

WATER SYSTEM HAZARDS ASSOCIATED WITH FOOD PREMISES SHUTDOWN

With little or no water use over a prolonged time, water is left lying in pipes, issues arising from this include: stagnant water and dead ends, depletion of disinfection substances (chlorine), and possible fluctuation of water temperatures; all these being favourable conditions for

- the growth of harmful bacteria;
- leaching out of chemicals from piping (lead and copper);
- growth of biofilms;
- of particular concern, but not the only one, is the growth of *Legionella* bacteria.

A food business operator will need to carry out a **Risk Assessment of the water system in their premises**, from the point of entry of the water supply to the premises, to all points of use within it. You can find guidance on how to do this in some of the reference documents listed at the end of this advice note. The risk assessment should review the water usage, or not, during the shutdown time, the potential for growth of harmful bacteria and any control measures needed to minimise that, and also to protect against any infection outbreak. All premises will have separate hot and cold water systems. Some depending on the size and nature of the building may have more. The risk assessment should be carried out by a competent person. Larger premises may have more than one hot and/or cold water system serving the site. The person carrying out the procedure will need to follow necessary safety precautions including the wearing of appropriate personal protective equipment.

To facilitate a risk assessment, food business operators need to compile available information on the design and operation of the water distribution system in their premises, starting with the nature and quality of water supplied into the premises up to the points of use* and any additional treatments they may have included for operational purposes, i.e. water softeners, carbon filters e.g. iron removal, etc.

**Points of use include taps, sinks, wash hand basins, dish washers, drinking water fountains, ice machines, coffee machines, showers etc.*

An accurate description of the water system is essential to identify and assess risks, and decide on appropriate control measures.

FOOD BUSINESS OPERATORS WILL NEED TO CONSIDER THE FOLLOWING:

- Has a risk assessment been carried out previously? If yes, have appropriate measures been followed?
- Has a flushing regime been put in place while the premises was closed?
- Is there a break tank/water storage tank serving the premises?
- Are there staff showering facilities? If yes, shower heads will need removal for descaling/cleaning
- Are thermostatic mixing valves in use? If yes, these will need cleaning.
- Are non-return valves or other safety devices in place?
- Is there air conditioning in the premises?
- Are there any carbon filters/ water softeners in place? If yes, these will require cleaning.
- What spray/aerosol generating devices are in use, e.g. Spray taps at dishwashers, dishwasher spray, steam generating component of coffee machines, air conditioning, water features, staff showering facilities, flushing of toilets. Awareness of these devices is important in relation to Legionellosis, as it is usually acquired through the respiratory tract by inhalation of aerosols contaminated with *Legionella* bacteria.
- Is the premises served by a public water supply or private water supply or does it have a dual supply?

- Private water supplies in many instances have Ultra Violet (UV) treatment in place. UV has no residual properties unlike chlorine treatment, where residual chlorine remains in place post treatment to protect against possible bacterial contamination/biofilm formation. Water systems using UV treatment only should ensure that they are periodically chemically cleaned to protect against biofilms/bacterial growth. These cannot be treated using UV alone.
- Are premises in a shopping centre or a multi-use building? Is there a water maintenance department in place?
- Is temperature monitoring being carried out on the premises: i.e. is hot water maintained above 60°C in storage and 50°C at outlets. Is cold water stored and circulated below 20°C?

Outcomes of risk assessments may simply require the flushing out of the water systems: i.e. running off stagnant water from all points of use, emptying storage tanks and replenishing the whole internal distribution system with fresh potable water. A chemical disinfection may have to be carried out on the hot and cold water systems, outlet fittings like shower heads, spray taps, tap inserts may require removal and cleaning/descaling.

It is recommended to maintain signed and management reviewed written records of all monitoring data and corrective/remedial actions carried out during this period

There are some useful **reference documents** available which Food Business Operators can avail of when considering any necessary actions.

You can find these on line at the following links:

1. [World Health Organisation Water Safety in Buildings 2011](#)
2. [National Guidelines on Legionnaires Disease 2009 HPSC](#)
3. [ESGLI Guidance for managing Legionella in building water systems during the COVID-19 pandemic](#)
4. [HSA Control of Legionella Bacteria during and After COVID 19 Pandemic](#)
5. [Gov.ie Return to Work Safely Protocol](#)
6. Of further interest maybe the following 2 videos:
 - 1) [Why does water quality change inside buildings,](#)
 - 2) [Why flush building water systems.](#)

Remember to follow HSE COVID-19 guidance and keep up to date with advice at www.hse.ie

SEE ALSO:

ADVICE NOTE 1: MANAGING WATER SYSTEMS IN HOTELS AND OTHER ACCOMMODATION SITES DURING AND AFTER PROLONGED SHUTDOWN

ADVICE NOTE 3: MANAGING RECREATIONAL WATER FACILITIES DURING AND AFTER PROLONGED SHUTDOWN