

## Workplace Environment Procedure **UNDER REVIEW**

<b>Related Policy</b>	<i>Work Health and Safety Policy</i>
<b>Responsible Officer</b>	Executive Director – Human Resources
<b>Approved by</b>	Executive Director – Human Resources
<b>Approved and commenced</b>	December 2014
<b>Review by</b>	December 2017
<b>Responsible Organisational Unit</b>	Work Health and Safety Unit - Human Resources

### CONTENTS

1	Objective .....	2
2	Scope .....	2
3	Procedure .....	2
3.1	Consultation:.....	2
3.2	Air Quality .....	2
3.3	Heat and Cold.....	3
3.3.1	Thermal Comfort.....	4
3.3.2	Hot Environments .....	5
3.3.3	Cold Environments .....	5
3.4	High Temperature Response Measures .....	6
3.5	Design Control Measures .....	6
4	Responsibilities.....	7
5	Definitions and Acronyms .....	7
6	Supporting Documentation .....	8
7	Versioning .....	8

## 1 Objective

The objective of this procedure is to ensure the University's indoor work environments enable workers to carry out their work without risk to their health and safety due to ventilation or exposure to extremes of heat or cold in accordance with:

- *Work Health and Safety Act 2012 (the Act)*
- *Work Health and Safety Regulations 2012 (the Regulations)* and
- *Managing the Work Environment and Facilities Code of Practice.*

## 2 Scope

This procedure applies to all indoor workplaces controlled by the University where workers carry out their work. Workers include University staff, students and volunteers and other persons carrying out work.

## 3 Procedure

In this procedure 'work environment' refers specifically to:

- air quality and
- heat and cold.

### 3.1 Consultation:

The University will consult with workers when proposing changes to the work environment that may affect their health and safety in accordance with Section 47 of the Act.

### 3.2 Air Quality

In accordance with Section 40 of the Regulations, the University must ensure, so far as is reasonably practicable that ventilation enables workers to carry out their work without risk to their health and safety.

The following guidance on air quality is taken from Section 2.7 of the *Managing the Work Environment and Facilities Code of Practice*.

#### **Ventilation**

Workplaces should be adequately ventilated. Fresh, clean air should be drawn from outside the workplace, uncontaminated by discharge from flues or other outlets, and be circulated through the workplace.

Workplaces inside buildings may have natural ventilation, mechanical ventilation (fans or extraction units) or air-conditioning.

#### **Air conditioning**

An air-conditioning system should:

- provide a comfortable environment in relation to air temperature, humidity and air movement
- prevent the excessive accumulation of odours
- reduce the levels of respiratory by-products, especially carbon dioxide, and other indoor contaminants that may arise from work activities

- supply an amount of fresh air to the workplace, exhaust some of the stale air as well as filter and recirculate some of the indoor air and
- not exceed acceptable noise levels (see Definitions).

### **Natural ventilation**

Natural ventilation should consist of permanent openings, including windows and doors, that:

- in total are the size of at least five per cent of the floor area of the room
- are open to the sky, an open covered area or an appropriately ventilated adjoining room.

### **Mechanical ventilation**

Natural ventilation may be assisted by mechanical ventilation.

Enclosed workplaces should be supplied with comfortable rates of air movement (usually between 0.1 m and 0.2 m per second).

Air-conditioning and other ventilation systems should be regularly serviced and maintained in accordance with manufacturer's instructions.

### **Legionella**

Cooling towers that form part of many air-conditioning systems may be a favourable environment for Legionella bacteria if they are not properly designed and maintained. Exposure to these bacteria can cause the potentially fatal Legionnaire's disease.

Cooling towers should be designed, installed and maintained in accordance with AS/NZS 3666 – Air handling and water systems of buildings.

Further information regarding air quality is available in AS 1668.2 – The use of ventilation and air-conditioning in buildings.

### **Airborne contaminants**

Work processes that release harmful levels of airborne contaminants (e.g. lead fumes, acid mist, solvent vapour) will require specific control measures to remove them at the source, such as local exhaust ventilation.

**Regulation 49-50:** A person conducting a business or undertaking must ensure that no-one at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture. This may require air monitoring to be carried out.

## **3.3 Heat and Cold**

In accordance with Section 40 of the Regulations, the University must ensure, so far as is reasonably practicable that workers exposed to extremes of heat or cold are able to carry out their work without risk to their health and safety.

The following guidance on heat and cold is taken from Section 2.8 of the *Managing the Work Environment and Facilities Code of Practice*.

It is important to distinguish between a condition that threatens health and safety, and a feeling of discomfort. The risk to the health of workers increases as conditions move further away from those generally accepted as comfortable.

### **Heat Strain**

- Heat strain can arise from working in high air temperatures, exposure to high thermal radiation or high levels of humidity.

### **Hypothermia**

- Hypothermia arises when a person gets an abnormally low body temperature as a result of exposure to cold environments.

Both these conditions are potentially fatal.

Both personal and environmental factors should be considered when assessing the risk to workers' health from working in a very hot or cold environment.

### **Personal factors**

Personal factors include:

- the level of physical activity
- the amount and type of clothing worn and
- duration of exposure.

### **Environmental factors**

Environmental factors include:

- air temperature
- the level of humidity
- air movement and
- radiant heat.

## **3.3.1 Thermal Comfort**

Work should be carried out in an environment where a temperature range is comfortable for workers and suits the work they carry out.

Air temperatures that are too high or too low can contribute to fatigue and heat or cold related illnesses.

Thermal comfort is affected by many factors, including:

- air temperature
- air movement
- floor temperature
- humidity
- clothing
- the amount of physical exertion
- average temperature of the surroundings and
- sun penetration.

Optimum comfort for sedentary work is between **20** and **26** degrees Celsius, depending on the time of year and clothing worn.

Workers involved in physical exertion usually prefer a lower temperature range.

The means of maintaining a comfortable temperature will depend on the working environment and the weather, and could include any of the following:

- air-conditioning
- fans
- electric heating
- open windows
- building insulation
- the layout of workstations

- direct sunlight control and
- controlling air flow and the source of drafts.

### 3.3.2 Hot Environments

If it is not possible to eliminate exposure to extreme heat, the risk of heat strain and heat exhaustion must be minimised so far as is reasonably practicable. For example:

- increase air movement using fans
- install air-conditioners or evaporative coolers to lower air temperature
- isolate workers from indoor heat sources, for example by insulating pipes and walls
- remove heated air from hot processes using local exhaust ventilation
- use mechanical aids to assist in carrying out manual tasks and
- alter work schedules so that work is done at cooler times.

The following control measures should also be considered but are least effective if used on their own:

- slow down the pace of work if possible
- provide a supply of cool drinking water
- provide a cool, well-ventilated area where workers can take rest breaks
- provide opportunities for workers who are not used to working in hot conditions to acclimatise, for example job rotation and regular rest breaks and
- ensure light clothing is worn to allow free movement of air and sweat evaporation.

Immediate assistance should be provided if any worker experiences any of the following symptoms of heat strain: dizziness, fatigue, headache, nausea, breathlessness, clammy skin or difficulty remaining alert.

### 3.3.3 Cold Environments

If it is not possible to eliminate exposure to extreme cold, the risks must be minimised so far as is reasonably practicable. For example:

- provide localised heating and
- provide protection from wind and rain.

The following control measures should also be considered but are least effective if used on their own:

- provide protection through warm clothing
- provide opportunities for workers who are not used to working in cold conditions to acclimatise, for example, job rotation and regular rest breaks.

Immediate assistance should be provided if any worker shows any of the following warning signs of hypothermia:

- numbness in hands or fingers
- uncontrolled shivering
- loss of fine motor skills (particularly in hands)
- slurred speech and difficulty thinking clearly
- irrational behaviour.

The environmental conditions and physical wellbeing of workers should be monitored when work involves prolonged or repeated exposure to heat or cold.

Train workers to recognise the early symptoms of heat strain or hypothermia, how to follow safe work procedures and to report problems immediately.

### 3.4 High Temperature Response Measures

Where a member of staff may be suffering personal distress from the effects of the environmental factors, and the cause of the distress cannot be immediately eliminated, the Head of the Organisational Unit or delegate may recommend the staff member take rest periods in a suitable environment on that day. If necessary, she or he may be released from duty for the remainder of any day when conditions are extreme.

Where a student may be suffering personal distress from the effects of the environmental factors, and the cause of the distress cannot be immediately eliminated, the Head of Academic Unit or delegate may recommend the student take rest periods in a suitable environment on that day. If necessary, she or he may be released from the remainder of any class on any day when conditions are extreme. Release from class in these circumstances is without academic disadvantage to the student.

In deciding whether to suspend work or not, Heads of Organisational Units should consider factors such as temperature, humidity, radiant heat, level of physical activity and safety-critical tasks such as operating machinery or handling chemicals, as well as the pressure to meet deadlines. Individual needs such as medical conditions should also be taken into account.

The following rest breaks are recommended in the *ACTU Guidelines for Working in Seasonal Heat, 1998* and may be considered by Heads of Organisational Units

Recommended rest breaks for working in seasonal heat within each hour when temperature reaches:

- 30-32 degrees Celsius      10 minutes
- 32-34 degrees Celsius      20 minutes
- 34-36 degrees Celsius      30 minutes
- 36-38 degrees Celsius      Cease working

Ideally, breaks should be taken in cool areas. As a minimum, the physically demanding tasks should cease temporarily and staff should rest and consume cool water.

Details of the circumstances which result in staff and students experiencing distress are to be reported to the Work Health and Safety Unit through the University Incident and Hazard reporting process.

### 3.5 Design Control Measures

New buildings will continue to be designed for energy efficiency including passive temperature control.

Where there is a need to consider excessive heat gain or loss in existing buildings all options, including passive design measures, will be explored.

Comfort air conditioning will not normally be provided unless there are special circumstances which justify such installations.

## 4 Responsibilities

<b>Manager/Supervisor</b>	<p>Ensure that this procedure is implemented within their area of responsibility including:</p> <ul style="list-style-type: none"> <li>consulting with workers regarding workplace environment</li> <li>submit requests for works to ISD</li> <li>ensuring identified hazards are addressed so as to eliminate or minimise risk to health or safety.</li> </ul>
<b>Worker</b>	<p>Recognise unsafe conditions arising from exposure to hot or cold conditions and follow safe work procedures</p> <p>Report unsafe conditions promptly.</p>
<b>ISD</b>	<p>Ensure ventilation and air conditioning systems are serviced regularly and maintained in a safe condition</p> <p>Responding to works requests relating to air quality and thermal comfort.</p>

## 5 Definitions and Acronyms

<b>Term/Acronym</b>	<b>Definition</b>
<b>Academic Unit</b>	Means the secondary organisational unit in the academic structure of the University, reporting directly to the College Executive Deans, as per Ordinance 14 – Academic Structure.
<b>Acceptable noise levels</b>	<p>Noise at levels that do not damage hearing can have other adverse health effects. This can arise when noise chronically interferes with concentration and communication. As a guide, the risk of adverse health effects can be minimised by keeping noise levels below:</p> <p>50 dB(A) where work is being carried out that requires high concentration or effortless conversation</p> <p>70 dB(A) where more routine work is being carried out that requires speed or attentiveness or where it is important to carry on conversations</p> <p>For additional information see the <i>Managing Noise and Preventing Hearing Loss at Work Code of Practice</i>.</p>
<b>College</b>	<p>Means</p> <p>(a) the primary organisational unit in the academic structure of the University, as per Ordinance 14 – Academic Structure</p> <p>(b) the University College</p>
<b>ISD</b>	Infrastructure Services and Development

<b>Executive Dean</b>	Means: (a) the Executive Dean of the relevant College, or (b) in relation to the University College, the Principal of the University College
<b>Hazard</b>	A situation, activity or task with the potential to cause injury or damage.
<b>Head of Academic Unit</b>	Means the head of the relevant Academic Unit
<b>Manager/Supervisor</b>	An individual, who assumes responsibility for the health or welfare of any person in a workplace by providing instruction, direction, assistance, advice or service, which includes those with responsibility for students.
<b>Officer</b>	Members of Council, Executive Deans, Heads of Academic Units, Heads of Divisions and Sections and Members of Boards having strategic management responsibility are considered to be Officers pursuant to Section 27 of the WHS Act 2012
<b>Organisational Unit</b>	College, Faculty, School, Centre, University Institute, other University Entity, Division, Section or University Business Enterprise.
<b>Risk</b>	Risk is measured in terms of consequences and likelihood of a hazard proceeding to a harm or damage event.
<b>Worker</b>	Refers to any staff member, student undergoing work experience, volunteer or contractor.

## 6 Supporting Documentation

- *Workplace Inspection Procedure*
- *Managing the Work Environment and Facilities Code of Practice.*

## 7 Versioning

<b>Former Version(s)</b>	Version 1 – <i>Thermal Comfort Guidelines</i> ; approved Occupational Health and Safety Committee, April 2007  Version 2 – <i>Workplace Environment Procedure</i> (current document); content translated into Procedure format to meet compliance under the University Policy Framework and renamed Workplace Environment; approved December 2014. Amended in December 2016 to incorporate Colleges.
<b>Current Version</b>	Version 3 – <i>Workplace Environment Procedure</i> (current document); approved December 2014, amended in December

	2017 to incorporate Colleges and the change in nomenclature for Commercial Services and Development.
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