THE WATER MANAGEMENT SOCIETY

GUIDANCE FOR SMALL BUSINESSES TO ENSURE WATER SAFETY WHEN RE-OPENING FOLLOWING COVID-19 LOCKDOWN



The Water Management Society
6 Sir Robert Peel Mill, Hoye Walk, Fazeley
Tamworth, Staffs B78 3QD
Call: 01827 289 558 Email: admin@wmsoc.org.uk

www.wmsoc.org.uk

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Many businesses have been closed for long periods of time and in many cases water systems and equipment which use or contain water will have had little if any use for many weeks. Stagnant water increases the likelihood of waterborne pathogens[1] such as *Legionella* to grow to levels which can cause infections. The risk is increased in systems which have no or little use resulting in warm water temperatures including in the incoming supply, cold water storage tanks and associated distribution systems and equipment. A rise in cold water temperatures above 20°C and cooling of hot water to less than 50°C increases the risk of growth of Legionella and other harmful bacteria. There is also the potential for chemical contamination leaching from the plumbing system materials which is of particular concern in older buildings.

If the business is located in rented property the landlord is responsible and accountable for the quality of water supplied at the outlets (taps, showers etc.). Where the building is leased the business owner or manager should identify who has this responsibility which should be stated in the contract, though it is usually not separately identified and forms part of the building maintenance. Where responsibility is shared or unclear, all reasonable efforts should be made to cooperate, however every employer has an overriding duty of care to ensure the health safety and welfare of employees and anyone else affected by the business, so it might be necessary to take action anyway and seek to recover costs afterwards. Where additional systems / water containing or using systems or equipment has been introduced by the business e.g. shower heads in hairdressers or nail baths, this responsibility lies with the business owner or manager.

Of primary concern is the colonisation and growth of Legionella but other bacteria may also pose a risk of infection, especially in some types of equipment such as hot tubs, whirlpool baths, foot and nail spas etc.

Step 1

A *Legionella* risk assessment and management plan is a legal requirement for all businesses and where there are five or more workers these must be written; whilst smaller businesses are not obliged to keep a written record, doing so can be helpful and also provides evidence that these essential steps were taken. The risk assessment and scheme should be updated to reflect the current water system risks with a plan for re-instating water systems and associated equipment safely and to record how staff, visitors and others will be protected from harm.

If you are unable to complete a risk assessment yourself, *Legionella* risk assessors subscribing to an external quality auditing scheme can be found at *https://www.legionellacontrol.org.uk/*.

Step 2

Use the asset register[2] to identify everything that uses, stores, or is attached to water systems including components of systems which need regular maintenance and which have had reduced use or have been shut down. For example (not inclusive): hot and cold water systems – showers, taps, toilets, thermostatic mixing valves, pumps, hair wash stations; evaporative cooling systems; hot tubs; whirlpool baths; water features such as decorative fountains; irrigation systems; misting devices; equipment such as dental chairs, nebulisers, foot baths, nail baths, jet washers.

If these have not been cleaned, drained and ideally disinfected beforehand they pose a significant risk of causing harm to health on restarting. If required, get help from the manufacturer, an experienced and competent water treatment advisor, public health or environmental health authority, especially for high risk, complex or critical systems such as evaporative cooling towers, spa pools or bathing or swimming pools.

Where systems and equipment have not been flushed or used on a regular basis during Covid-19 lockdown they will need draining and disinfecting[3] before use, and - in the case of high risk, complex, or critical systems - sampling to verify the disinfection has been effective. Samples should not be taken immediately following disinfection but at least 2 – 3 days later (otherwise a false negative result is more likely which would give a false sense of security).

Interpreting analysis results is not straightforward and specialist advice should be sought if there is any doubt, however HSE guidance should be followed for evaporative cooling tower systems[4], spa pools[5] and hot and cold systems[6]. PWTAG guidance[7] should be followed for bathing and swimming pools.

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[1] Bacteria which are naturally present in water and usually cause no harm to the general population but if allowed to grow can cause severe illness and sometimes death.

[2] This should include all systems that use, store, or are attached to water systems and includes components of systems which need regular maintenance e.g. pumps, thermostatic mixing valves etc. For further information see HSG 274 appendix 2.1.

[3] For specialist equipment check with the manufacturer for disinfection guidance to ensure that any disinfectant used will not be harmful to the materials.

[4] HSG274 part 1: Legionnaires' disease technical guidance: the control of legionella bacteria in evaporative cooling systems *(https://www.hse.gov.uk/pubns/priced/hsg274part1.pdf)*

[5] HSG282: The control of legionella and other infectious agents in spa-pool systems *(https://www.hse.gov.uk/pubns/priced/hsg282.pdf)*

[6] HSG 274 part 2: Legionnaires' disease technical guidance: the control of legionella bacteria in hot and cold water systems *(https://www.hse.gov.uk/pubns/priced/hsg274part2.pdf)*

[7] Swimming Pool Water: Treatment and quality standards for pools and spas *(https://www.pwtag.org/swimming-pool-water-book/)*

Other considerations
Ensure staff and visitors can wash their hands effectively to help prevent Covid-19 transmission.

Where water saving devices that limit the time water flows are fitted, ensure that there is at least 30 seconds for thorough hand washing.

Ensure soap dispensers are always topped up prior to the soap running out.

Ensure paper towels are replenished in time and that there is a suitably sized bin which is emptied and cleaned safely and frequently.

Table 1 examples of assets and action to take before re-opening:

Asset	Applicable hazards/	Example Remedial measures
Showerheads and hoses	*Legionella, Pseudomonas aeruginosa,* environmental *mycobacteria*	Replace showerheads and hoses or descale and disinfect
Thermostatic Mixing Valves (TMVs)	*Legionella, Pseudomonas aeruginosa,* Scalding	TMVs should be checked for temperature output Descale and disinfect TMVs
Toilets	*Legionella*	Legionella growth can occur within toilet cisterns to high numbers when not used. Add a disinfectant toilet block OR a tablespoon (15ml) of household bleach OR chlorine tablets to give approx. 50mg/L and leave for at least an hour before flushing with the lid down. **NEVER USE MORE THAN ONE CLEANING OR DISINFECTING PRODUCT AT A TIME AND ENSURE THOROUGH FLUSHING TO PREVENT ACCIDENTAL MIXING**
Bottled water dispensers	Spoilage (taint) organisms, *Pseudomonas aeruginosa*	Clean and disinfect unit, then replace bottled dispensers
Footbaths, nail baths[8]	*Legionella,* environmental *mycobacteria* fungi and yeast	Drain and disinfect consider using single use liners
Whirlpool baths	*Pseudomonas aeruginosa, Legionella*	Fill the bath with 50mg/L chlorine (e.g. from bleach or commercial sodium hypochlorite) and circulate water through the pipework for an hour.
Spa pools	*Legionella, Pseudomonas aeruginosa*	Recommission following guidance in HSG 282
Swimming pools	If temperature is above 20°C *Pseudomonas aeruginosa, Legionella*	Follow PWTAG guidance
Hot tubs	*Legionella, Pseudomona aeruginosa,* environmental *mycobacteria*	Follow PWTAG Hot tub for business guidance

Suggested additional information for those small shops with no risk assessment

Guidance on safe start-up of small water systems.

Example 1: Mains water which is heated by combi boiler feeding a local area (within 15m)

- Flush the cold water system by running all the outlets without causing splashing for five mins or longer if required for the water to cool to less than 20°C (cold rather than cool to the touch)

- Pasteurise the combi boiler and hot water system by running each outlet without causing splashing, reducing the flow to obtain water at more than 60°C (much too hot to bear for more than a moment on the hands) for five minutes.

Example 2: Mains water which is heated by small (less than 15 litre storage) water heaters (within 15m)

- Flush the cold water system by running all the outlets without causing splashing for five mins or longer if required for the water to cool to less than 20°C (cold rather than cool to the touch)

- Prevent anyone using the hot water system and pasteurise the water heaters, pipework and fittings by adjusting the hot water setting to maximum, waiting for the element to stop "singing" and running all outlets at a low flow rate until the hot water is exhausted.

- Reset the thermostat to supply water at 50 - 60°C (too hot to bear for more than a few moments on the hands).

[8] Check manufacturer's instructions

Example 3: Mains water which is heated by pressurised water heaters (within 15m). Pressurised water heaters can usually be identified by having a cylindrical steel vessel with a domed top and base attached to the cold feed pipe.

- Flush the cold water system by running all the outlets without causing splashing for five mins or longer if required for the water to cool to less than 20°C (cold rather than cool to the touch)

- Prevent anyone using the hot water system and pasteurise the water heater and hot water system by adjusting the hot water setting to its highest setting and running each outlet without causing splashing at more than 60°C (much too hot to bear for more than a moment on the hands) for five minutes.

- Reset the thermostat to supply water at 50 - 60°C (too hot to bear for more than a few moments on the hands).

Useful resources and further reading:

HSE
https://www.hse.gov.uk/news/legionella-risks-during-coronavirus-outbreak.htm

DWI
http://www.dwi.gov.uk/stakeholders/information-letters/2020/Advice%20Letter%20AL02-2020.pdf

CIEH
https://www.cieh.org/media/4208/legionella-guidance-covid-19.pdf

ESGLI
https://www.escmid.org/fileadmin/src/media/PDFs/3Research_Projects/ESGLI/COVId_buidling_water_system_guidance_27_3_20_v4_DS_pk.pdf

PWTAG
https://www.pwtag.org/reopening-pool-after-covid19-shutdown/

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