

Safe access to cooling towers for inspection, cleaning, and maintenance

This fact sheet provides the owners and operators of cooling towers with information on their work health and safety (WHS) responsibilities whilst achieving and demonstrating compliance with the South Australian Public Health (Legionella) Regulations 2013 (the Legionella Regulations).

The Legionella Regulations

The Legionella Regulations aim to reduce the incidence of potentially fatal community acquired legionellosis (Legionnaires' disease) through mandatory risk management and preventative maintenance of cooling water systems incorporating cooling towers and evaporative condensers.



Inspections, maintenance, and cleaning

The Legionella Regulations require system owners to conduct monthly inspections of cooling water systems and ensure periodic maintenance is performed as prescribed.

Cooling water systems must also undergo annual compliance inspections to ensure that they meet all regulatory requirements.

Environmental health officers from the relevant authority (e.g., the local council) must ensure all systems are inspected at least annually. They may inspect cooling water systems at any time in relation to disease investigations, reports of non-compliance, *Legionella* bacteria detection or complaints.

Access to key components

Safe and ready access to key components of cooling towers (such as basins, fill, fans, drift eliminators, and water distribution channels) is crucial in ensuring and demonstrating compliance with the Legionella Regulations.

Tower access and safety risks

Many cooling towers are situated in precarious locations, such as on roof tops. In addition, some key components requiring regular inspection and maintenance, including water distribution systems, drift eliminators and fans, are often located on top of cooling towers.

If safe access to all parts of a system is not provided, maintenance workers and inspectors cannot conduct their required duties without being exposed to unacceptable safety risks.

The primary risk is falls from heights. However, in performing their work, maintenance workers and inspectors can be exposed to other risks including:

- > confined spaces, slips and trips.
- > exposure to chemicals, electricity, and potentially harmful microorganisms such as *Legionella*.

Duty holder responsibilities

The South Australian *Work Health and Safety Act 2012* (the WHS Act) identifies the duty holders responsible for the elimination, or if this is not reasonably practicable, the minimisation of risks to the health and safety of any person associated with the manufacture, installation, operation, maintenance, inspection or testing of cooling towers. These are summarised as follows:

Designers and manufacturers must review the design and eliminate or, where this is not reasonably practicable, minimise risks to health and safety to any person associated with the plant arising from the design.

Building owners must provide a means of safe access and egress to the plant. Typically, this is by means of a range of fixed stairways, ladders and / or walkways. They must provide relevant health and safety information and instruction for anyone involved in the operation, maintenance, testing or cleaning of the plant.

Employers of persons responsible for the operation, maintenance, cleaning, inspection or testing of cooling towers must ensure the health and safety of those involved. They must provide workers information, instruction, training, and safe work procedures to minimise risks associated with their tasks.

Action by the relevant authorities

Where safe access is not provided or safe work procedures are not implemented, the relevant authority may take enforcement action as deemed necessary in the circumstances. This may include the forced

shut-down of the system until safe access and safe work procedures are provided by the system owner.

If the relevant authority suspects that a duty holder is not meeting their WHS responsibilities, they may report their concerns to SafeWork SA for further investigation.

Upon receipt of a report, SafeWork SA would investigate. They may prohibit workers from carrying out any activities until a safe means of access is provided and safe work procedures for all relevant activities are in place.

Should further investigations confirm wilful and ongoing non-compliance that exposes workers to significant risks to their health and safety, SafeWork SA may consider options for further legal action.

Contacts

Health Protection Programs, SA Health

Email:

HealthProtectionPrograms@sa.gov.au

SafeWork SA

Level 4, 33 Richmond Road,
Keswick SA 5035
GPO Box 465, Adelaide, SA 5001
Help Centre
Tel: 1300 365 255
Email: help@safework.sa.gov.au
Web: www.safework.sa.gov.au

Regional offices are located at Berri, Mount Gambier, Port Lincoln, Port Pirie, and Whyalla.

For more information

Health Protection Programs
SA Health
PO Box 6
RUNDLE MALL SA 5000
Email: HealthProtectionPrograms@sa.gov.au

www.sahealth.sa.gov.au



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