

BACTERIAL TESTING OF COOLING TOWERS STANDARD

This standard applies to all buildings owned and/or under the control of Monash University within Australia. Instances whereby buildings fall outside the scope of this standard should be referred to the Monash Health, Safety & Wellbeing team (HS&W) for consideration.

This standard sets out the requirements for the treatment and notification of Legionella bacteria and elevated bacterial levels in cooling tower water and confirmed cases of Legionnaires disease at Monash University.

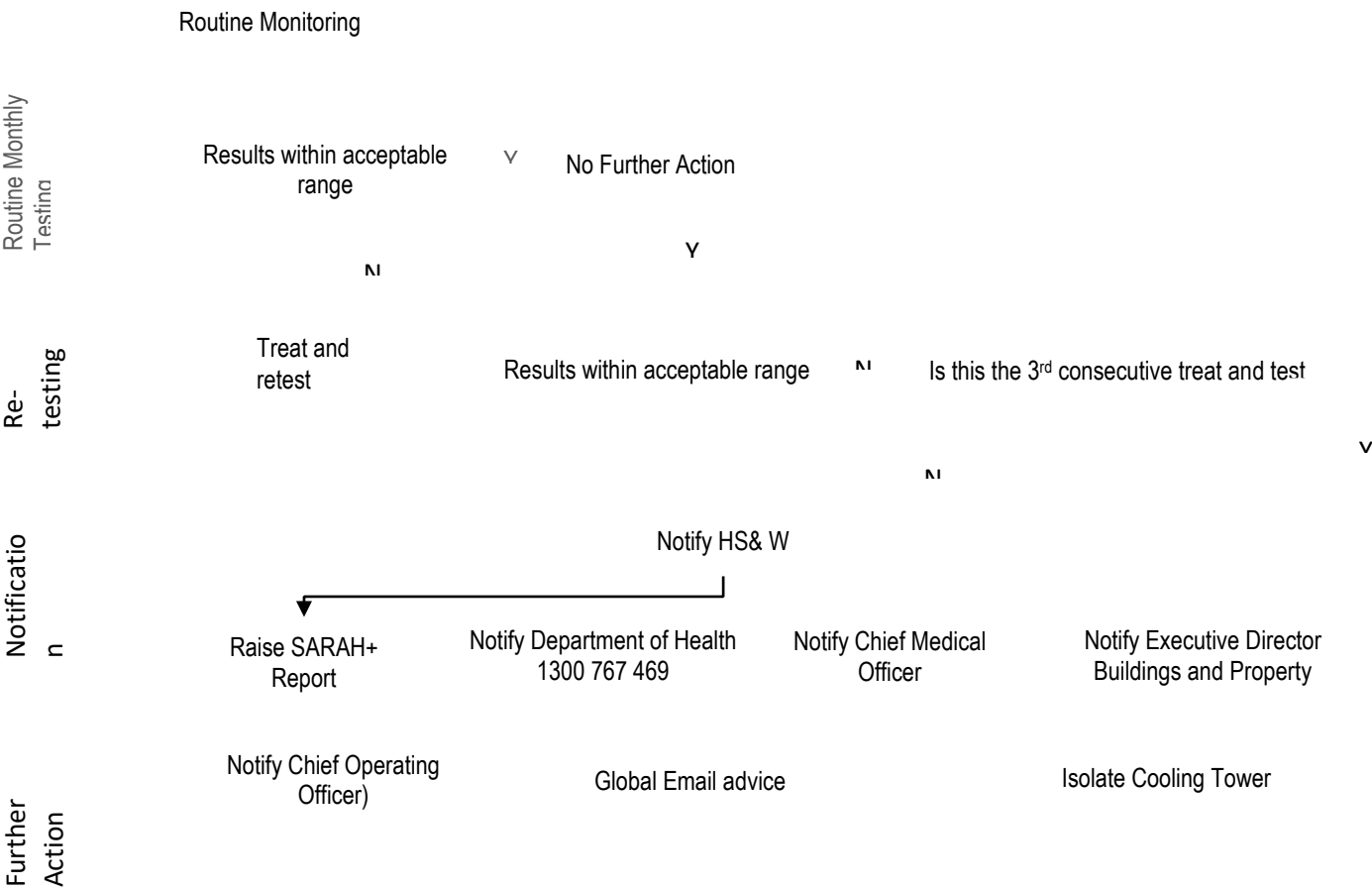
1. [Abbreviations](#)

CFU/mL	Colony forming unit per millilitre of sample
B&P	Buildings and Property Division
HSW	Health, Safety and Wellbeing
HS&W	Monash Occupational Health & Safety team, led by the Director, Health Safety & Wellbeing
TBC/HCC	Total bacteria count/heterotrophic colony count

2. Notification Procedures

2.1 Monitoring and actions process for Bacteria/Legionella Testing of Cooling Tower Water

Cooling Tower Testing and Notification Procedure





2.2 Confirmed Case(s) of Legionnaires Disease

Notification Procedure in Confirmed Cases(s) of Legionnaires Disease

Notification Confirmed Case	Monash University Notified of Confirmed Cases(s)	Chief Medical Officer						
Internal Notification	Director, Health Safety & Wellbeing	Chief Operating Officer		Global Email Advice				
Notification Within affected area	Dean or Divisional Director	Occupational Health Nurse Consultant (HS&W)	Area HSW Consultant/Advisor	Executive Director Buildings and Property				
			Area Safety Officer	Area HSR	Relevant B&P Staff	Contractors		
Testing	Undertake immediate testing of all suspect towers. Reporting in accordance with Cooling Tower Testing and Notification Procedures in 2.1.							

3. Responsibility for Implementation

3.1 A comprehensive list of HSW responsibilities is provided in the [HSW Roles, Responsibilities Standard](#). A summary of the specific responsibilities with respect to bacterial testing of cooling towers is provided below.

3.1.1 B&P staff must:

- Manage the testing of HCC in the cooling tower water in order to detect the levels of Legionella species and HCC in accordance with the Public Health and Wellbeing Regulations 2019;
- Notify Health, Safety & Wellbeing (HS&W) if:
 - Any detection of Legionella species above 1000 CFU/mL, or
 - 3 consecutive detections of Legionella species from a Cooling Tower System; or
 - 3 consecutive elevated HCC (>200,000CFU/mL) are detected from the same Cooling Tower System);
- Advise HS&W of the need to re-test cooling tower/s water following notification from the Department of Health of confirmed case(s) of Legionnaires disease.

3.1.2 Health, Safety & Wellbeing (HS&W) must:

- When **notified by B&P** staff of Legionella detection and/or elevated HCC with results outside of the acceptable range in cooling tower water, communicate with all relevant parties within the University as detailed in section 2;
- When **notified by the Department of Health** of confirmed case(s) of Legionnaires disease, communicate with all relevant parties within the University as detailed in section 2.
- Publish Cooling Tower Summary of Results on [HS&W webpage](#).

4. Records

For HSW Records document retention please refer to the University's: [Information Governance and Recordkeeping Procedure](#)

DEFINITIONS

Key word	Definition
Total Bacteria Count/Heterotrophic Colony Count	Heterotrophic colony count is an estimate of the number of viable units of bacteria per millilitre of water made using the pour plate, spread plate or membrane filter test. It is used as an indicator of water quality in cooling water systems. HCC is also known as total bacteria count (TBC), total plate count or viable bacteria count test. It is reported as the number of colony forming units per millilitre of sample (CFU/mL). For the remainder of this Standard, bacteria levels will be referred to as HCC.
Cooling Tower System	A cooling tower, or a number of interconnected cooling towers that use the same recirculating water.

GOVERNANCE

Parent policy	HS&W Policy
Supporting documents	Monash University HSW Documents Legionella and cooling towers HSW Roles and Responsibilities Standard
Supporting schedules	N/A
Associated documents	Australian and International Standards • ISO 45001:2018 Occupational Health and Safety Management Systems • AS/NZS 3666 Air-handling and water systems of buildings - Microbial Growth • 3666.1: 2011 Design, installation and commissioning • 3666.2: 2011 Operation and maintenance • 3666.3: 2011 Performance-based maintenance of cooling water systems • AS/NZS 4276.1: 2007 Water microbiology - General information and procedures • AS/NZS 3896: 2017 Waters-Examination for legionellae including Legionella pneumophila Other Documents Guide to Developing Risk Management Plans for Cooling Tower Systems , Public Health Division, Department of Health, Victoria Cooling Tower System Risk Management Template , Public Health Division, Department of Health, Victoria 2011
Related Legislation	Public Health and Wellbeing Act 2008 Public Health and Wellbeing Regulations 2019 Building (Legionella) Act 2000 Building (Legionella Risk Management) Regulations 2001 Building (Legionella Risk Management) (Amendment) Regulations 2002 Health (Legionella) Regulations 2001 Occupational Health and Safety Act 2004 Occupational Health and Safety Regulations 2017
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Content enquiries	hsw@monash.edu

DOCUMENT HISTORY

Version	Date Approved	Changes made to document
1.0	2026	Administrative changes due to: • Conversion of Procedure to a HSW Standard • Transition Procedure out of University Policy Bank on to HSW website