

SESLHD PROCEDURE COVER SHEET



Health
South Eastern Sydney
Local Health District

NAME OF DOCUMENT	Water Systems: Microbial Control
TYPE OF DOCUMENT	Procedure
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FORMER REFERENCE(S)	Former SESLHNPD/113 Water Systems: Microbial Control
EXECUTIVE SPONSOR or EXECUTIVE CLINICAL SPONSOR	Jo Karnaghan Director Clinical Governance and Medical Services
AUTHOR	SESLHD Infection Prevention and Control Committee: Infection Control Procedure Working Party
POSITION RESPONSIBLE FOR THE DOCUMENT	SESLHD Infection Prevention and Control Working Party SESLHD-InfectionControl@health.nsw.gov.au
KEY TERMS	Legionella, Warm water systems, Cooling towers
SUMMARY	This procedure outlines the process for monitoring water systems to ensure a safe environment with respect to the control of Legionella

COMPLIANCE WITH THIS DOCUMENT IS MANDATORY

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1. POLICY STATEMENT

SESLHD is committed to ensuring a safe environment for the delivery of healthcare services, controlling infection control risks and managing them. All facilities across SESLHD monitor water systems in line with the NSW Ministry of Health 'NSW Code of Practice for the Control of Legionnaires' Disease' 2nd Edition, the Australian/New Zealand Standard AS/NZS 3666 Parts 1, 2 and 3: Air-handling and water systems of buildings - Microbial control.

2. BACKGROUND

This procedure ensures that all facilities across SESLHD monitor water systems as outlined in the NSW Health PD2015_008 [Water - Requirements for the Provision of Cold and Heated](#)

2.1 DEFINITIONS

- **Competent person** means a person who is a tertiary qualified chemist, chemical engineer, engineer or microbiologist and who has relevant expertise.
 - **Duly qualified**, in relation to a person who installs, maintains or operates a regulated system, means a person who might reasonably be expected to be competent to do so.
 - **Cooling tower**: a component of an air conditioning system used to cool water and dissipate unwanted heat to the atmosphere through the evaporation of a small portion of the water
 - **Hot water system**: a system designed to heat and deliver water at a temperature of at least 60°C at each outlet point
 - **Legionella**: a gram negative aerobic bacteria
 - **Local Authority**: includes council or local council
 - **Thermostatic mixing valve (TMV)**: a mixing valve in which the temperature from the mixed water outlet fixture is automatically controlled by a thermostat to a pre-selected temperature
 - **Water systems**: includes cooling towers and associated air handling systems, warm water systems, evaporative cooling systems, hot water systems
 - **Warm water system**: systems designed to heat and deliver water at a temperature of less than 60°C at each outlet and includes systems which utilise a thermostatic mixing valve to deliver water at a temperature of less than 60°C
- In patient care areas:**
- | | |
|------------------------|-----------------|
| Adults: | 40.50C – 43.50C |
| Children and Neonates: | 38.0°C – 40.5°C |

3. RESPONSIBILITIES

This section outlines the responsibilities of all those concerned with various aspects of microbial control in water systems, which may harbour Legionella and other harmful bacteria

3.1 Chief Engineer will:

- Use a risk assessment process to ensure equipment is accessed and maintained as outlined, and that staff are trained in appropriate use
- Ensure operation of the system is in accordance with the NSW Code of practice for the Control of Legionnaires Disease.
- Ensure cleaning and maintenance schedules are maintained and available on request by the Public Health Unit.
- Ensure remedial work, including retesting, is undertaken in a timely manner
- **Inform the Public Health Unit verbally of any failed results (whether presumptive or confirmed) on the same day that the results are received**
- Inform Facility Site, Director of Operations of abnormal results
- Report testing results to the SESLHD and local facility Infection Prevention and Control Committees.

3.2 Maintenance staff will:

- Liaise with Public Health Unit Environmental Health Officers.
- Liaise with the Competent Person to ensure that a process of disinfection is in place and reviewed and certified every year
- Liaise with the duly qualified person to ensure maintenance and remedial work is undertaken in a timely manner.

3.3 Facility Managers/ Service Managers will:

- Ensure the local Authority has all the relevant information where a regulated system is installed as outlined in the NSW Health PD2015_008 [Water - Requirements for the Provision of Cold and Heated](#)
- Ensure staff involved in the maintenance of water systems have received the appropriate training in the ongoing cleaning and maintenance
- Ensure that resources are available for the appropriate testing, cleaning and maintenance of this equipment
- Review results of testing.

3.4 Public Health Unit Environmental Officers will:

- Provide advice and support to facility maintenance staff regarding legionella control (this may include collection of water samples for legionella count in accordance with Health Protection NSW protocols).

4. PROCEDURE**4.1 Water Systems**

It is the responsibility of the facility Director of Operations to ensure the local Authority has all the relevant information where a regulated system is installed as outlined in the NSW Health PD2015_008 [Water - Requirements for the Provision of Cold and Heated](#)

4.2 Water Cooling Systems

- Must be certified by a Competent Person annually as being equipped with a disinfection procedure that is effective under a range of operating conditions.
- All work must be performed by Duly qualified personnel
- Cooling Towers are sampled by duly qualified personnel and are tested for Legionella and Standard Plate Count by a NATA accredited laboratory as per facility based contracts
- Safe and easy access must be made possible to sites for water sample collection and inspection of the cooling towers by the Environmental Officer, Public Health Unit and Local Authority on request
- If results show greater than 10 cfu/ml of Legionella and/or greater than 100,000 cfu/ml in Standard Plate Count, then corrective action is undertaken in a timely manner by the Duly qualified person in accordance with the Code of Practice
- Copies of all failed results to be faxed to the Director, Public Health Unit (9382 8334 or Ext 28334) by the Facility General/Site Manager or delegate.

4.3 Warm Water Systems

- Each facility has a formally documented monitoring program based on an overall assessment of risk in the facility. The testing program should ensure each water outlet fixture is tested at least annually. Areas that care for patients with a high risk of infection should be tested more frequently
- If results show greater than 10 cfu/ml of Legionella and/or greater than 100 cfu/ml in Standard Plate Count, then corrective action is undertaken as outlined by the relevant regulations, codes and AS/NZ Standards
- All work must be performed by a duly qualified person
- Testing of warm water temperatures is undertaken as per NSW Ministry of Health 2015_008 [Water - Requirements for the Provision of Cold and Heated](#)
- Copies of all failed results to be faxed to the Director, Public Health Unit (9382 8334 or Ext 28334) by the Facility Executive/ designate.

4.4 Thermostatic Mixing Valves (TMV)

- Shall be maintained to all relevant regulations, codes and AS/NZ Standards. All work must be performed by a Competent Operator.

4.5 Notification

- All results of testing should be reviewed by the Competent Person, Facility Executive or designate and local Infection Control Committee
- Failed results and proposed corrective action taken should be notified to the facility Infection Control Consultant, relevant external authorities as outlined in the Code of Practice and Director Public Health Unit (9382 8314) by the Facility Executive/ designate.

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4.6 New Buildings

- Any new systems being installed must comply to the provisions outlined in all relevant regulations, codes and AS/NZ Standards.
- All new systems must be registered with the local government authority and notified to the Director, Public Health Unit
- Registration of the systems should be included as part of the compliance certificate.

5. DOCUMENTATION

- Facility Preventative Maintenance programs
- Public Health Department Records
- Test Results.

6. AUDIT

Routine surveillance by Engineering

7. REFERENCES

- NSW Health PD2015_008 [Water - Requirements for the Provision of Cold and Heated](#)
- [NSW Public Health Act 2010](#)
- [NSW Public Health Regulation 2012](#)
- Standards Australia. [AS/NZS 3666.1:2015](#). Air-handling and water systems of buildings - Microbial control Design, installation and commissioning.
- Standards Australia. [AS/NZS 3666.2:2015](#). Air-handling and water systems of buildings - Microbial control - Operation and maintenance.
- Standards Australia. [AS/NZS 3666.3:2015](#). Air-handling and water systems of buildings - Microbial control - Performance-based maintenance of cooling water systems.
- Standards Australia. [AS/NZS 3666.4:2015](#). Air-handling and water systems of buildings - Microbial control - Performance-based maintenance.

8. REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
Apr 2014	2	Former SESLHDPD/113 updated by SESLHD Infection Prevention and Control Working Party
Jul 2014	2	Approved by Executive Clinical Sponsor, Prof George Rubin, Director Clinical Governance.
April 2017	3	Early involvement of PHU, accountability of Engineering Department Code of Practice.
October 2017	3	Formatting reviewed by Executive Services