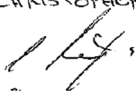




## WATER TEMPERATURE MANAGEMENT POLICY

DOCUMENT DETAILS	
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APPROVAL – BOARD OF MANAGEMENT	
CHAIR	CHRISTOPHER RIDINGS 
SIGNED	
DATE	21 <sup>st</sup> February 2017

### 1 Purpose

The purpose of this policy is to ensure that

- > IDAA meets its legislative requirements in relation to the tempering of water in its properties, and
- > tenants are not exposed to a risk of scalding or legionella disease

### 2 Background

The delivery temperature of water in a bathroom can be hazardous at both hot and cold extremes. Injuries related to fluctuation in water temperature include scalding and thermal shock. Children, older people and people with a disability are particularly at risk of scald burns. Recent studies have shown that temperature limiting devices that limit the period of exposure to high water temperatures has contributed to a reduction in severe scald injuries.

Heated water stored at lower temperatures (less than 60°C) is at increased risk of bacterial growth. To inhibit growth of the Legionella bacteria, the National Construction Code of Australia

(NCC) requires that 'all heated water must be stored and delivered under conditions which avoid the likelihood of the growth of legionella bacteria and refers to AS/NZS 3500.4 2015, Part 4 for performance requirements.

### **3 Water Tempering Devices - Definition**

#### **Tempering Valve**

A tempering valve is a 3-way mixing valve that is temperature actuated and is used to temper a heated water supply by mixing the heated water with cold water to provide heated water at a lower temperature, normally 50°C at one or more outlet fixtures.

All new properties built after 19 October 1995 will have tempering valves (temperature control devices).

#### **Thermostatic Mixing Valve (TMV)**

A thermostatic mixing valve is a mixing valve in which the temperature of the water from the mixed water outlet is automatically controlled by a thermostatic element or sensor to a preselected temperature that is suitable for direct contact with the skin.

*The Office of the Technical Regulator, responsible for regulating the Water Industry Act 2012 has provided IDAA with advice that all IDAA tenants have disabilities and therefore meet the legislative requirement to have hot water not exceeding 45 degrees C.*

### **4 Legislative Environment - Relevant Australian Codes and Standards**

There are a number of National and State-based regulations relating to temperature limiting devices in household plumbing systems. They include the National Regulations, in particular the National Construction Code Volume 3 Plumbing Code of Australia, and Australian and New Zealand Standards.

In addition to the national framework there is State based legislation:-SA Water Regulation 2012 and SA Plumbing Industry Technical Notes.

#### **4.1 National Regulations**

The National Construction Code 2016 (NCC) is a uniform set of technical provisions for the design and construction of buildings and other structures, and plumbing and drainage systems throughout Australia. Plumbing and drainage systems are covered in Volume 3 of the NCC as the Plumbing Code of Australia (NCC 2016-PCA).

The NCC 2016-PCA states in section BP2.2 that all new heated water services (i.e. in a new home or renovations) "must be delivered to fixtures and appliances used primarily for personal hygiene at a temperature which reduces the likelihood of scalding." It also states in section BP2.5 that "heated water must be stored and delivered under conditions which avoid the likelihood of the growth of Legionella bacteria".

There are a number of commercially available solutions to control the storage and delivery temperature of water. AS 3500.4: 2015 makes clear the requirements of what temperatures and in which applications tempering valves or TMVs need to be installed.

Volume Three Plumbing Code of Australia (PCA) sets out the requirements for heated water services. It applies to both the construction of new buildings and new building work in existing buildings.

The AS/NZS Standard 3500.4: 2015 Plumbing and drainage– Heated water services. This standard is part of a suite of standards that provides solutions to comply with the PCA.

This Standard sets out the requirements for the design, installation and commissioning of heated water services as follows:

### **Water Temperature**

#### **1.9.1 To avoid the likelihood of legionella bacteria growth, an installation shall**

- a store water at a temperature of not less than 60°C; or
- b utilize water heaters(s) complying with AS 3498

#### **1.9.2 Sanitary fixtures delivery temperature**

##### **All new heated water installations shall deliver heated water not exceeding-**

- a 45°C at the outlet of sanitary fixtures used primarily for personal hygiene purposes for the aged, sick, children or people with disabilities in healthcare and aged care buildings, early childhood centres, primary and secondary schools and nursing homes or similar facilities for the aged, sick, children or people with disabilities; and
- b 50°C at the outlet of sanitary fixtures used primarily for personal hygiene purposes for all other situations

#### **1.9.3 Solutions for control of delivery temperatures**

To comply with the 1.9.2 (a) you must

- > install a thermostatic mixing valve (complying with AS 4032.1) and adjusted to an outlet temperature not exceeding 45°C at each outlet supplied from the thermostatic mixing valve

To comply with 1.9.2 (b) you must

- > install a thermostatic mixing valve (complying with AS 4032.1) and adjusted to an outlet temperature not exceeding 50°C at each outlet, or
- > a tempering valve (complying with AS4032.2) and adjusted to an outlet temperature not exceeding 50°C at each outlet, or
- > a water heater (complying with AS 3498) and marked – “THIS APPLIANCE DELIVERS WATER NOT EXCEEDING 50°C IN ACCORDANCE WITH AS 3498.

This standard also includes an existing building which is altered or extended in such a way that sanitary fixtures used primarily for personal hygiene purposes, are installed in a location where, before the installation or extension, no such fixture existed.

The supply of tempered water to kitchen and laundry outlets is optional as most people prefer to receive water at least 60 °C from these fixtures.

This means that all plumbing or drainage work in bathroom areas of houses (including major renovations) should have tempered water.

#### **4.2 Renewal SA – Master Agreement**

The Master Community Housing Agreement between the South Australian Housing Trust and the Intellectual Disability Accommodation Association requires IDAA to operate within a set of Core Operating Policies, Procedures and Standards.

These standards establish a model which is consistent with the broader social housing accommodation standards. Community housing providers will determine what maintenance or repairs (if any) are required on an occupied or vacant property in accordance with the relevant legislation and community housing policies. All fixtures, fittings and facilities must be properly installed, fit for purpose and in good work order.

Hot water units must be replaced as per the South Australian Water Heater Installation Requirements (part of the Plumbing Standard) published by the Technical Regulator.

All new properties **built after 19 October 1995** will have tempering valves devices. Where tempering valves have been subsequently installed in older properties community housing providers are required to test them in accordance with AS 4032.3. They must therefore have appropriate systems and processes in place to identify and maintain them.

Thermostatic Mixing Valves are used in dwellings and facilities that provide services to children (child care, education), people with disabilities, health care and aged care. The outlet temperature at hygiene based taps (bathrooms) in these facilities should be set at 45°C.

Tempering Valves are used in all residential dwellings and commercial facilities to maintain hot water outlet temperature at hygiene based taps (bathrooms) at 50°C.

Whilst the standards do not address the requirements for a Community Housing provider to install a tempering device in properties built prior to 19 October 1995 they do require the community housing provider to conduct annual tests of all tempering valves as per AS 4032.3 Section 2.2-2.6 which states:

“The community housing provider will do annual tests of all tempering valves as per Australian Standards 4032.3 Section 2.2 – 2.6. If the device is shown to be not functioning in accordance with manufacturer’s specifications or application requirements, the device shall be immediately adjusted, repaired or replaced.”

## **5 Legislative Requirements for Temperature Limiting Devices in IDAA properties**

**The Office of the Technical Regulator**, responsible for regulating the *Water Industry Act 2012*, states that IDAA properties fall into the category of ‘...people with disabilities’ set out in clause

1.9.2 (a) and therefore the delivery of heated water should not exceed 45°C at the outlet of sanitary fixtures used primarily for personal hygiene purposes. To meet the requirements of 1.9.2 a thermostatic mixing valve (complying with AS 4032.1) must be installed.

## Summary

The risk of scalding from water delivered too hot and the risk of microbial presence, particularly legionella, in heated water stored at temperatures too low, continue to be major public health concerns.

Whilst AS/NZS 3500.4:2015 applies to the construction of new buildings and new building work in existing buildings the IDAA tenant population is particularly vulnerable to scalding incidents and there is a strong view that all IDAA properties should be subjected to the same requirements prescribed for new builds or alterations.

The Office of the Technical Regulator argues that given these public health concerns together with the fact that there are a number of cases before the courts in relation to scalding incidents, IDAA has a higher duty of care and should adopt best practice anti-scald strategies and install systems that reduce the risk of exposure to bacteria.

In practice this means that all IDAA houses should be fitted with a TMV(s) at the outlet of sanitary fixtures used for personal hygiene purposes. This is considered to be the safest and most accurate design solution and suitable for high-risk environments. The use of tempering devices to other areas of a house, i.e. kitchen and laundry is not mandated by law and therefore should be considered on a case by case basis.

## 6 Procedure

6.1 All IDAA properties will be fitted with a Thermostatic Mixing Valve on sanitary fixtures used for personal hygiene purposes. ***This does not include bathrooms used by Support Providers in Group Home situations. Support Providers will be responsible for ensuring that tenants do not have access to staff bathrooms.***

6.2 Installation of Tempering Devices to kitchen sinks and laundry

There may be times when tenants, family members or disability support providers request that the kitchen and laundry are fitted with a water temperature controlling device because of a perceived risk of scalding.

IDAA will assess these requests on a case by case basis. The assessment process may involve obtaining an assessment from a qualified professional e.g. an occupational therapist.

The risk assessment will be conducted in the context of vulnerability and will include consideration of the following:

- > Is the person likely to use hot water when unattended

- > Does the person's mobility mean that they are unable to respond safely i.e. move away if the water is too hot
- > Is the person's sensitivity to temperature impaired
- > Is the person able to summon assistance if required
- > Are there any pieces of furniture or fixtures that restrict movement away from the source of hot water

Should the assessment result in an agreement to control the temperature of water to the kitchen and/or laundry IDAA will decide on the type of device in consultation with a qualified plumber.

- 6.3 All TMVs and TVs in IDAA properties will be serviced/inspected on an annual basis as per the manufacturer's specifications and in accordance with Australian Standard 4032.3 – 2004.

## **7 Responsibilities**

### **The IDAA Board of Management**

- > The Board will ensure that IDAA is compliant with National and State legislation and the Master Community Housing Agreement Core Policies.
- > In the event that IDAA is not fully compliant, the Board will have a clear and documented plan to achieve full compliance within an agreed timeframe.

### **The IDAA Chief Executive Officer**

- > The CEO is responsible for ensuring that this policy is implemented.
- > The CEO is responsible for developing a clear and documented plan to achieve compliance within a timeframe agreed by the IDAA Board.
- > The CEO is responsible for ensuring that a risk assessment is undertaken, by a qualified person, in all cases where a tempering device is requested in kitchen and/or laundry areas.
- > The CEO is responsible for ensuring that all IDAA staff are familiar with the content of the policy.
- > The CEO is responsible for ensuring that all plumbing work is undertaken by a suitably qualified individual.
- > The CEO is responsible for maintaining up to date, accurate and comprehensive information on all Hot Water Units, Thermostatic Mix Valves and Tempering Valves.
- > The CEO is responsible for ensuring that all Thermostatic Mixing Valves are serviced on an annual basis and Tempering Valves are inspected on an annual basis.