



Cooling towers

What is the issue?

The potential health effects of the design, installation and maintenance of cooling towers.

Why is it an issue?

Cooling towers are an effective way to cool milk before storage, but can generate harmful bacteria if not properly used and maintained. It is also possible for people to fall while climbing cooling towers during maintenance.

What are the consequences of ignoring it?

Fan-forced cooling towers with recirculated water can become a breeding ground for a range of bacteria, including Legionella, the cause of Legionnaires' disease. This disease can be fatal, particularly for people who are susceptible, such as the elderly, the ill or those with a low immune system. The hazard is caused if bacteria are released in droplets by the fan.

If someone falls while climbing a cooling tower, they may be seriously injured or killed.

How safe is your dairy now?

If your cooling tower uses a fan and has recirculating water, there may be a risk of contamination with Legionella bacteria, unless you already have a risk management plan in place.

What can be done right now?

Check with the Department of Human Services to identify the type of cooling tower you use. If it uses a fan-forced recirculation water system, ensure it is registered and that a Risk Management Plan is in place.

This should be backed by a monitoring and maintenance program, including an effective cleaning and disinfection procedure. The document, *Risk Management Plan Template: Dairy Cooling Tower Systems* (see *Further Information*), will be able to help you design and record this program.

Other safety steps that might be followed for your current cooling tower include:

- redirecting fan exhausts so that airborne contaminants are directed away from the work area;
- protecting the tank from direct sunlight;
- ensuring animals and debris cannot get into the water storage;
- stopping debris from being flushed into the water storage tank during cleaning;



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- keeping the water temperature in the storage tank below 20°C, which is when it becomes a breeding ground for bacteria;
- making sure the sump can be completely drained;
- always using a respirator and wearing the appropriate protective equipment, including aprons, rubber boots, gloves and even goggles, when cleaning the cooling tower;
- providing fall protection, such as safety harnesses, for people cleaning or climbing cooling towers; and
- keeping at-risk people, such as older people, the ill and those with a low immunity away from the tower.

What are the next steps?

If you don't already have an effective monitoring and maintenance program for your cooling tower in place, it is essential that you develop one. It should be supported by a regular risk identification process and a clear risk management plan.

Once you have a cleaning and disinfection procedure in place, it is essential that all employees know about and follow it.

What you should be considering longer term

If you are buying a new cooling system, try to choose one that comes with a long-term inspection and maintenance program from the supplier. It will not remove your occupational health and safety responsibilities, but can ensure the system is maintained properly and may remove the risks involved in you or your employees working at heights.

The tower should be constructed from corrosion-free material and designed for easy cleaning. That means no dead-end piping where stagnant water might collect and encourage the build up of bacteria and sludge.

Your new tower should also be located away from direct sunlight, and the areas where people work, live and gather, including walkways.

What actions are not optional

There is a legal requirement under the *Building (Legionella) Act 2000* that you carry out a regular risk identification process and establish a clear risk management plan for your cooling tower.

Where to go for more information

Identification, registration and risk management plans specifically for dairy farms:

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Victorian Department of Human Services Legionella Risk Management Program – Information for dairy farms Legionella newsletter	 www.health.vic.gov.au www.health.vic.gov.au
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These regulations also require you to provide sufficient information, instruction, training and supervision for your employees to work in a safe and healthy manner.