Government of Western Australia
Department of Health

Building recommissioning – water supply and water related services

This factsheet is designed to assist building owners and operators to reopen or manage/maintain buildings, parts of buildings and or building clusters that have been fully or partially closed for more than 30 days.

Buildings or parts of buildings that have not been occupied for extended periods of time (more than 30 days) will have plumbing systems that may either be empty or become stagnant. When this occurs, it is possible for water that is in contact with plumbing for long periods of time to:

- dissolve metals through corrosion,
- change in colour and taste; and
- allow the growth of biofilms (slime) and other potentially harmful bacteria.

In addition:

- water traps in drainage systems such as toilet bowls, sinks and floor wastes may evaporate or drain dry, allowing sewage smells to enter the building,
- firefighting systems may not work due to corrosion and/or low water pressure,
- water based cooling systems may have dried out or stagnated; and
- decorative water features such as fountains and waterfalls may need to be emptied and cleaned.

Recommissioning plumbing systems in buildings

Cold water systems

Flush water through all taps, showers, toilets within the building:

- remove tap aerators, point-of-use filters and shower hoses where possible as these can trap sediment moved through flushing,
- open all cold-water outlets either within a (small) building or within a section of a large building at the same time,
- make sure that taps are turned on as close to the point of supply from the water mains entering the building first then move systematically through the building to the most distant outlet; and
- where used, holding tanks should be flushed and cleaned before returning to service.

Hot water systems

Flush water through all taps and showers within the building. However, for:

- ring main systems:
  - remove tap aerators, point-of-use filters and shower hoses,
  - for small systems, open all hot water outlets within the ring main loop at the same time; and
  - for large multi-level or multi building ring main systems, make sure that taps are turned on as close to the point of supply to each ring main leading from the supply ring main.
- Point of use or instantaneous water heater systems:
  - remove tap aerators, point-of-use filters and shower hoses; and
  - open all hot water outlets connected to the system at the same time.

Boiling water and chilled water systems

Follow manufacturers recommendations for reinstating any boil water systems and chilled water systems in the building.

Non-potable water

Flush water through all toilet/urinal cisterns and non-potable water outlets within the building. Where holding tanks are used to store non-potable water:

- drain all tanks to a waste water disposal system
- inspect tanks for debris and/or biofilm and clean if required

Internal plumbing

Run enough water through all outlets to replace all water inside building piping with fresh/new water. Measuring residual chlorine levels can be used to determine when fresh water has been drawn in from the mains.

Flushing within a building will depend on its size and plumbing layout. If possible obtain a plumbing diagram for the building to identify the key isolation valves and plumbing sections.

- If the building is large or multi-level, flush sections that are connected to the same distribution main
- Attention should be given to plumbing supplies to food preparation areas and drinking water access points

Water traps in drainage systems

All toilets, urinals, sinks and floor waste drains that are connected to a sewer should have a water seal to stop sewer smells entering the building.

- Ensure that all floor and sink drains have a water seal and if required pour water into the drain as required

Onsite wastewater disposal systems

If the building is not connected to a reticulated sewerage system, it is likely that all wastewater will be disposed onsite.

Secondary treatment and/or greywater treatment systems must be checked by a qualified service technician before the building's wastewater services are used.

Firefighting and emergency water systems

- Fire fighting water sprinkler systems should be tested
- Eye wash stations and safety showers should be cleaned and flushed

Water based cooling systems

Where water-based cooling systems have not been operated for longer than 30 days, Australian Standard AS 3666.3 requires:

- a physical check for scale, corrosion, bleed and make up water control, cleanliness of wet surfaces, sludge, foam, slime, rust, scale and dirt
- an assessment of the water quality management system (including water treatment), chemical analysis, conductivity/TDS, pH and other criteria associated with corrosion, scaling, fouling
- a heterotrophic colony count test and
- an examination for the presence of Legionella bacteria.

Decontamination procedures are also outlined in Australian Standard AS/NZS 3666.3 Appendix C.

Decorative water features

Decorative water features such as fountains, waterfalls and ponds should be;

- inspected for any evidence of slime or biofilm on surfaces and mosquito breeding, and
- if required, emptied, cleaned and refilled with water that is treated to prevent the growth of biofilms.

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