



Safe Water System Management During the Covid-19 Outbreak

During this very difficult time, you will have many decisions to make about the safeguarding and wellbeing of your staff and those on your premises, however it is extremely important that you consider the impact of closing your premises, in relation to safe water management and the potential risks involved.

Closing a property and leaving the water systems unmanaged and unchecked for even a short period of time creates a certain risk. The HSE's ACOP L8 & HSC274 requires water systems to be regularly inspected and flushed to prevent a build-up of both contaminants and microbiological activity, and with one of the major symptoms of the Coronavirus having a significant effect on the lungs, many of your returning staff and occupants could be even more susceptible to contracting Legionnaires' disease.

Hot and cold water systems in buildings that are empty or with under occupancy must address the issue of stagnation, and should consider the following actions:

a. If the building is still partially in use take additional measures to keep the remaining occupants safe:

- i. If possible, drop stored water levels in tanks to maintain <24 hours storage
- ii. Flush to simulate use - weekly flushing may not be sufficient
- iii. Monitor temperature to ensure thermal gain in cold water is controlled
- iv. If fitted, consider temporarily increasing levels of potable water treatment dosing - consider other consequences of this such as corrosion and make the decision on balance of benefit
- v. If controls are lost (temperature, biocide levels, etc.) the guidance in HSC274 is to sample for legionella weekly
- vi. Consider other short term measures to keep remaining occupants safe such as point of use filters at designated locations with other areas shut off

b. Buildings that are temporarily shut down (mothballed) should follow the guidance in HSC274 Part 2 paragraphs 2.50-2.52:

- i. Do not drain down pipework
- ii. If possible, remove sources of heat and external thermal gain
- iii. To prevent microbial growth, a flushing regime should be considered
- iv. Lock off, place signage on doors and otherwise advise potential users that the system has been taken out of use
- v. Have a plan in place for recommissioning the water system

For all of the work above there should be a task risk assessment in place to ensure operatives are working safely.



Recommissioning Water Systems

It is essential that when buildings reopen following the lifting of COVID-19 restrictions, that any water system is not simply put straight back into use. During the period of shutdown it would be sensible to formulate a recommissioning plan for each water system to allow safe start-up and assurance to users that it is safe.

Any plan for recommissioning buildings must take into account the safety of the operatives carrying out the work. It is foreseeable that the hazard present within water systems in this situation would be greater than normally expected. Reasonably practicable measures such as limiting aerosols, minimising exposure and use of PPE should be considered.

The minimum expectation for small, simple hot and cold water systems would be flushing the entire system through with fresh mains water prior to use, however this may not be sufficient where dead-legs, pressure vessels and other related assets are associated with the water system. Larger buildings, those with tanks, showers, calorifiers and more complex pipework the expectation is likely to be for more extensive flushing followed by cleaning and disinfection.

During flushing all valves should be operated in the fully open position so that any particulate matter can be flushed through. Of particular importance are float-operated or other restrictive valves which need to be manually opened to ensure clearing of particulates and prevent fouling of the valves.

Where a clearing velocity cannot be achieved, consideration should be given to removal of valves to enable an effective flush, or associated strainers and filters checked for blockages or contaminants.

Where cleaning and disinfection is carried out, it is very important to monitor the decrease in disinfectant level over the course of the contact time. Loss of more than 40% disinfectant concentration could indicate influence of biofilm and in those scenarios, other more comprehensive remedial measures would then apply.

Where buildings have been empty for some time and during warm weather, it is likely that some increase in bacteria levels and biofilm will occur. These water systems may require more than a simple disinfection at 50ppm of chlorine for an hour to be successful. Be prepared for the need to repeat some disinfections to achieve success.

In all cases where systems are being recommissioned it is sensible to have evidence to prove/reassure that the recommissioning process has been effective. Sampling to BS7592 should be considered for recommissioning plans to validate the effectiveness of the process. As per HSC274 part 2, samples should be taken 2-7 days following recommissioning and not on the day of disinfection. Follow up samples may need to be considered as part of the recommissioning plan.

While each individual water system is likely to need individual consideration, it will be helpful to be aware of the bigger picture with regard to demand on services. There will be an increased demand for flushing and disinfection, sampling and other system recommissioning work.

Be aware of this, make your customers and supply chain aware and manage expectations accordingly.



There is potential for multiple outbreaks of Legionnaires' disease following the COVID-19 outbreak if actions taken now are not carefully considered. I hope the attached bulletin has been useful, however if you have any questions or simply wish to discuss our response further please do not hesitate to contact either myself or your allocated account manager.

James Kelly

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