

Building Practice Note CT-01: Cooling Towers

This Practice Note provides guidance on the regulatory requirements for cooling towers in accordance with the Building Act 1993 (the Act), Building Regulations 2018 (the Regulations) and National Construction Code 2019 (NCC).

The context below provides guidance on:

- Regulatory requirements for cooling tower systems
- Relevant building surveyor's responsibilities
- Landowner's responsibilities
- Maintenance and testing of cooling tower systems

Abbreviations & Definitions

The abbreviations and definitions set out below are for guidance only. They are not intended to vary those set out in the Building Act 1993 (the Act), Building Regulations 2018 (the Regulations) or National Construction Code 2019 (NCC).

- **Act** – Building Act 1993
- **ESM** – Essential Safety Measure
- **NCC** – National Construction Code 2019
- **RBS** – Relevant Building Surveyor
- **Regulations** – Building Regulations 2018
- **RMP** – Risk Management Plan

Regulatory requirements for cooling tower systems

Cooling tower systems are governed by the Public Health and Wellbeing Act 2008 and the Public Health and Wellbeing Regulations 2019.

However, the RBS still has responsibilities relating to cooling tower systems when issuing building and occupancy permits and when determining conditions for the maintenance of essential safety measures (ESMs) under the Act and the Regulations.

Furthermore, it should be noted that the Public Health legislation applies not only to cooling tower systems that form part of 'building work', but all cooling tower systems including, those used for industrial processes, refrigeration and farming purposes.

Relevant building surveyor's responsibilities

Building Permits

When evaluating an application for a building permit, the RBS assesses plans and documentation for compliance with the NCC.

The NCC Volume One Part F4, Clause F4.5 requires a mechanical ventilation or air-conditioning system to comply with AS/NZS 3666.1 and AS 1668.2, where installed in lieu of natural ventilation complying with Clause F4.6.

The NCC Volume One Part F2, Clause F2.7 also requires hot water, warm water and cooling water systems to be installed in a building in accordance with AS/NZS 3666.1. This does not apply to a sole occupancy unit in a Class 2 or 3 building or Class 4 part of a building.

Where a cooling tower system forms part of the mechanical ventilation system or air-conditioning system, it is necessary to specifically check the location of the cooling tower in relation to air intakes, air exhausts and drift control measures, in accordance with AS/NZS 3666.1.

Warm water systems should also be checked for compliance with AS/NZS 3666.1. Alternatively, the applicant may choose to provide a certificate of compliance for proposed building work from a suitably qualified building practitioner in relation to the system.

It is important that compliance is verified at the building permit application stage, as the RBS may not be able to subsequently issue a valid occupancy permit.

Occupancy Permits

When issuing the occupancy permit, Part 15, regulation 194 of the Regulations requires the RBS to specify all ESMs, their level of performance and the frequency and type of inspection, testing and maintenance in relation to a building. This includes cooling tower systems as specified in Part 12 of Schedule 8 of the Regulations.

However, the maintenance and testing requirements of cooling tower systems are set out in and administered under the Public Health and Wellbeing Regulations 2015.

Mechanical ventilation or air-conditioning systems required by Clause F4.5(b) of NCC Volume One and incorporating a cooling tower system would need to be commissioned and in operation before the RBS issues an occupancy permit.

It is suggested that the RBS advise the owner of their responsibilities in a time frame that will allow commissioning of the system at an appropriate time relative to an application for an occupancy permit.

Section 44 of the Act precludes an RBS from issuing an occupancy permit if, amongst other things, a compliance certificate required by section 221ZH has not been sighted. If a non-complying system is approved and installed, then a valid plumber's compliance certificate cannot be issued. An occupancy permit issued based on sighting an invalid compliance certificate would have no force or effect.

Landowner's responsibilities

All water-cooling systems in operation in Victoria must be registered with the Department of Health. It is the responsibility of the landowner (or agent of the landowner or owner of the cooling tower system) to ensure the cooling tower system is registered prior to commissioning or testing.

In addition to registering a cooling tower system, the owner is also required (under the Public Health and Wellbeing Act 2008) to ensure that a risk management plan (RMP) is prepared and exists in respect of the cooling tower system anytime it is in operation.

The Department of Health has powers of prosecution under the Public Health and Wellbeing Act 2008 concerning all offences that relate to Legionella controls, including the failure to register a cooling tower system, not having an RMP prepared reviewed or audited.

Officers of the Department of Health are authorised to take enforcement action and have powers of entry to investigate potential contraventions.

Maintenance and testing of cooling tower systems

The Public Health and Wellbeing Regulations 2019 sets out the maintenance and testing requirements for cooling tower systems.

These regulations place obligations to maintain and test cooling tower systems on the responsible person who is defined under the Public Health and Wellbeing Regulations 2019 as the person who owns, manages or controls a cooling tower system.

The maintenance and testing requirements in these regulations supersedes previous requirements for maintenance and testing in accordance with AS/NZS 3666.2.

Related Documentation

- Building Act 1993
- Building Regulations 2018
- National Construction Code 2019
- Public Health and Wellbeing Act 2008
- Public Health and Wellbeing Regulations 2019
- AS 3666.1 Air-handling and water systems of buildings – Microbial control (Design, installation and commissioning)
- AS 3666.2 Air-handling and water systems of buildings – Microbial control (Operations and maintenance)

Contact Us

If you have a technical enquiry, please email technicalenquiry@vba.vic.gov.au or call 1300 815 127.

Victorian Building Authority

Goods Shed North
733 Bourke Street
Docklands VIC 3008

www.vba.vic.gov.au

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