

# Advice for Legionella control during Covid 19 outbreak



## 1. Introduction

The coronavirus is placing new challenges on our duty of care to minimise the risks from Legionella in our water systems on-site. Further restrictions on movement of people made last night will lead to further reductions in building occupancy increasing the risk of colonisation by Legionella.

We have been advised by the LCA (Legionella control association) & the HSE that all employers still have a duty of care to manage the risks from Legionella. The LCA website states:

*“While controls in place may need to be adapted to changing circumstances, duty holders must still be able to demonstrate control of risk to a reasonably practicable level.”*

Loss of manpower due to social-distancing and self-isolation of staff could make this difficult. Our objective should be to deploy the resources we have in the best way to achieve the greatest reductions in the overall risk of Legionella becoming established in a building.

Below is a list of actions to be taken which will have the biggest impact in reducing risk in both hot & cold domestic systems and open evaporative cooling tower systems.

## 2. Domestic Hot & cold water systems

Buildings have already seen a significant decline in building occupancy and this is only likely to become worse. Water systems with dramatically reduced usage can quickly become hazardous if steps are not taken to mitigate this.

It is imperative that:

- Flushing regimes are implemented whilst still in even partial operation to keep them from stagnating.
- Where a flushing regime cannot be maintained, systems should be formally decommissioned and will need to be recommissioned before being brought back into use.

### Actions required to keep domestic water systems safe

1. Increased flushing regime & monitoring of turnover of water - Carry out building wide flushing of all domestic outlets on a weekly basis as a minimum. (2 minutes of flushing at each outlet on both hot & cold outlets)
2. Take steps to measure water turnover within the buildings water systems. Estimated water usage can be obtained by taking water meter readings or performing drop testing of tanks.
3. The above usage information should be used to establish the suitability of the current flushing regime.
4. Reduce volumes of stored water where possible or as indicated by point 2 above. i.e. Where there are tanks/calorifiers balanced together consider taking some offline.
5. Increased Legionella sampling - Legionella sampling should be considered to check the effectiveness of the above controls. Contact Dantek for further advice.

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6. Where water is known to be stagnating consider leaving water systems charged with a Hydrogen peroxide and silver biocide (Such as Sanosil) to inhibit microbial growth.
7. Systems which have been left without sufficient controls will need to be re-commissioned before being brought back into public use. Further guidance regarding re-commissioning is below.

## 3. Re-commissioning of domestic systems

### Short Term - less than 4 weeks

Buildings left unoccupied for less than 4 weeks without the above controls in place.

1. Inspect cold water storage tanks for internal condition and clean if necessary
2. Open isolation valves on hot water calorifiers.
3. Bring the hot water in the calorifiers up to 60°C.
4. Reinstate and check operation of secondary HWS circulation pumps.
5. Wait until flow & return temperature are at least the required 60°C & 50°C respectively.
6. Open isolation valves on cold water storage tanks and any others which have isolated as part of the shutdown.
7. Bring booster sets back online and check they are primed.
8. Flush all outlets within the building for a minimum of 5 minutes each outlet.
9. Flush from base of all calorifiers and any tank drains.
10. Switch over any duty/standby pumps on the HWS secondary system.
11. Take a representative number of samples and analyse for Legionella bacteria

### Long Term - More than 4 weeks

Buildings left unoccupied for over 4 weeks without the above controls in place.

1. Inspect cold water storage tanks for internal condition and clean if necessary
2. Flush inlet pipework to cold water storage tanks and check for operation of all float valves.
3. Open isolation valves on hot water calorifiers.
4. Reinstate and check operation of secondary HWS circulation pumps.
5. Open isolation valves on cold water storage tanks and any others which have been isolated as part of the shutdown.
6. Bring booster sets back online and check they are primed.
7. Carry out a chemical disinfection of the incoming mains, cold water storage tanks, calorifiers and all associated distribution pipework to all outlets. Dantek Disinfection procedures should be followed.
8. Switch over any duty/standby pumps on the HWS secondary system.
9. 3 days after the disinfection has been completed, take a representative number of samples and analyse for TVCC and Legionella.

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## 4. Actions to reduce the risks - Open Evaporative Cooling systems

Maintain daily and weekly checks.

- Maintain the daily and weekly checks as an absolute minimum to ensure the tower is operating safely. This includes checking the following:
  - Dosage and control equipment is on and functioning correctly.
  - Adequate chemical stocks are in place
  - Control of primary biocide is satisfactory
  - Control of primary Conductivity is satisfactory
  - Control of primary pH is satisfactory
  - Dipslide results remain satisfactory
  - Visual condition of the towers remains satisfactory.
- Dantek will support where possible the maintenance of weekly cooling tower testing. The cooling tower should be shut down if weekly testing can no longer be completed for any reason or if there is a problem that can't be solved immediately by the weekly testing.
- Consider increasing site stock of chemical to mitigate any future delivery issues.
- If plant is controlled automatically and there is a risk of reduced demand steps to maintain circulation at all time should be taken.

## 5. Recommissioning of open evaporative cooling towers shut down:

### Cooling towers shut down for less than 1 week

1. Visually inspect tower sumps, packing and drift and clean if required.
2. Reinstate dosage and control equipment and check operation of chemical dosage pumps.
3. Open any isolation valves and bring circulation pumps back online
4. Check water quality (pH, TDS, Bromine/Chlorine levels) and adjusted so that it is within satisfactory limits.
5. Once up and running take a dipslide and incubate.

### Cooling towers shut down for more than 1 week and less than 4 weeks

1. The below should be carried out with a water treatment Engineer in attendance.
2. Visually inspect tower sumps, packing and drift and clean if required.
3. Reinstate dosage and control equipment and check operation of chemical dosage pumps.
4. Check controller settings and operation.
5. Open any isolation valves and bring circulation pumps back online
6. Check water quality (pH, TDS, Bromine/Chlorine levels) and adjusted so that it is within satisfactory limits.
7. Once up and running take a dipslide and Legionella sample.

### Cooling towers shut down for more than 4 weeks

1. Carry out full cleaning and disinfection of cooling towers systems as per Dantek Method statement
2. Reinstate dosage and control equipment and check operation of chemical dosage pumps.
3. Open any isolation valves and bring circulation pumps back online

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4. Check water quality (pH, TDS, Bromine/Chlorine levels) and adjusted so that it is within satisfactory limits.
5. Once up and running take a dipslide and incubate.