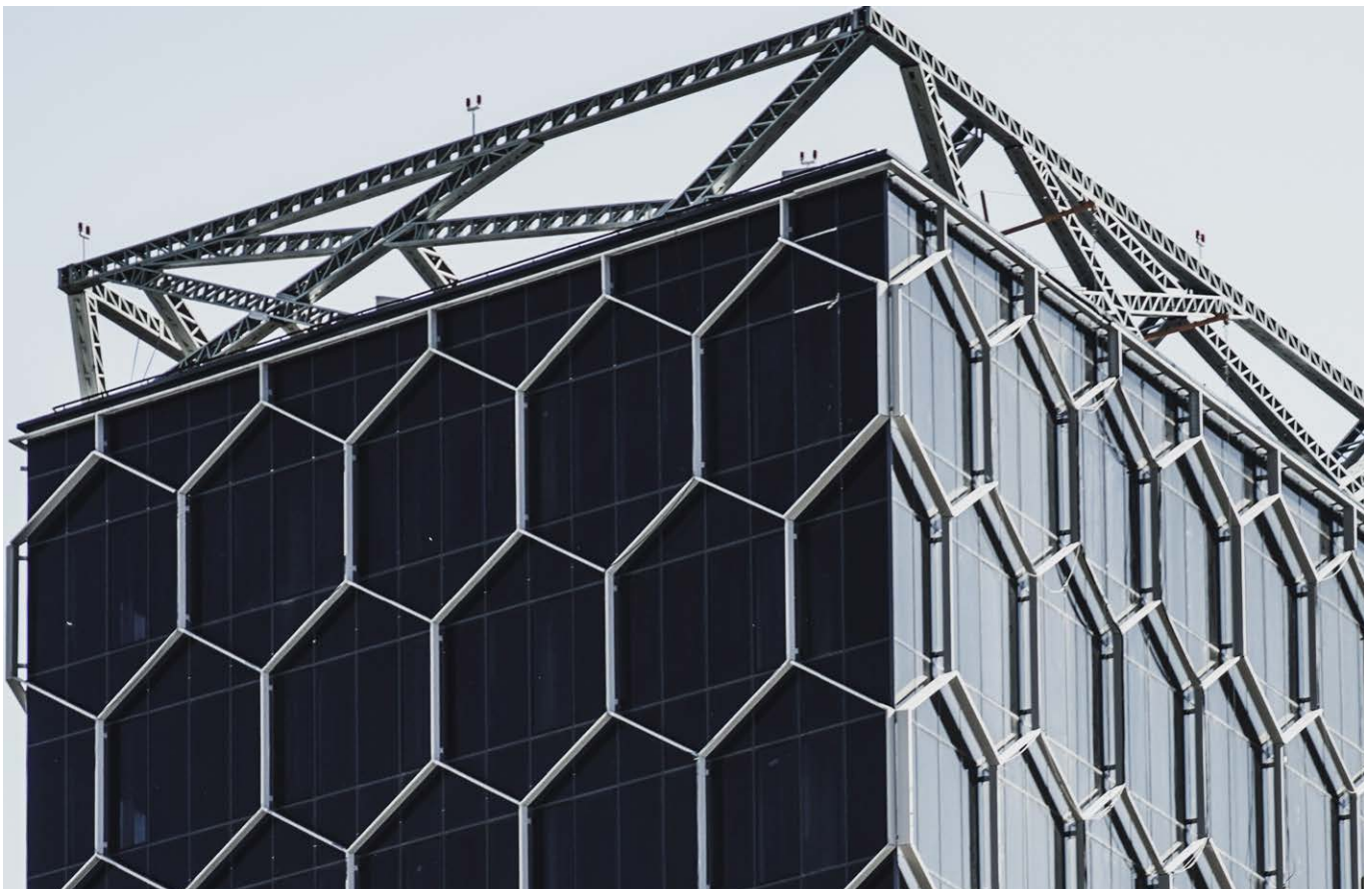
The main requirements of L8 cover:

- Identification and assessment of the risk;
- Managing the risk: management responsibilities, training and competence;
- Preventing or controlling the risk from exposure to Legionella;
- Record keeping; and
- Responsibilities of manufacturers, importers, suppliers and installers.

And these headings have not substantially changed since the ACoP was first introduced in the early 1990's. The associated technical guidance had increased significantly by the time the latest version (version 4) of the ACoP came into force in November 2013.

Similarly, the requirements to register evaporative cooling systems through The Notification of Cooling Towers and Evaporative Condensers Regulations (1992), has not changed.

What did change for many dutyholders over the period of the pandemic though was how water was being used in their premises, and as a result how it needed to be managed.



## How were premises managed during the pandemic and what should we be doing now?

With the COVID-19 restrictions, changes in occupancy and usage of building saw several different strategies adopted to varying degrees of success. These included:

- Being closed with the water systems and services unused;
- Being partially open/used with a limited usage of water from a number of designated areas;
- Being partially open/used with some flushing and other controls implemented;
- Being partially open/used with a regular flushing regime in place; or
- Being operating as usual.

Whatever the approach, the outcome achieved depended largely on the management prior to lockdown. For those with a good understanding of their building's water services and robust systems of management control in place, with some minor amendments to process, the majority have stayed safe.

For others the patterns of use have proved more problematic. Especially recently the ability to flush systems has been challenged against the time needed for other remobilisation activities. Similarly, those who did nothing now need to reassess and re-introduce their services in line with best practice.

The HSE technical guidance, Legionnaires' disease Part 2: The control of legionella bacteria in hot and cold water systems (HSG 274 part 2), page 24, states:

### "Buildings temporarily taken out of use (mothballing)

2.50 Where a building, part of a building or a water system is taken out of use (sometimes referred to as mothballing), it should be managed so that microbial growth, including legionella in the water, is appropriately controlled.

2.51 All mothballing procedures are a compromise between adequate control of microbial growth, the use of water for flushing (while avoiding waste) and degradation of the system by any disinfectant added. Where disinfectants are used, these should leave the system fit for its intended purpose.

2.52 In general, systems are normally left filled with water for mothballing and not drained down as moisture will remain within the system enabling biofilm to develop where there are pockets of water or high humidity. The water in the system also helps to avoid other problems associated with systems drying out, including failure of tank joints and corrosion in metal pipework. The systems should be recommissioned as though they were new (i.e. thoroughly flushed, cleaned and disinfected) before returned to use."

While it will therefore depend on your circumstances as to the specific courses of action you need to take, but the overarching principles for your building water systems re-mobilisation should cover:

- As appropriate, reviewing the performance of your water services through your water management system to identify what has worked well, but also if any areas are flagging issues that you need to be aware of;
- Confirming the current state of operation of your building water systems and what needs to be done (if anything) to successfully re-introduce them as needed;
- Understanding the timescale for re-opening your building and how this will affect the future re-introduction of your water systems and services;
- Having a plan in place to account for any risk assessment review, amendments to the written scheme of control, testing inspection and examination work required as the services are re-introduced; and
- Documenting your activity.



## If something does/has gone wrong, what are the penalties for failing to manage Legionella in my workplace?

Legionella management is about effective and ongoing control, as for most water systems and services it is almost impossible to prevent contamination. The absence of Legionella from your systems cannot be guaranteed, so having in place a comprehensive water management system based on a suitable and sufficient risk assessment is crucial.

Much of the focus for many service providers is on testing, inspection and examination, and while these are essential components for successfully controlling Legionella, it is the management that is critical. Whether lessons learnt from historic outbreaks, the Health and Safety Laboratory HEX 07/12 report "Legionella outbreaks and HSE investigations; an analysis of contributory factors" or the more recent HSE intervention programme results, there are common failings and these all centre on:

- Failure to risk assess or unsuitable/insufficient risk assessment;
- Unsuitable/insufficient or lack of any written scheme of management/control; and
- Lack of appropriate training.

The failure of dutyholders to manage Legionella in the water systems and services they are responsible for can lead to fines (sometimes in the £millions) and imprisonment for offenders. Recent cases include:

2017 - JTF fined £1,000,000, after the death of two people, and twenty others becoming ill, following an outbreak of Legionnaires' disease associated with a hot tub at their warehouse in Stoke on Trent.

2018 – Bupa Care Homes fined £3,000,000 following the death of a care home resident, having "failed to implement the necessary control and monitoring measures required to safely manage their hot and cold water system."

2019 – Faltec Europe fined £800,000 following an outbreak of Legionnaires' disease due to their "failure to effectively manage its water cooling systems within the factory, causing the Legionella bacteria within the water supply to grow to potentially lethal levels."

2019 - Kulwant Singh Chatha and Satpaul Kaur Chatha of Isher Hangers, were fined £12,115 and sentenced to serve 12 months imprisonment, suspended for 12 months, having "failed to put suitable measures in place to control the risk of Legionella bacteria from the cooling tower on their premises, concerns raised being ignored, and no Legionella risk assessments were in place."



## What practical elements should I be considering once my building re-opens to maintain/regain compliance?

Below are ten top actions for you to consider as part of your Legionella management:

1. Reviewing your Legionella risk assessment.
  - Is it still valid?
  - Have remedial actions and changes been documented?
  - This should be reviewed at each stage of re-occupation to capture any additional risks introduced.
2. Assessing your organisation's time frames for return to work and levels of occupancy against the demands on your water systems and services.
  - What further changes may be needed to reflect and manage these appropriately?
3. Reviewing your water management system to reflect any changes in activity and clearly document the additional control measures introduced/removed.
4. Checking how your planned preventative maintenance tasks been carried out (e.g. flushing, temperature checks, shower de-scaling, tank and plant inspections) and what remedial actions have been documented.
5. Whether any cold water tanks or water heaters were temporarily by-passed during lockdown and have these been re-commissioned and re-instated?
  - Have these items been cleaned and disinfected prior to re-introduction as required?
6. Confirming the availability/projected lead times of your water treatment company to complete any disinfections in line with your timescales for re-commissioning the building (i.e. domestic water systems/cooling towers).
7. Whether your hot water systems are set correctly to make sure that hot water is supplied within parameter at periods of higher demand, as occupants will be washing their hands more frequently?
8. If there have been any dead legs created on the water systems from lack of occupancy/temporary isolations?
  - Have these been flushed, or removed?
  - Coffee machines, water dispensers, dishwashers and ice machines may have been left as dead legs and will need cleaning prior to re-commission.
9. Reviewing and confirming your cleaning company's cleaning procedures (where applicable) to ensure water dispensers and kitchen taps are cleaned with cross-contamination minimised?
10. Whether an independent water audit of your premises could help not only reassure occupants that their systems and services are safe, but that the actions you have taken are suitable and sufficient and demonstrate your compliance.

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