

HOW TO ENSURE THAT YOUR WATER IS SAFE BEFORE YOUR BUSINESS REOPENS

A PRACTICAL GUIDE FOR BUILDING OWNERS

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PRODUCED IN CONJUNCTION WITH



About Jacob Tompkins and The Water Retail Company

After qualifying as a civil engineer at University College London, Jacob went on to study hydrogeology at Imperial College London. He was an environmental adviser to the Nation Farmers' Union and a water resources and water efficiency specialist at Water UK, before founding Waterwise in 2005, which remains the only not-for-profit organisation for water efficiency in the UK.

He developed the UK's first formal Ofqual-approved water efficiency qualifications and is a visiting professor at Exeter University, currently developing an MSc course on water policy, science and management. In addition, Jacob is a WWF Associate specialising in developing water and wastewater systems and policies that enhance the environment. Jacob has sat on a number of European Commission working groups on issues ranging from drought planning to groundwater protection, and spent five years as the UK representative on the Eureau (pan-European water industry body) Drinking Water Commission, as well as chairing OFWAT's Resilience Committee.

About Ecoprod

Ecoprod is a family-owned and run company with many years' experience in the mechanical and building industries, focusing particularly on the washroom environment. It is the UK's leading supplier of waterless urinals, sensor taps and other water saving washroom technology. Ecoprod works with its clients to help them save energy, water and money as well as ensuring that their washrooms are hygienic, odour-free and safe.



INTRODUCTION

Hopefully over the next few weeks and months we will slowly see the reopening of hundreds of thousands of businesses. Clearly employers, staff and customers will still be vigilant and PPE and social distance will be with us for some time. But as buildings and sites reopen, we will face a new threat.

Many buildings were closed suddenly and have been left vacant for months. This means that stagnant water has been sitting in pipes and boilers and appliances. Tap water is chlorinated in the UK to prevent bacterial growth, but the effects of the chlorine will have worn off and biofilms and bacteria will be building up in water systems.

Water contamination can kill, especially when Legionella bacteria are present.

It is essential that businesses think about water quality and take action before they reopen buildings. Employers and landlords have a legal duty of care to staff and customers, and specific duties to prevent exposure to Legionella.

This note gives some guidance on the actions businesses should take before reopening, so that they can bounce back from lockdown with as few problems as possible.





BUSINESSES NEED TO THINK ABOUT WATER QUALITY BEFORE THEY REOPEN

The closure of hundreds of thousands of business premises for the Covid-19 lockdown and the tireless work of the health sector and other key workers will mean that in the next few weeks some businesses may be able to start reopening.

Most businesses have never experienced such a sudden and prolonged period of closure and many people will be keen to get back to work as quickly as possible. But clearly everyone will still be aware of the dangers. Businesses will implement staggered shifts and staff may wear masks and observe social distancing. There will also be a lot more handwashing.

But apart from the need to wash hands, will businesses think about their water supplies?

Large business may have consultancy support for water issues and are used to monitoring their water quality and flushing their systems, but many small businesses like cafes, shops, restaurants, bars, health clubs and hotels may not be aware of the risks, or sure of what to do.

HIDDEN RISK OF WATER CONTAMINATION

Mains tap water is chlorinated to inhibit bacterial growth. But in many buildings the water has been sitting in the pipes for weeks and after about three weeks the effects of chlorination reduce dramatically.

When water is not flowing in plumbing systems for a long period of time it becomes stagnated. Stagnant water may smell, have a tainted taste, and possibly a slight colouration. These are all signs of bacteria growth and/or pipe corrosion.

This stagnant water will be a breeding ground for bacteria, biofilm and other waterborne diseases, in particular Legionella.

Some of these diseases can be deadly and Legionella in particular can lead to pneumonia that has similar symptoms to Covid-19. Legionnaires' disease occurs when Legionella bacteria enters the lungs. A common vector is through aerosols from appliances like showerheads, taps, hot tubs, fountains, air conditioning units and water-cooling systems. Preliminary research from Chinese scientists suggests that 20% of Covid 19 patients in Qingdao also tested positive for Legionella.

In the UK we have some of the highest quality tap water in the world, so we hardly ever have to think about water contamination. Additionally, some UK water companies have increased chlorination to try and reduce contamination. But nonetheless it is essential that businesses think about water contamination before they re-open their premises.

STEPS TO TAKE BEFORE REOPENING

The actions to take depend on the type of building, its function, its water systems, and how long it has been closed for. But these are the minimum things every site must consider before reopening:

1. BE AWARE OF THE PROBLEM

- Water contamination can kill.
- All employers and landlords have a legal duty of care for their employees and tenants as well as a legal duty to control the risk of exposure to Legionella bacteria.
- A clear water management plan should be put in place before the building reopens, which highlights areas of risk and actions that should be taken.
- Check your insurance to see what actions you must take to ensure you are covered when the building reopens.

2. PROTECT YOUR STAFF

- Staff checking and cleaning water systems before reopening the building should wear appropriate PPE especially masks to prevent Legionella from entering the lungs.
- Staff should be warned of the danger and should be instructed to open all outlets slowly and gradually to prevent splashing and reduce the creation of aerosols which can carry the Legionella bacteria.
- Staff should be aware that the symptoms of Legionella are very similar to those for Covid-19





3. THINK ABOUT ALL THE WATER IN YOUR BUILDING

You must identify all the areas of water use in the building, some of which are easy to overlook:

- Boilers and hot water systems
- Internal mains water pipework
- Water coolers and coffee machines
- Fountains and water features
- Cooling towers
- Swimming pools, hot tubs and spas.
- Kettles – yes, you are going to boil the water but water sitting in a kettle for over month can allow biofilm to develop and it's worth wiping or swilling it out first
- Drains and traps
- Water reuse systems
- Safety equipment
- Hoses in yards and outside taps
- Sprinkler and irrigation equipment

There may be other water uses in your buildings so try and think of everything.



4. DEVELOP A WATER PLAN

You need to have a water plan with someone in charge and it needs to be reported to senior management and the company board. This could be a simple checklist detailing the areas for attention, what needs to be done, who is doing it, and then check it off once it's safe. Or it can involve an external contractor such as a Watersafe registered plumber and a full overhaul of the sites water systems.

Either way, the plan you put in place needs to be appropriate for the building. Once everything is checked and completed then you should communicate with your staff, so they know that preventative measures have been taken. In the current environment everyone is being more cautious, and this will reassure staff and also make them more likely to report anything untoward.





5. TAKE ACTION

- Twenty-four hours before reopening the building you should check and clean your water systems.
- You can use an external qualified expert to do this, who will also be able to do microbial sampling, or you can do it yourself as long as you have adequate PPE (gloves and a mask as a minimum).

Action: Flush your cold water systems

You must remove all the stagnant water from the pipes and flush out any bacterial build up. This means opening all cold water outlets including taps and showers. You should also flush all toilets and urinals (but in the case of waterless urinals you should follow the manufacturer's normal cleaning instructions).

Open the outlets gradually to high flow and try to avoid splashing. They should be left running for at least 10 minutes to purge the system of stagnant water, and possibly longer if they are in a remote location. You should remember to include outside taps too.

Action: Flush your hot water systems

- Check your water appliances and boilers and see if there is any advice from the manufacturer about what to do if an appliance is left unused for a long period.
- Turn on your boilers and water heaters to over 60 degrees C.
- Flush through all your hot water pipes so that water is coming out of taps and showers at at least 60 degrees (you should be able to see it steam), turn outlets on slowly and take care with scalding splash risks.

- Flush the pipes through until you are sure that there is no more stagnant water. This will take around 10 minutes and can be longer for fittings which are a long way from the boiler.

Action: Clean all beverage appliances (even if they are not attached to the mains)

- Empty and clean any ice machines (including those built into fridges) and dispose of all the ice.
- Clean and flush all drinking water fountains, water coolers, and coffee machines, including careful cleaning of any nozzles and spouts.
- If you have any water treatment systems with filters or drinking water devices with filters, even filter jugs, then you should replace or clean the filters in accordance with the manufacturer's advice. This applies to fridges with water filters too. Bacteria can grow on filters if left for long periods.
- Remember to empty any water out of your kettles and wipe the inside before reusing.

Action: Clean all water leisure facilities and water features

- Empty and clean any decorative water features such as fountains and, ideally, add a mild disinfectant if suitable (check the manufacturer's guidance if you can)
- Drain and clean spas, and hot tubs, and check swimming pools and drain and clean if necessary. Check manufacturer's guidance if you can.



Action: Don't forget other water systems!

- Check that cooling towers are clean and free of biofilm and, if necessary, disinfect them.
- Check fire sprinklers, eye-wash stations and safety showers using your normal procedures.
- Irrigation systems need to be checked using your normal seasonal procedure, but you should wear a mask and gloves as the normal dormant period for irrigation is over the winter, but this time there has been warmer weather which will mean higher bacterial growth so even if you are used to cleaning irrigation systems this time it may be more dangerous.
- Drains and traps should also be considered. These will need flushing through as well, and while most will be flushed as you run taps, it's worth pouring water down any floor drains to clear the pipes and ensure water traps are refilled to prevent odour and sewer gases entering the building.
- If you have air conditioning, then it is best to have this checked by a HVAC professional too.

6. LIAISE WITH YOUR WATER SUPPLIER, RETAILER AND REGULATORS

- Check your local water company website for any local pressure or quality issues. Remember, if your business is a long way from the trunk main then there may be stagnant water in the mains spur so

this may take longer to flush out. Also, if lots of business are flushing their systems simultaneously there will be a sudden increase in demand which may cause low pressure, so if you are a very large user then you should inform your retailer so they can speak to the wholesaler about potential demand profiles.

- Tell your retailer when you are likely to reopen so they can inform the wholesaler, register your site as occupied if it has been marked as vacant, and give you any additional advice relating to your supply.
- Sometimes sudden shutdowns and restarts of water systems and variations in pressure can cause pipe erosion, or leaks or dislodge particulates into the water supply these can cause water quality problems. Once you have flushed your systems, if you are still concerned about your water quality or appearance then contact your water retailer.
- If you are discharging large amounts of water to sewer and you have used flushing chemicals, or you think it may be contaminated then you must apply for a temporary trade effluent license - you or your contractor can do this through a water retailer.
- If you are disposing of water or ice to a surface water drain or to fields, you should be careful of contaminating any local water courses and if you are unsure you should contact your local environment agency.

USE THIS AS AN OPPORTUNITY TO CHECK YOUR WATER SYSTEMS

And finally, this may be a good opportunity to look at your water systems, check for leaks, and see where you can make savings or where appliances need upgrading.



Summary of key points

Don't reopen your business until you have checked water safety

Fire up your boiler to over 60 degrees C

Flush all your water systems

Check your water coolers, drinks machines etc

Wear PPE whilst flushing your systems

Liaise with your water retailer

Take care when disposing of wastewater

Use this as an opportunity to review your water systems



HOW WE CAN HELP YOU

For more information about how
Ecoprod and The Water Retail Company
can advise you on how to safely re-open
your buildings

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