

Coronavirus and Water System Recovery

Coronavirus restrictions - Water System Recovery

As a result of the restrictions put in place due to the coronavirus outbreak many buildings may have been temporarily closed or had reduced activity or occupancy. This includes domestic and non-domestic properties. Where a building of any type has been vacant or had significantly reduced usage for a significant period of time it is likely that the water supply has also been unused; we recommend you seek expert guidance to assess the potential risks before resuming water use. We have included some information below to help with this.

Recovering your supply

As a result of water not being used or having a low turnover, there is a risk that the water in your internal distribution system could become stagnated. Stagnation impacts the quality of the water and may pose a risk to health; particularly through absorption of materials from pipework or the proliferation of opportunistic water borne pathogens such as Legionella.

Legionella and other microorganisms can grow uncontrolled in water pipes and outlets where there is low or reduced flow, and uncontrolled temperature. This may affect the safety of the drinking water, but also water for other uses, including cleaning systems and ornamental water features. Legionella is a particular risk where aerosols may be formed and inhaled.

Other risks, especially to drinking water include the corrosion and leaching of metals from pipework and fittings, including lead from lead supply pipes or plumbing.

In order to protect the health of your visitors, customers or staff, it is important that you identify and mitigate these risks.

If water usage has been significantly reduced or unused for more than one week, we would recommend you take precautions to avoid water quality issues which could cause illness, or may be costly to fix at a later date. If you routinely shut your property for a significant length of time seasonally for other reasons you may already have a water safety plan that you can review and adapt for this situation.

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What is Legionella?

Legionellosis refers to diseases which are derived from legionella bacteria. Legionnaires' disease is the most extreme of these and is a potentially fatal type of pneumonia.

Legionella bacteria can develop and grow to dangerous levels in any water storage or distribution systems when those bacteria are in the air in the form of splashes, sprays and aerosols they can be inhaled and may cause serious illness.

What causes Legionella?

Growth factors for Legionella include;

Stagnation where water has been stored or re-circulated

Temperatures reaching between 20° and 45° in any part of the water supply or storage system

Lack of temperature controls meaning that cold water temperature reaches above 20° and hot water temperatures fall below 50°

Presence of nutrients in the system (biofilms, organic matter, sludge, rust)

A lack of maintenance including biocide concentrations (such as chlorine treatments) being reduced

Find a water Hygiene expert: <https://www.legionellacontrol.org.uk/>

See the Legionella code of practice: <https://www.hse.gov.uk/pubns/books/l8.htm>

Non-domestic properties

Flushing your water system

Consider how water normally flows through your building. Where the hot and cold water supplies are fed from, are there cold water tanks, hot water vessels, hot water circulation systems, point of use water heaters and outside taps.

Once you know how hot and cold is distributed through your building and what any tanks serve, it can be a good idea to flush outlets nearest those sources drawing fresh hot and cold water for a few minutes. Then close those outlets and systematically move through the building drawing fresh water as you go working towards the furthest points away from those hot and cold sources. It is probably better to work on one system at a time but this can get complicated. If you're not sure then seek expert advice. Ensure that any appliance are operated as you move through the building.

Mains Fed supplies - Supplies that are supplied direct from the water main under mains pressure are likely to have minimal stagnation as very little water is stored inside of the building.

In these cases we would recommend purging your system by opening each outlet for at least two minutes. You should note the water temperature dropping as water from the underground water main reaches the tap. When flushing outlets spray should be avoided to reduce Legionella risk.

It may be a good idea to start from the outlets nearest to the incoming supply or main internal stop tap, and work through the building to the furthest parts.

Tank/storage fed supplies – Where supplies of cold water are stored it may be necessary to drain down and disinfect the tank. This will stop the water inside of the tank (which could potentially be stagnated) from passing throughout the rest of your water system. We would recommend that you seek advice from a WaterSafe plumber who will be qualified to assist with this. Once the tank is clean and filled with fresh water, determine the flushing plan to draw water from outlets nearest that tank and work towards outlets furthest away.

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Find an approved plumber: <https://www.watersafe.org.uk/>

Hot water systems

Hot water systems are particularly associated with Legionella risk. We recommend taking specialist advice on testing requirements and how to disinfect the vessel and system. Following disinfection, hot water should then be drawn systematically through the system (nearest to furthest outlets), until fresh hot water is drawn through for at least a minute at each hot outlet.

Industrial Premises

Where water is used in part of your industrial process, you will need specialist advice tailored to your individual process needs.

If you are likely to have a significant increase in the amount of water which you will be using whilst carrying out these activities, **please contact us** to discuss the best times to do this without disrupting supplies to surrounding areas.

If you have an in-house Water Safety plan in place already this will provide a good starting point, identifying where the water supply comes into your building, how it is distributed and which your highest risk outlets are. A Water Safety plan should cover any outlet that uses water including

Drinking water supplied to:

- Plumbed in water dispensers
- Ice dispensers
- Hot drink vending machines
- Carbonated drinks dispensers
- Food preparations areas
- Any tap that may be used for drinking water e.g. bathroom taps

Domestic Hot & Cold water

- Hand basins
- Showers/Bathing facilities
- Dishwashers and dishwashing sinks
- Washing machines

Clinical and industrial processes

- Water baths
- Nebulisers
- Ultrasonic baths
- Dialysis

Any form of swimming pool, spa or hot tub

Water features

Additional support can be found regarding water safety in buildings and networks after a period of inactivity via the links below.

Water UK: <https://www.water.org.uk/publication/recovering-drinking-water-supplies-in-buildings-and-networks-after-prolonged-inactivity/>

Water Safety in Buildings: https://www.who.int/water_sanitation_health/publications/9789241548106/en/

Domestic properties

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Many properties used for domestic purposes may have been empty for longer than normal due to the coronavirus restrictions. This may include second/holiday homes, and rental properties. **Many businesses that routinely lease accommodation to others will already have a form of water safety plan, including an understanding of what to do when the property has been empty for some time.**

I've been away from my home

If you have been away from your home for a significant period of time we would recommend flushing the system to get rid of any stagnant water. You can do this by opening each cold water outlet for at least two minutes before closing and moving on to the next. It may be a good idea to work from the outlets nearest to the main internal stop tap and working through the house.

This should result in the water temperature dropping as water from the underground water main passing through the system to the tap.

When running water this should be done in a manner which avoids spraying or creating a water aerosol. An example of this would be to place a towel over the tap.

As a good hygiene practice it is recommended that after flushing, all outlets are then cleaned with a household cleaner or mild bleach solution.

If you need any assistance or advice with flushing or locating your main internal stop tap a WaterSafe plumber will be able to support you with this.

Find an approved plumber: <https://www.watersafe.org.uk/>

Domestic hot water sources

In a domestic hot water system the storage should be minimal. If your hot water system has been unused for a significant period of time it may be diligent to run each of the hot water outlets until fresh hot water comes through for at least a minute. Ensure that outlets are safely disinfected. If this has been empty for a prolonged period of time or you are concerned it may be beneficial to seek advice from a WaterSafe plumber.

Find an approved plumber: <https://www.watersafe.org.uk/>

FAQs

What can happen to my water system if it's been unused?

Water that has been held in your water storage tank or water pipes for longer than normal will start to deteriorate and become stagnant due to loss of chlorine residual, warming and interaction with the plumbing system materials. When stagnation occurs within the system it can allow bacteriological growth, most commonly this can lead to legionella colonisation but can also cause taste and odours, discolouration and an increase in the levels of dissolved metals. If this happens and you attempt to use the water system as normal then you could expose yourself and others to these risks

What types of storage systems and fittings pose a risk?

Any form of water storage or pipework could be at risk if water has become stagnant in the pipes. This includes water tanks, hot water storage vessels, hot water circulating systems, thermostatic mixer taps and valves, expansion vessels, showers, dead legs **What should I do if the water has an unusual taste, odour or appearance?**

If your water supply has been unused or significantly reduced we would advise flushing of the system before use. See 'Flushing your water system' for guidance on this.

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If the problem persists following flushing and disinfection, please contact us.

Where can I find advice on managing my water system and Legionella control?

BSEN 806-5 Specification for installations inside buildings conveying water for human consumption – operation and maintenance. This standard provides specific requirements for the operation and maintenance of installations inside buildings. Section 6 of this document provides details on operation, section 12 provides details on maintenance, Annex A provides details on frequency for inspection and maintenance and Annex B provides details on inspection and maintenance procedures.

BS 8558 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

Guidance on BSEN 806. This standard provides additional guidance on best practice and section 6 provides details on water quality checks for stored water.

See the Legionella code of practice here: <https://www.hse.gov.uk/pubns/books/l8.htm>

Water Safety in Buildings: https://www.who.int/water_sanitation_health/publications/9789241548106/en/

Should I have a Legionella risk assessment?

In any complex water system it is beneficial to have an expert identify all parts of a water system and then establish schemes of control to manage each of those parts. This doesn't usually take long and will ensure that you have considered everything. If you are uncertain, then we would recommend requesting Legionella Risk Assessment before you do anything with your system.

Find a water hygiene expert: <https://www.legionellacontrol.org.uk/>

What if I don't want to carry out works on the water system?

As an employer you will have a duty of care to your employees and anyone visiting the site. The management of your water system falls under the COSHH Regulations and Health Safety at Work Act. If risks are not suitably mitigated, it's likely you would be held responsible should someone fall ill as a result.

There wasn't time to drain down the system before leaving the premises. What do I need to do?

Many businesses are in this position due to the lockdown guidance have been unable to carry out routine treatment of their water systems. The important thing is that advice is followed before reinstating supplies to ensure that there are no risks to health. A WaterSafe plumber or a water hygiene expert should be able to support with draining down a storage tank.

Find a water hygiene expert: <https://www.legionellacontrol.org.uk/>

Find an approved plumber: <https://www.watersafe.org.uk/>

We already have a legionella certificate, do we need to do anything?

Although it is great that you have risk assessed the premises previously, if this is prior to the supply being unused it is unlikely to account for this situation. The legionella risk assessor is likely to already understand the design of your water system and will be able to support with a plan to control legionella risks.

How much will it cost if I need to have my water system recommissioned?

This varies depending on the size and layout of your building. Some designs can be more complex or have had partial use in areas. It is important that you seek expert advice which is tailored to your water system. Smaller buildings

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which only use water for domestic purposes may only require flushing, cleaning and descaling or outlets. Larger premises, those with storage facilities and recirculation systems will require a more complex recovery scheme.

We have been regularly maintaining the water system. Is anything else required?

This depends on the size of your water storage and if the water inside it has been completely turned over at least once a week. Also consider whether all hot and cold outlets have been flushed at least once a week. It may be beneficial to flush the hot and cold outlets one more time and ensure that they are descaled before assessing the water quality. If you do not have a Legionella risk assessment it would be beneficial to contact an assessor for advice.

Find a water hygiene expert: <https://www.legionellacontrol.org.uk/>

How do I know when the outlet is drawing fresh water?

Water should appear to be clear and without any odour. For cold water systems the temperature should drop within a degree or two of the incoming supply to the building or tank when fresh water is being drawn. For hot water systems, the outlets should run remaining above 50°C (55°C in healthcare settings) for at least a minute

Can someone help me to disinfect my water system?

There are a range of companies who can advise on the requirements tailored to your water system. Technical information can be obtained from BS8558 (2011) & BS8558 (2015).

Find a water hygiene expert: <https://www.legionellacontrol.org.uk/>

Find an approved plumber: <https://www.watersafe.org.uk/>

Helpful Links

Find a water hygiene expert: <https://www.legionellacontrol.org.uk/>

Legionella code of Practise: <https://www.hse.gov.uk/pubns/books/l8.htm>

The control of legionella bacteria in hot and cold water systems:
<https://www.hse.gov.uk/pubns/priced/hsg274part2.pdf>

Water Safety in Buildings: https://www.who.int/water_sanitation_health/publications/9789241548106/en/

Water Fittings Regulations: <https://www.wras.co.uk/consumers/>

Find an approved plumber: <https://www.watersafe.org.uk/>

Looking after water in your home: https://www.wras.co.uk/downloads/public_area/publications/public_in_page/water_in_the_home_2015.pdf/

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