



PUBLIC AND ENVIRONMENTAL HEALTH COUNCIL

SA HEALTH

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CIRCULAR TO LOCAL COUNCILS

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RESPONSES TO LEGIONELLA DETECTION IN WARM WATER AND COOLING WATER SYSTEMS

The detection of Legionella in a cooling water or warm water system indicates a potential failure of the risk management regimes and the presence of a serious risk to the health of people exposed to aerosols generated by the system. The known exposure of people (particularly susceptible individuals) to aerosolised water containing Legionella must therefore be avoided in order to protect public health and prevent serious disease.

The purpose of this circular is to assist local authorities to meet their obligations to ensure that owners of warm and cooling water systems take appropriate action in responding to the detection of Legionella.

DETECTION OF LEGIONELLA

The Public and Environmental Health (Legionella) Regulations 2008 (the Legionella Regulations) requires system owners to notify their local authority within 24 hours of the receipt of a report of Legionella detection at notifiable levels in a water sample taken from a warm water system (≥ 10 cfu/mL) or from a cooling water system (≥ 1000 cfu/mL).

The local authority must in turn notify SA Health of any such notification within 24 hours. The purpose of this is to enable SA Health to assess notifications for potential sources of disease when investigating reported cases of Legionellosis.

As SA Health has no enforcement powers under the Legionella Regulations with respect to systems registered with local authorities, upon the receipt of a notification the responsibility for ensuring that appropriate action is taken to mitigate associated public health risks rests with the local authority.

MONITORING AND RESPONDING TO NOTIFICATIONS OF LEGIONELLA DETECTION

The Guidelines for the Control of Legionella in Manufactured Water Systems in South Australia (the Guidelines) and a December 2009 circular to local authorities from the Public and Environmental Health Council specify that systems which are known to be colonised with notifiable levels of Legionella should not be allowed to continue operating while the required remedial/response actions (including a decontamination) are pending. Local authorities should ensure that prescribed decontamination procedures are followed unless an alternate method has been approved by the Minister, noting that the prescribed decontamination method for cooling water systems requires shut down and draining of the entire system.

The response required by system owners upon receipt of a report of Legionella detection is detailed in schedule 4 of the Guidelines. It is particularly important that the local authority confirms that systems have been immediately shut down or isolated to prevent human aerosol exposure when a report (verbal or written) of notifiable Legionella detection is received by a system owner. Notifications should be provided to SA Health using the current form completed in full, within 24 hours, along with a copy of the official laboratory certificate of analysis. Care should be taken to ensure system owners have completed notification forms in full.

Notification forms can be downloaded from the following web page:
<http://www.dh.sa.gov.au/pehs/legionella-regulations-guidelines.htm>

Local authorities should thoroughly scrutinise all notifications upon receipt as a matter of priority and ensure that appropriate public health protection responses have been carried out. Local authorities should maintain a register of all notifications which should be regularly assessed to identify problematic systems subject to repeated detections.

Following the receipt of a notification and scrutiny/further investigation, the local authority should assess the risk and determine an appropriate response.

Local authorities are responsible not only for ensuring that systems have been immediately isolated, shut down and decontaminated, but also for ensuring that system owners undertake requisite investigations and implementation of corrective actions as necessary to ensure the control of Legionella and compliance with the Legionella Regulations.

In addition to ensuring adherence with schedule 4 of the Guidelines, the local authority may in some circumstances, as a reasonable public health protection measure, determine that the system or its management presents an unacceptable public health risk and that the owner should be requested or ordered to shut down the system until such time that the system owner can demonstrate that the system is safe to recommission.

In determining an appropriate response to Legionella detection in systems with a history of ongoing Legionella colonisation and/or poor compliance, consideration should be given to:

- The vulnerability of exposed populations
- The system's compliance history (including time passed since most recent assessment)
- The presence and adequacy of microbiological sampling regimes
- The system's previous Legionella notification history
- The ability or otherwise of the system owner to determine the cause of and resolve ongoing issues
- The presence and adequacy of validated risk management plans, procedures and associated records
- The presence and adequacy of system monitoring regimes and associated corrective actions
- The documentation and efficacy of previous system decontaminations
- The quality and compliance of system plans, records and manuals
- Local factors (e.g. recent system modifications, environmental parameters or changes in system ownership/responsible person etc.)
- Conducting a full inspection of the system including further water sampling (with costs recovered from the system owner)

If the system has been most recently inspected by an independent inspector, the independent inspection report should be thoroughly scrutinised and if there are any questions as to the quality or content of the report, the local authority should consider conducting a thorough assessment of the system.

Risk management plans and procedures

When systems have a history of ongoing Legionella colonisation and/or poor compliance, the system owner should be encouraged to conduct a risk assessment and design and implement a system specific risk management plan.

Risk management plans should detail:

- Identified risk factors to be eliminated – including detailed actions and time frames
- Identified risk factors to be monitored and managed
- Target values for the identified risk factors to be monitored and managed
- Procedures for the assessment, measurement and recording of monitored risk factors (including detailed descriptions of methods, locations and frequencies)
- Responses to be implemented within specified timeframes when monitored risk factor target values are not met

Some risk factors which should be considered for assessment, remediation, monitoring, control and validation are:

- Temperatures
- Flow rates
- Usage and stagnation
- Dead legs and obsolete pipe work
- Heat transfer between hot/warm and cold water pipes
- Microbial and chemical sampling programs and verification
- Anti microbial and anti corrosion systems, programs and measures
- System cleanliness
- Physical and mechanical factors
- Backflow prevention

Risk management plans should be audited, validated and reviewed on an ongoing basis by the system owner.

Further information on the assessment of warm water and cooling water system risk factors and the development of target values, verification procedures and responses can be found in the following documents:

The Guidelines for the Control of Legionella in Manufactured Water Systems in South Australia

<http://www.dh.sa.gov.au/pehs/PDF-files/legionella-guidelines-2008.pdf>

Legionella and the prevention of legionellosis – World Health Organization

http://www.who.int/water_sanitation_health/emerging/legionella.pdf

Controlling Legionella in warm water systems 2010 – Victorian Department of Health

http://www.health.vic.gov.au/environment/downloads/controlling_legionella.pdf

Water safety in buildings – World Health Organization

http://whqlibdoc.who.int/publications/2011/9789241548106_eng.pdf

If you require further information, please contact Health Protection Programs, SA Health, on (08) 8226 7100.

Yours sincerely



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