Guidance for the safe management of water systems during the COVID-19 outbreak

Reduced building occupancy the closure of buildings, may significantly increase the risk of legionella bacteria within the buildings’ water systems. This has the potential to cause an outbreak of Legionnaires’ disease.

We understand that there is a focus on controlling the spread of the Covid-19 virus however, this should not be at the detriment of managing the safety of your water systems. Even in this current climate, the law requires you to continue to manage risk, and this includes the risk from legionella bacteria within your water system(s).

Important water hygiene advice in the event of the closure / reduced occupancy of a building

It is not known how long the COVID-19 outbreak will continue. If buildings or water systems are isolated as a result, this significant change in use over a potentially prolonged period will increase the risks with regards to legionella.

Due to the changes in use, it can result in:

* The prolonged stagnation of a large volume of water throughout the water system.
* Stagnant water in the systems which will result in the formation of biofilms (a source of nutrients for legionella bacteria) within storage tanks and in pipework; and
* The temperature of standing / stagnant water will be at the temperature of the ambient surroundings, most likely between 20°C and 45°C.

All of the above provide ideal conditions for the growth of legionella bacteria. You are, therefore, advised to continue to provide access to your site by your chosen water treatment service provider, who can advise you on appropriate adaptations to your control scheme in response to the change in circumstances and increase in risk. You must address the issue of stagnation.

Flushing

The thorough flushing and the maintenance of the movement of water throughout hot and cold water systems (both mains and tank-fed cold water) is the most important control.

* Weekly flushing will not be sufficient. Ideally, there should be daily draw off from each outlet, however, it is appreciated that the practicality of this may depend on the number of outlets and the availability of labour. Our advice to you is to flush as frequently as possible and, as a minimum every 2/3 days.
* When flushing, there is a potential for the water drawn off to be contaminated with legionella bacteria. It is, therefore, essential that contact with spray from outlets being flushed is avoided and the outlets flushed in a manner to prevent the creation of aerosols. Please see the Saeker method statement on flushing which is available as a separate document in covid-19.saeker.com
* To facilitate the flushing, you are advised to start at the sentinel points and work back towards the source of the water, flushing each individual outlet. The sentinel points should be identified within your current legionella risk assessment report.

Hot water systems

* For hot water circulating systems, carry out regular checks of the returns pumps to ensure the hot water is being continually pumped round the systems.
* The flushing of hot water outlets on a circulating system is required to turn over the water from the branch from the circulating loop to the outlet, which on most occasions will be a short distance.
* For non-circulating hot water systems, the pipework back to the heat source requires thoroughly flushing

By-pass Systems

* By-pass systems to cold water storage tanks, water softeners, etc. are required to be thoroughly flushed on a least a weekly basis.
* To ensure water is drawn through the by-pass system on flushing, isolate the asset to which the by-pass serves, open the by-pass isolation valve(s) and open an outlet downstream of the asset.

Small mains fed cold water systems (including small retail outlets and coffee shops)

* Thorough weekly flushing is adequate for simple water systems e.g. mains cold water fed systems with no storage of hot and cold water.
* Where this is the case and there is no water being used (where there is no self-cleaning equipment etc), you may consider isolating the water supply at the stop valve between the flushing visits, to minimise the impact from leaks or burst pipes.

General

If possible, minimise the storage of water to a volume of less than one day’s water use. Your water treatment service provider will be able to advise you if this can be done safely.

The monitoring of hot and cold water temperatures should continue to ensure thermal gain in cold water and thermal loss in hot water are being controlled.

If controls are lost, for example the temperature of the hot and cold water is continually found to be outside the necessary limits

for the control of legionella bacteria, the HSE Technical Guidance (HSG274 Part 2) requires that legionella water samples are taken

on a weekly basis until the system is brought back under control.

Cleanliness

Maintain the cleanliness of the water system which will deny legionella bacteria the nutrients they require. For example:

* Check that the lids to the cold water storage tanks are in place and are close fitting to ensure contamination is not allowed to enter tanks.
* Maintain the cleanliness of the top surfaces to the tanks. The additional checks on the tanks will disturb any dust and debris, which will settle on the surface of the water in the tank when the lid is removed.
* Check the condition of each tank and, if there is significant sediment, biofilms etc, arrange for the tanks to be cleaned and disinfected by your water treatment service provider.
* Check the condition of all shower heads and tap outlets and should they have scale and / or other deposits, arrange for their clean and descale.

**Note**: If showers are not used, it may be appropriate to remove shower hoses and dismantle shower heads to facilitate flushing.

Dosing system

If your water system has a water treatment dosing system, discuss with your water treatment provider the option of increasing dosing levels, however, increased levels of disinfectants may have a detrimental impact on the system itself, for example corrosion of pipework.

Shutdown

If your site is still partially in use, the above controls must be maintained as a minimum, to keep the remaining occupants safe. If the decision is made to temporarily shut down (‘mothball’) your site and the above actions are not possible, it is recommended that you follow the guidance below:

* Do not drain down the water system or part of it, as moisture will remain within the system enabling biofilm to develop where there are pockets of water or high humidity. It will also help to avoid other problems associated with the drying out of the system, including failure of tank joints and corrosion in metal pipework.
* Lock off, place signage on doors / outlets to advise potential users that the system has been taken out of use.
* If possible, remove sources of heat and external thermal gain
* Have a plan in place for the recommissioning of the water system.

It is important that you maintain a record in your site logbook of all actions taken.

Recommissioning of Water Systems

If over this lockdown period a water system has been mothballed or partially mothballed, it is essential that any water system is not simply put straight back into use on lifting of the restrictions. You are advised to liaise with your water treatment service provider at the earliest opportunity in order to formulate a recommissioning plan to allow for the prompt, safe start-up of the water system and assurance to users that the system is safe.

The recommissioning will involve a process of cleaning and disinfection followed by appropriate sampling to determine that the system is safe, and legionella is being controlled, before being returned to use. Depending on the level of fouling that has built-up within the system during the ‘lock-down’ period, it will have an effect on the success of the disinfection. It may be necessary, therefore, to repeat the disinfection and sampling in order to confirm control.

Please be assured that Saeker is committed to providing you the necessary assistance to facilitate compliance and for the management of the legionella risks associated with your water system during this difficult time.