

# Work Health and Safety (Managing the Risks Associated with Extreme Temperatures Code of Practice) Approval 2025

Notifiable instrument NI2025–607

made under the

*Work Health and Safety Act 2011*, section 274 (Approved codes of practice)

---

## 1 Name of instrument

This instrument is the *Work Health and Safety (Managing the Risks Associated with Extreme Temperatures Code of Practice) Approval 2025*.

## 2 Commencement

This instrument commences 7 days after its notification day.

## 3 Code of Practice Approval

Under section 274 of the *Work Health and Safety Act 2011* (the Act) and being satisfied that this code of practice was developed by a process described in s274 (2) of the Act, I approve the attached Managing the Risks Associated with Extreme Temperatures Code of Practice.

Michael Pettersson  
Minister for Skills, Training & Industrial Relations  
6.11.25

# Managing the Risks Associated with Extreme Temperatures

Code of Practice

November 2025



## Acknowledgement of Country

The Chief Minister, Treasury and Economic Development Directorate (CMTEDD) acknowledges the Ngunnawal people as traditional custodians of the ACT and recognise any other people or families with connection to the lands of the ACT and region.

We respect the Aboriginal and Torres Strait Islander people, particularly our Aboriginal and Torres Strait Islander staff, and their continuing culture and contribution they make to the Canberra region and the life of our city.

Copyright information



© Australian Capital Territory, August 2025. You are free to re-use the work under that licence, on the condition that you credit the Australian Capital Territory Government as author, indicate if changes were made and comply with the other licence terms. This work is licensed under a Creative Commons Attribution 4.0 licence.

For more information, visit:

<https://www.cmtedd.act.gov.au/legal/copyri ght>.

Produced by the Chief Minister, Treasury and Economic Development Directorate. Enquiries about this publication should be directed to:

GPO Box 158, Canberra City 2601

**act.gov.au**

Telephone: Access Canberra – 13 22 81

If you are deaf, or have a hearing or speech impairment, and need the telephone

typewriter (TTY) service, please phone 13 36 77 and ask for 13 22 81.

For speak and listen users, please phone 1300 555 727.

For more information on these services, contact us through the National Relay Service: [www.accesshub.gov.au](http://www.accesshub.gov.au).

If English is not your first language and you require a translating and interpreting service, please telephone Access Canberra on 13 22 81.

This code is based on material published by Safe Work Australia: [Managing the risks of Working in heat](#) and [Guide on Exposure to solar ultraviolet radiation \(UVR\)](#); WorkSafe Act: [Working in extreme hot or cold temperatures](#), [Working in heat](#), [Heat related illness](#), [Working in cold weather](#), and [Working in the sun](#); SafeWork NSW<sup>1</sup>: [Maintaining thermal comfort in indoor work environments](#) and [Working in cold environments](#); and NSW Health<sup>2</sup>: [Hypothermia factsheet](#) and [Frostbite factsheet](#). It has been approved under section 274 of the *Work Health and Safety Act 2011* (ACT), following the legislated consultation.

<sup>1</sup> © State of New South Wales (SafeWork NSW). For current information go to [safework.nsw.gov.au](http://safework.nsw.gov.au).

<sup>2</sup> © State of New South Wales NSW Ministry of Health. For current information go to [www.health.nsw.gov.au](http://www.health.nsw.gov.au)

# Contents

<b>Contents .....</b>	<b>2</b>
<b>Foreword .....</b>	<b>3</b>
<b>1. Introduction .....</b>	<b>5</b>
1.1 Extreme temperatures.....	5
1.2 Who has health and safety duties in relation to extreme temperatures?.....	5
<b>2. Impacts of extreme temperatures .....</b>	<b>8</b>
2.1 Heat-related ill health.....	8
2.2 Heat stress .....	8
2.3 Cold stress.....	10
<b>3. Managing risks associated with working in extreme temperatures .....</b>	<b>12</b>
3.1 Identify hazards .....	12
3.2 Assess risks.....	13
3.3 Elimination.....	15
3.4 Control risks.....	16
3.5 Solar ultraviolet radiation (UVR) .....	22
3.6 Acclimatisation .....	23
3.7 Review control measures .....	23
<b>Appendix A: Decision-making approach to Identify and Manage Heat Stress.....</b>	<b>25</b>
<b>Appendix B: Decision-making approach to Identify and Manage Cold Stress .....</b>	<b>30</b>
<b>Appendix C: Heat-related Ill Health First Aid Fact Sheet .....</b>	<b>31</b>
<b>Appendix D: Risk management checklist- Heat.....</b>	<b>33</b>
<b>Appendix E: Example Template Temperature Management Plan .....</b>	<b>35</b>

# Foreword

This Code of Practice (Code) on managing the risks associated with extreme temperatures is an approved code of practice under section 274 of the [Work Health and Safety Act 2011](#) (the WHS Act).

An approved code of practice provides practical guidance on how to achieve the standards of work health and safety required under the WHS Act and the [Work Health and Safety Regulation 2011](#) (the WHS Regulation) and effective ways to identify and manage risks.

A code of practice can assist anyone who has a duty of care in the circumstances described in the code of practice. Following an approved code of practice will assist the duty holder to achieve compliance with the health and safety duties in the WHS Act and WHS Regulation, in relation to the subject matter of the code of practice. Like regulations, codes of practice deal with particular issues and may not cover all relevant hazards or risks. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the WHS Act and WHS Regulation. Courts may regard a code of practice as evidence of what is known about a hazard, risk, risk assessment or risk control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code of practice relates. For further information see the [Interpretive Guideline: The meaning of 'reasonably practicable'](#).

Compliance with the WHS Act and WHS Regulation may be achieved by following another method if it provides an equivalent or higher standard of work health and safety than the code.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

## Scope and application

This Code is intended to be read by a person conducting a business or undertaking (PCBU). It provides practical guidance to PCBUs on how to manage health and safety risks associated with extreme temperatures.

This Code may be a useful reference for other persons interested in the duties under the WHS Act and WHS Regulation.

This Code applies to all workplaces covered by the WHS Act where exposure to extreme temperatures may occur.

Managing extreme temperatures carries a range of risks beyond those covered in this Code. Other relevant Codes of Practice that apply in the ACT to help manage these risks include:

- [Managing the Work Environment and Facilities Code of Practice](#)
- [First aid in the workplace Code of Practice](#)
- [Managing Psychosocial Hazards at Work Code of Practice](#)
- [Work health and safety consultation, co-operation and co-ordination Code of Practice](#)
- [How to manage work health and safety risks Code of Practice](#)
- [Confined Spaces Code of Practice](#)
- [Construction Work Code of Practice](#).

## How to use this code of practice

This Code includes references to the legal requirements under the WHS Act and WHS Regulation. These are included for convenience only and should not be relied on in place of the full text of the WHS Act or WHS Regulation.

The words **‘must’**, **‘requires’** or **‘mandatory’** indicate a legal requirement exists that must be complied with.

The word **‘should’** is used in this Code to indicate a recommended course of action, while **‘may’** is used to indicate an optional course of action.

# 1. Introduction

## 1.1 Extreme temperatures

Working in very cold and very hot temperatures can pose risks to workers in both indoor and outdoor workplaces.

In particular, heat associated with extreme heat waves has the highest death rate of any natural disaster in Australia, with impacts being compounded for people when there is no or little relief at night. Climate change is increasing the frequency, duration and intensity of heatwaves, and so increasing risks from extreme heat. However, extreme heat and heat waves are generally well forecast several days ahead in Australia, meaning actions to mitigate impacts on workers can be planned ahead.

PCBUs must manage the risks of working in extreme temperatures.

Temperature can impact workers differently depending on a number of factors. PCBUs should monitor the temperature and conditions of the workplace to identify and manage risks posed by heat and cold. See the [Managing the Work Environment and Facilities Code of Practice](#) for information on thermal comfort for workers and other general guidance.

The human body works to ensure a body temperature of approximately 37 degrees Celsius. Having to work too hard to maintain the right temperature means that workers may suffer from heat-related ill health or cost stress and hypothermia.

## 1.2 Who has health and safety duties in relation to extreme temperatures?

Everyone in the workplace has health and safety duties. A person can have more than one duty, and more than one person can have the same duty at the same time. Early consultation and identification of risks can allow for more options to eliminate or minimise risks to be considered and reduce associated costs.

**To assess the risks of temperature in their workplace, PCBUs must consult with workers including their health and safety representatives (HSR) and other duty holders, and should consider factors such as:**

- the requirements of the work
- the workers
- the workplace
- air temperature
- air flow
- humidity; and
- radiant heat sources.

## Person Conducting a Business or Undertaking (PCBU)

### WHS Act, section 19

Primary duty of care

### WHS Act, section 49

When consultation is required

### WHS Regulation, section 40

Duty in relation to general workplace facilities

### WHS Regulation, section 35

Managing risks to health and safety

### WHS Regulation, section 36

Hierarchy of control measures

A PCBU must ensure, so far as is reasonably practicable, the health and safety of workers, including volunteers, while they are at work, and that the health and safety of other persons is not put at risk from work carried out.

A PCBU must eliminate risks, both physical and psychosocial, in the workplace, or if that is not reasonably practicable, minimise the risks so far as is reasonably practicable.

The PCBU must, so far as is reasonably practicable, consult with workers and any HSR. All workers who carry out work for the business or undertaking who are, or are likely to be, directly affected by a matter relating to WHS must be consulted. Consultation is required in relation to the following health and safety matters:

- identifying hazards and assessing risks to health and safety
- when making decisions about ways to eliminate or minimise those risks
- when making decisions about the adequacy of facilities for the welfare of workers
- when proposing changes that may affect the health or safety of workers
- monitoring the health of workers
- monitoring the conditions at any workplace under the management or control of the PCBU, and
- providing information and training for workers.

A PCBU must ensure, so far as is reasonably practicable, the following:

- ventilation enables workers to carry out work without risk to health and safety; and
- workers carrying out work in extremes of heat or cold are able to carry out work without risk to health and safety.

## Persons with management or control of a workplace

### WHS Act, section 20

Duty of persons conducting businesses or undertakings involving management or control of workplaces

Persons with management or control of a workplace must ensure, so far as is reasonably practicable, that the workplace, the means of entering and exiting the workplace, and anything arising from the workplace, are without risks to the health and safety of any person.

## Officers

### WHS Act, section 27

Duty of officers

An officer, for example a company director, must exercise due diligence to ensure that the PCBU complies with duties or obligations under the WHS Act and WHS Regulation. Due diligence includes taking reasonable steps to ensure that the PCBU has available for use, and uses, appropriate resources and processes to eliminate or minimise risks to health and safety from work carried out.

## Workers

### WHS Act, section 28

Duties of workers

Workers must take reasonable care for their own health and safety. Workers must also take reasonable care not to adversely affect the health and safety of other persons. Workers must comply, so far as reasonably able, with any reasonable instruction that is given by the PCBU to allow the person to comply with the WHS Act and WHS Regulation.

Workers must also cooperate with any reasonable policy or procedure of the PCBU relating to health or safety at the workplace that has been notified to workers.

## Others

### WHS Act, section 29

Duties of other persons at the workplace

A person at a workplace, for example a visitor, must take reasonable care for their own health and safety. Persons at the workplace must also take reasonable care not to adversely affect the health and safety of other persons and comply, so far as the person is reasonably able, with any reasonable instruction that is given by the PCBU to allow them to comply with the WHS Act and WHS Regulation.

## 2. Impacts of extreme temperatures

### 2.1 Heat-related ill health

Heat-related ill health is a term used to describe various conditions caused by overheating. Common effects of working in heat include:

- heat rash, leading to skin irritation and discomfort
- heat cramps resulting from heavy sweating without replacing salt and electrolytes
- fainting, particularly when workers stand or rise from a sitting position
- dehydration from increased sweating if workers aren't drinking enough water
- heat stroke occurs when the body can no longer cool itself- this can be fatal
- burns can occur if a worker comes into contact with hot surfaces or tools
- slips, as a worker will sweat more in hot conditions which can increase the risk of slips - for example, a worker might slip when using sharp tools if their hands are damp
- reduced concentration, as heat can make it more difficult to concentrate, leading to confusion. This means workers may be more likely to make mistakes, such as forgetting to guard machinery; and
- increased chemical uptake into the body may occur as the heat causes the body to absorb chemicals differently and can increase the side effects of some medications.

Heat-related ill health can be fatal if left untreated, as conditions can worsen over time. An ambulance should be called immediately if someone has severe heat exhaustion or heat stroke, and first aid should be performed until an ambulance arrives.

Where heat-related ill health is in its early stages first aid can be effective, however medical assistance should always be sought if there is doubt or if symptoms persist.

[Appendix C - First aid fact sheet](#) provides information on recognising and treating the most common forms of heat-related ill health. Further information can also be found in the [First Aid in the Workplace Code of Practice](#).

### 2.2 Heat stress

Symptoms of heat stress to watch out for include:

- nausea
- feeling faint
- dizziness

- loss of appetite
- headache; and
- vomiting.

If a worker appears to be displaying symptoms of heat stress, call the first-aid officer and:

- try to get the person to a cooler environment
- lay the person down
- remove outer layers of clothing and personal protective equipment (PPE), while maintaining reasonable respect for the worker
- cool them by applying cool, wet towels around the neck and underarms
- if conscious, give cool fluids (preferably water) to drink; and
- visit the GP or walk-in clinic.

**Do not leave the worker alone, continue monitoring. If symptoms do not quickly improve or worsen, call an ambulance.**

## Heat stroke

When heat stress persists without intervention, it can lead to heat stroke. Heat stroke is a life-threatening condition in which the body overheats and can no longer maintain a healthy temperature.

Indicators of heat stroke include:

- drowsiness/unconsciousness
- dilated pupils
- rapid and shallow breathing; and
- hot, dry, or sweaty skin or the person may stop sweating.

**Heat stroke is an emergency. Emergency 000 should be called immediately and ask for an Ambulance.** Once an ambulance is called, follow as many of these steps as possible:

- remove the worker's excessive clothing and PPE, while maintaining the worker's dignity and respect
- move them to a cooler area
- immerse the worker in cold water if available and safe to do so. Do not leave the person unattended
- if immersion is unavailable apply cold water to the workers face and torso and maximise air-flow with the use of fans, if possible
- fan the worker; and
- facilitate drinking of cold fluids if they are fully conscious.

For more information see the [First Aid in the Workplace Code of Practice](#).

## 2.3 Cold stress

Prolonged exposure to extremely cold temperatures can often result in cold stress which includes fatigue and mild to serious health issues such as increased risk of incident/injury, hypothermia, frostbite/trench foot and other long-term health effects. Some medical conditions may affect workers ability to cope with the cold. Ensure you make adequate adjustments for workers that are impacted by this.

### Trench foot and Frostbite

Trench foot and frostbite occur when the body's extremities become wet in low to freezing temperatures. Frostbite usually affects the hands, fingers, toes, feet, ears, and nose.

Symptoms include:

- pain
- swelling
- numbness
- discoloration (reddened with white patches); and
- hardening and blistering of the skin.

If frostbite is occurring, get medical attention as soon as possible:

- reduce further exposure to cold and wind by seeking shelter and covering up exposed skin
- get into a warm room as soon as possible and remove wet clothing
- warm the area slowly using body heat or warm water at 40-42°C (do not use hot water)
- beware that thawing is painful
- do not rub or massage (causes more damage)
- do not use direct heat (can burn the skin)
- do not walk on frostbitten toes or feet if possible
- don't smoke cigarettes as nicotine constricts the blood vessels and may worsen the damage; and
- beware that damage can occur when an area is warmed and then exposed again to cold.

### Hypothermia

Hypothermia may occur when core body temperature decreases when exposed to cold or wet (rain, perspiration) environments. Hypothermia develops when the body temperature drops below 35°C. The normal human body temperature is around 37°C.

As body temperature drops below 32°C, hypothermia becomes severe and life threatening. Hypothermia can progress slowly, and affected people may not be aware they need medical help.

Symptoms include uncontrollable shivering (If the person progresses into severe hypothermia, shivering usually stops), numbness of hands and feet, slurred speech, dazed and or irrational behaviour such as wanting to take clothing off, and loss of fine motor skills particularly in hands —

workers may have trouble with buttons, laces, zips. The person may feel exhausted, and their skin may be cool and pale.

Advanced symptoms include an inability to stand, pupils become dilated, pulse and breathing slow, and loss of consciousness.

When hypothermia is occurring:

- get medical attention (call 000)
- move the worker out of the cold, remove wet clothing while maintaining reasonable respect for the worker
- warm the worker at the centre of the body (chest, neck, head, groin)
- do not use direct heat - use warm blankets, towels, wrapped warm water bottles or skin to skin contact
- do not massage or rub the person
- keep the person still
- if a person is awake, warm drinks can help
- do not give alcoholic beverages; and
- if the person appears dead, CPR should be given whilst the person is being warmed - never assume the person is dead.

## Other risks

Other serious safety risks can become more likely with symptoms of cold stress, even when mild. This may lead to various incidents as cold muscles are more likely to strain and sprain, and mistakes or incorrect actions may be taken where there is a lack of either mental or physical co-ordination.

Frost may also impact safety. Slips, trips, and falls may occur due to frost on the ground. Additionally, other working surfaces and the operation of some plant may be affected by frost or very cold temperatures. The PCBU may manage these risks by providing non-slip shoes and conducting risk assessments or maintenance checks for any plant or equipment in low temperatures.

## Long term effects

The long-term effects of working in cold may include arthritis (wear and tear of tissue), rheumatism (damage of tissue from immune response), breathing difficulties (bronchitis) and heart disease due to the strain placed on the heart from changes in blood circulation.

The PCBU must eliminate risks, both physical and psychosocial, in the workplace, or if that is not reasonably practicable, minimise the risks so far as is reasonably practicable.

## 3. Managing risks associated with working in extreme temperatures

### 3.1 Identify hazards

WHS Regulation, section 34

Duty to identify hazards

WHS Act, section 49

When consultation is required

Extreme temperatures can be a hazard in many different work environments, including both indoors and outdoors. PCBUs have a duty to identify reasonably foreseeable hazards that could give rise to risks to health and safety.

When identifying hazards in a workplace, PCBUs are required to consult with workers, including HSRs and other duty holders. It may also help to consult with similar businesses, if possible, for advice on whether heat or cold is an identified hazard in their workplace and consider why temperatures may be a hazard in similar workplace settings. Reviewing workplace records of near misses, incidents and injuries will help identify what hazards have posed a risk to workers in the past.

Uncomfortable temperatures can create both physical and psychosocial risks. For example, heat and cold may impact the ability of workers to concentrate or complete tasks. Uncomfortable temperatures may also contribute to customer/patient distress or confusion which can increase the risk of harmful behaviours such as violence and aggression. For more information see the [Managing Psychosocial Hazards at Work Code of Practice](#).

[Appendix A](#) provides a decision-making approach to identify and manage heat stress, [Appendix B](#) converts the decision-making tool for incidents of cold stress. [Appendix D - Risk management checklist](#) can be used to record identified hazards when working in heat.

See the [Work Health and Safety Consultation, Co-operation and Co-ordination Code of Practice](#) for further information on consultation requirements and the [How to Manage Work Health and Safety Risks Code of Practice](#) for more information on the risk management process.

## 3.2 Assess risks

WHS Regulation, section 34

Duty to identify hazards

WHS Regulation, section 40

Duty in relation to general workplace facilities

WHS Act, section 49

When consultation is required

The impact temperatures will have on workers will vary depending on the individual worker, the work they are doing and the environmental conditions. When assessing risks to health and safety, PCBUs are required to consult with workers and any HSRs.

### **A risk assessment can help PCBUs determine:**

- the severity of the risk
- whether any existing control measures are effective
- what action to take to control the risk; and
- how urgently you need to act.

### **To assess the risk, PCBUs should consider:**

- what is the impact of the hazard; and
- how likely is the hazard to cause harm.

### **When assessing temperature risks, consider the following:**

- *Where the work is being done:*
  - working near heat sources and in confined spaces with minimal air flow (such as a roof cavity) can increase the risk of heat-related ill health
  - if working outdoors whether temperatures are expected to exceed 37°C and/or consider the impact of humidity
  - radiant temperatures may be high when working in the sun, particularly on a concrete or metal roof, or near hot machinery or processes (for instance a furnace, kitchen or manufacturing workshop)
  - working in high levels of humidity can make it more difficult for a person to cool down
  - even a small room with a number of workers in it can see a rise in temperature
  - consider the outdoor temperature when setting the indoor temperature. The perceived “comfortable” temperature inside a workplace depends on the outside temperature; and
  - if the air is cooler than the environment, then it may help to cool workers in a warm environment, however, it could cause further discomfort to workers in a cool environment. For example, if someone sits directly under an air conditioning vent, then they may be in a draught and therefore much cooler than is ideal.

- *The type of work:*
  - physical exertion, particularly over long periods, increases the risk of heat-related ill health, even in moderate conditions
  - some workers may also not be able to pace their work and may be at greater risk from the heat. Workers on performance-based salaries are generally less likely to reduce their work rate to prevent over exertion and can put themselves at higher risk of heat-related ill health
  - concentration may be affected by heat and cold, particularly for complex or difficult tasks
  - clothing, including PPE, uniforms and standard dress, may impair the evaporation of sweat and increase the risk of heat-related ill health; likewise workers can manage thermal comfort if they can add layers of clothing (when feeling too cold); and
  - sedentary work in cool or cold environments can make it difficult for workers to generate heat.
- *The individual workers:*
  - an apprentice may take longer to do a task or might not know how to work safely. Their supervisor might also be at increased risk if they are also exposed to temperatures for a longer time
  - physical fitness and acclimatisation to current working conditions. Workers who are new to the conditions or the type of work can be significantly more susceptible to conditions, and
  - tense or stressed workers can feel colder.
- *Worker characteristics may make workers more susceptible to heat-related ill health or cold stress, for example:*
  - taking certain medications such as diuretics, or other non-medical drugs
  - pregnancy
  - menopause
  - disability
  - experiencing a relevant condition or illness such as diabetes, obesity, heart disease, respiratory disease, or fever
  - previous experience of heat-related ill health
  - at higher risk of dehydration or electrolyte depletion, for example if they are on a fluid-restricted diet
  - younger (aged 25 or under) or older (aged 55 or more)
  - returning to work after an absence, such as a fly-in-fly-out worker; or
  - someone returning to work after an incident.

Additionally, PCBUs must consider the potential impact of heatwaves. A heatwave occurs when the maximum and the minimum temperatures are unusually hot over at least a three-day period.

Heatwaves may pose more risks to workers due to:

- warmer nights contributing to reduced sleep quality
- high temperatures being reached earlier in the day and lasting longer; and
- fatigue affecting workers' ability to perform work safely and effectively.

During heatwaves, PCBUs should take extra precautions to manage the risks of heat-related ill health. This includes close monitoring for signs and symptoms of heat-related ill health and cancelling or rescheduling physically intensive outdoor work until conditions improve.

When the nights are warmer than usual, people's sleep can be impacted as well as how they recover from heat exposure during the day, which can lead to fatigue.

Heatwaves can be low-intensity, severe or extreme. When heatwaves are low-intensity they are generally tolerable, however severe heatwaves may impact vulnerable groups such as older or younger workers. Extreme heatwaves can have a significant impact on all workers, including healthy and acclimatised workers.

The Bureau of Meteorology provides information on [heatwaves](#), [climate classification maps](#) which can assist in identifying the likelihood of high temperatures and high humidity, and [weather forecasts](#). The [Heatwave Service for Australia](#) provides information on where heatwaves are occurring.

### 3.3 Elimination

#### WHS Regulation, section 40(f)

PCBUs must ensure, so far as is reasonably practicable, that workers carrying out work in extremes of heat or cold are able to carry out work without risk to health and safety.

PCBUs must eliminate the risks of exposure to extreme temperatures at their workplace, so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, then it must be minimised.

It may not be possible to change environmental conditions, however, consider whether the work can be done at an alternate time or place.

Eliminating exposure to extreme temperatures is the best protection.

Controls to eliminate risks could include cancelling or rescheduling work for a different time or place, for example working indoors with heating/air-conditioning where possible and undertaking physical work earlier in the day when temperatures are cooler, to manage heat risks. It may also be possible to use automated equipment or processes to access hot locations and to prevent workers having to do physically demanding work by hand.

## 3.4 Control risks

### WHS Regulation, section 36

Hierarchy of control measures

### WHS Regulation, section 39

Provision of information, training and instruction

### WHS Regulation, section 43

Duty to prepare, maintain and implement emergency plan

### WHS Regulation, section 41

Duty to provide and maintain adequate and accessible facilities

In managing risks to health and safety, including risks associated with extreme temperatures, PCBUs must eliminate the risk so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, then it must be minimised.

There are different controls PCBUs can use to minimise the risk of extreme temperatures.

**PCBUs must use the hierarchy of controls when managing risks, and must minimise risks by doing one or more of the following:**

- substitute the hazard or hazardous work practice with something that poses a lesser risk
- isolate the hazard from any person exposed to it; and
- implement engineering controls.

Workplace risks that arise from extreme temperatures do not only come from weather conditions, which means a combination of controls may be needed.

PCBUs are required to consult with workers and any HSRs when making decisions about ways to eliminate or minimise health and safety risks.

### Substitution

Substitution involves substituting or replacing a hazard or hazardous work practice with a safer one.

When working in heat, PCBUs should have a plan for workers to do the work in a cooler environment where possible. For example, prefabricate materials in air-conditioned factories.

Consider swapping physical work for work that can be done by a machine. For example, use a crane or forklift to lift heavy objects or use earthmoving plant for digging.

Other examples of substitution controls include arranging and planning work and work schedules, particularly strenuous or physically demanding work, to times of the day when it is less hot to reduce the risk of heat-related ill health. Consider conducting work at ground level to avoid climbing up and down ladders or stairs.

When working in cold, substitution includes delaying work that occurs in the cooler parts of the day and moving workers to a warmer environment.

Be aware that heat or cold stress can still occur even if working in the hotter/cooler parts of the day.

## Isolate the risk

Isolating the risk involves separating the hazard from workers. Some examples of isolation controls when working outdoors include:

- where possible, relocate workers away from hazardous areas, such as windy areas
- working in the shade away from direct sunlight
- work indoors
- locate hot processes, equipment or plant away from workers
- provide air-conditioned and/or heated, shaded or cool break areas as close as possible to the work site; and
- use physical barriers such as cones, shields, guards and fencing to isolate hot machinery or surfaces and ensure they clearly mark the hazardous areas.

For indoor workplaces, consider:

- installing shields, barriers or guards to isolate radiant heat sources, such as ovens, furnaces, etc
- provide workers with air-conditioned break rooms or heated rooms away from hazardous conditions
- enclose or insulate hot processes, hot surfaces and around heat generating plant, equipment and pipes
- insulate buildings and clad sources of radiant heat; and
- where possible, relocate workers away from hazardous areas, such as direct sunlight via windows or skylights.

## Engineering controls

An engineering control is a control measure that is physical in nature, including a mechanical device or process. Some examples of engineering controls for outdoor work include:

- provide screens, umbrellas, canopies, awnings or other protective structures over sections of the site to create shade where work is being carried out, or to protect against wind-chill
- provide mechanical equipment to reduce the need for strenuous physical work; and
- reduce radiant heat, for example by allowing plant to cool down before use or using a cone, shield, guards or fencing around hot machinery or surfaces — hazardous areas should be clearly marked.

Examples of engineering controls for indoor work include:

- provide suitable and well-maintained air-conditioning or heating units
- make sure your workspace has good air flow. For example, install fans or generate air movement via windows and vents, particularly in humid conditions

- install local mechanical exhaust ventilation to increase air movement and remove hot or heated air/steam from hot plant, processes and areas where heat can build up, or where there is little air movement
- use chiller units, in extreme cases of heat, to relieve air temperature and humidity (e.g. when working in confined spaces); and
- reduce radiant heat, for example by placing reflective shields or coatings, barriers, or guards, on radiant heat spots (such as ovens, furnaces, etc) or allowing to cool down before use.

The person with management or control of plant at a workplace must ensure, so far as is reasonably practicable, that any pipe or other part of the plant associated with heat or cold is guarded or insulated so that the plant is without risks to the health or safety of any person.

## Administrative controls

Administrative controls are less effective than higher order controls because they do not control the hazard at the source and rely instead on supervision and human behaviour. Administrative controls should only be used to provide a systematic framework to support the higher controls that are implemented.

Administrative controls for outdoor work include:

- policies, procedures and systems to minimise physically demanding tasks. Consider modifying targets and work rates to make the work easier and reduce physical exertion
- allow flexibility in dress code, where possible
- provide easy access to cool drinking water and electrolyte solutions and encourage workers to drink often
- make provision for workers to keep their body moving to keep warm and limbs awake when working in cold
- arrange work tasks to prevent sitting and standing for long periods of time, when working in cold
- provide drying rooms and cleaning services for protective clothing when working in cold
- provide regular and frequent breaks, preferably in an air-conditioned/heated room; and
- implement an effective ‘buddy system’ where workers check each other frequently.

Administrative controls for indoor work include:

- provide regular and frequent breaks away from the hot/cold work areas in air-conditioned/heated, well-ventilated areas
- make provision for workers to keep their body moving to keep warm and limbs awake when working in cold
- arrange work tasks to prevent sitting and standing for long periods of time, when working in cold
- ensure the first aid room is air-conditioned/heated; and

- rotate workers or organise and pace work to minimise physically demanding tasks in hot conditions. This may include reducing the length of shifts.

PCBUs must ensure that information, training, and instruction provided to workers is suitable and adequate, having regard to the nature of the work, risks associated with the work, and control measures implemented. If you have identified a temperature hazard at your workplace, you should encourage workers to work at a safe pace and monitor them closely. Ensure the information and training is understood by all workers – including those from culturally and linguistically diverse backgrounds.

Workers should be trained to:

- identify and report temperature hazards and work safely, including the control measures in place
- know what the temperature management plan is for hot days, including any designated person with responsibility to monitor heat and humidity, especially when extreme heat is forecast
- know how cold days will be managed, e.g. if there is additional PPE or heated spaces available
- understand how to prevent heat-related ill health and hypothermia
- recognise symptoms and signs of heat-related ill health and hypothermia in themselves and others
- know what to do in an emergency, including calling for assistance if necessary
- look out for each other's wellbeing
- modify work intensity and take more regular breaks
- drink sufficient water to stay hydrated
- recognise the dangers of diuretic drinks
- not replace drinking water with energy drinks, soft drinks or coffee
- understand acclimatisation
- recognise the potential dangers associated with the use of alcohol and/or drugs; and
- any personal and individual factors that may increase the risk of a heat-related ill health or hypothermia (e.g. clothing, hydration, general health, physical fitness, pregnancy, use of some medications, drugs and alcohol). Workers should consult with their doctors for any health concerns.

PCBUs must provide workers with information, training and instruction in the proper use and wearing of PPE and its storage and maintenance.

Workers that are new to the workplace, or young workers, must be supervised where required, to prevent unsafe work practices. Managers and supervisors should make themselves available to answer questions and guide workers.

If possible, ensure workers will not be working alone. If that is not possible, then ensure they are able to be monitored.

The ability to access support services such as first aid and emergency services impacts the severity of heat-related ill health and cold stress, so ensure that remote or isolated workers can call for help. For more information on remote or isolated work see the [Managing the Work Environment and Facilities Code of Practice](#).

Additionally, PCBUs must ensure that there is an emergency plan suitable for the work and workplace. For example, if there is a risk that a worker collapses in a confined space, ensure there are procedures in place to rescue them without delay. For information see the [Confined Spaces Code of Practice](#).

## Hydration

PCBUs must ensure workers have access to cool drinking water. Dehydration is a major risk when working in heat, which can be indicated by dark or reduced urine output. PCBUs should encourage workers to stay hydrated when working in heat and to not replace drinking water with energy drinks, soft drinks, or coffee. Thirst will be satisfied before fluid loss is replaced. When a person is experiencing dehydration sports drinks or other oral electrolyte therapies that contain salt and potassium should be used. Seek medical assistance if you are unsure on what you should do or if dehydration is severe.

## Personal protective equipment (PPE)

PPE is the last and least effective control in the hierarchy and should only be used to manage any risk that remains after all higher-level controls have been implemented, so far as is reasonably practicable.

Workers who need to wear or carry PPE in hot work environments can be at greater risk of exposure to heat-related ill health because it can increase the body's heat load.

Additional control measures should be considered when workers are required to wear PPE that increases the risk of heat-related ill health, such as increase in break times. If it is practicable, modify uniforms or required dress codes to allow workers to wear cooler and more breathable clothing.

Where PPE is provided for workers exposed to extremes of heat, make sure:

- it is necessary
- it is suitable for the tasks and work environment
- it is comfortable to wear, allows free movement of air and sweat evaporation; and
- that workers are wearing it correctly and that they are not wearing more PPE than is required.

PPE for working in heat may include sun protection, lightweight and loose fitted, breathable clothing and wearable personal cooling systems such as water-cooled garments, air-cooled garments, cooling vests, and wetted garments.

When working in the cold, ensure workers have appropriate clothing for the conditions, such as long sleeve clothing.

PPE for cold may include:

- warm, waterproof clothing, including to keep feet dry and warm

- windbreakers or coats
- hats, tight fitting beanies, scarfs and winter grade gloves
- handwarmers
- non-slip shoes to manage the risks of slips, trips and falls from frost
- heated jackets or vests; and
- thermal under garments.

Where workers move between different temperatures or become hot and sweaty due to physical activity, they should have a spare change of protective clothing due to the build-up of water in the clothing or if it becomes wet from the rain.

## Developing a temperature management plan

To effectively manage risks of exposure, a workplace temperature management plan should be developed and implemented in consultation with workers and their HSRs.

The plan should include suitable systems to:

- undertake regular workplace environmental temperature risk monitoring, including:
  - workplace heat and humidity, especially in summer and during heat waves; and
  - accounting for wind-chill during winter months.
- detail the agreed controls to be implemented, when they should be implemented, and who is responsible for implementing them; and
- undertake formal workplace assessments by a suitably qualified occupational hygienist, where appropriate.

When developing a temperature management plan, PCBUs should consult about and determine specific circumstances/conditions where risk levels are unacceptable, and work must be stopped to eliminate the risk. Agreed parameters should be included in the workplace temperature management plan.

At Appendix E is an example [Template Temperature Management Plan](#) that may be used.

## Working in extreme heat in the building and construction industry

**Important:** Workers can experience heat-related ill health at lower temperatures, if a worker is experiencing symptoms they should be immediately taken to the nearest appropriate medical facility.

The impact heat will have on workers will be different in every situation depending on the individual worker, the work they are doing and the environmental conditions. This should be considered when assessing temperature risks and determining specific circumstances/conditions where risk levels are unacceptable.

PCBUs have safety obligations when managing temperature risks in the workplace. PCBUs should consult about and determine specific circumstances/conditions where risk levels are unacceptable, and work must be stopped to eliminate the risk.

**!** For the building and construction industry, this threshold to stop work should consider whether temperatures are expected to be higher than 37 degrees, noting the fatal risk that work in extreme conditions can pose.

When the temperature is between 35 and 37 degrees, and there is a likelihood of heat stress even where controls have been implemented, workers should be moved to an area that is unaffected by heat, where work can continue with implemented control measures to minimise the risk. If this is not possible, workers should be moved to an air-conditioned site shed until the temperature is acceptable to continue work.

When working in temperatures that pose a risk in the building and construction industry you should ensure implemented controls are effective, for example schedule hourly drink breaks of approximately 5-10 minutes in the shade and introduce job rotation to reduce the amount of direct heat exposure.

**PCBUs must ensure workers are able to carry out work without risk to health and safety.**

**Refer to [Appendix A- Decision-making approach to Identify and Manage Heat Stress](#) for further information.**

## 3.5 Solar ultraviolet radiation (UVR)

Although solar ultraviolet radiation (UVR) is a separate hazard, the PPE used for protection from the sun can be helpful in protecting against heat-related ill health. PCBUs must ensure that PPE is used to minimise the risk of solar UVR exposure during outdoor work. You can find more information in Safe Work Australia's [Guide on exposure to solar ultraviolet radiation](#).

The ACT can have consistently high UVR levels, particularly during warmer months.

There are three sources that can cause UVR to reach a person on the ground: directly from the sun, scattered from the open sky, and reflected from the environment. Being exposed to UVR from the sun can cause skin damage, sunburn, and cancer, so it is crucial that all workers are protected.

UVR exposure can also still be hazardous in the cooler months and when working on reflective surfaces including metal or close to water or snow. Where work is outdoors PCBUs must manage the risks of exposure to solar UVR, which could include working indoors, working in the shade (for

example shade tents), and planning outside work during lower levels of solar UVR (for example at night or early morning).

PPE should be used by all workers at all times working outside during the day to protect the skin, scalp and eyes from the sun. PCBUs must supply suitable PPE for workers such as:

- lightweight long-sleeved sun protective work clothes that block the UVR
- sun protective hats that are broad brimmed with a neck flap. These should also be considered over other hats with a lower level of protection such as caps
- sunglasses with high UVR protection; and
- sunscreen that is UVR 30+ and broad-spectrum sunscreen (UVA and UVB) even on cloudy or cooler days. Sunscreen should be applied every 4 hours or more often when sweating.

The [Cancer Council SunSmart app](#) lets you know when you do and don't need sun protection and has an alert function which can remind you of daily sun protection times and how much sunscreen you will need to apply.

For further information on UVR risks in the workplace download the WorkSafe ACT [Working in the Sun factsheet](#), and visit the [Sunsmart Workplace Portal](#).

## 3.6 Acclimatisation

When assessing the impact of temperature on workers, PCBUs should consider acclimatisation. Acclimatisation means that the body starts to adapt to the temperature by, for example, sweating efficiently and maintaining a normal body temperature. New workers should be given time to acclimatise to the conditions gradually where possible. If you are considering this as a risk management factor it is important to remember that there are limits on how much a person's body can adapt, making this an unreliable control. Consult a professional, such as an occupational hygienist, if you plan to introduce an acclimatisation program.

## 3.7 Review control measures

### WHS Regulation, section 38

#### Review of control measures

A PCBU must review and, as necessary, revise control measures implemented to maintain a work environment, so far as is reasonably practicable, that is without risks to health or safety.

PCBUs must review control measures before a new uncontrolled risk is introduced. For example, by removing PPE for a worker impacted by heat there may be a new hazard introduced such as exposure to solar UVR.

Control measures must be reviewed and, as necessary, revised in any of the following circumstances:

- the control measure is not controlling the risk
- before a change at the workplace that is likely to give rise to a new or different risk that the control measure may not effectively control

- a new relevant hazard or risk is identified
- the results of consultation indicate a review is necessary; or
- a Health and Safety Representative (HSR) requests a review.

Consulting with workers and their representatives (which is required when making decisions on ways to eliminate or minimise risks) will assist in determining if control measures are working. PCBUs should consider whether incidents, injuries or near misses are occurring frequently. PCBUs should also consider whether workers are actively identifying hazards or controls and if any new information or equipment has emerged that may be effective.

# Appendix A: Decision-making approach to Identify and Manage Heat Stress<sup>3</sup>

## Identification and Assessment

Identifying and managing heat stress is not just about the air temperature.

**Assessing risks of heat-related ill health requires accurate identification and assessment of:**

- workplace conditions
- job requirements; and
- individual worker attributes.

Conduct a walk-through survey of the workplace and ask workers about their heat stress issues. Consider the work location's previous history of heat stress issues, including what time of day or year and under what circumstances they occurred.

**Some standard questions in any heat investigation include:**

- what are the potential sources of heat?
- what heat stress problems have been experienced?
- what type of action has been taken to minimise exposure to thermal energy?
- is there a thermal stress management program in place?
- does it include awareness training and information on heat stress?
- what type of remedial action has been taken to reduce the site's thermal loading to workers?
- what comments or concerns have been raised by workers?

## Three-level approach

Use the following three-level approach to identify heat stress factors in your workplace.

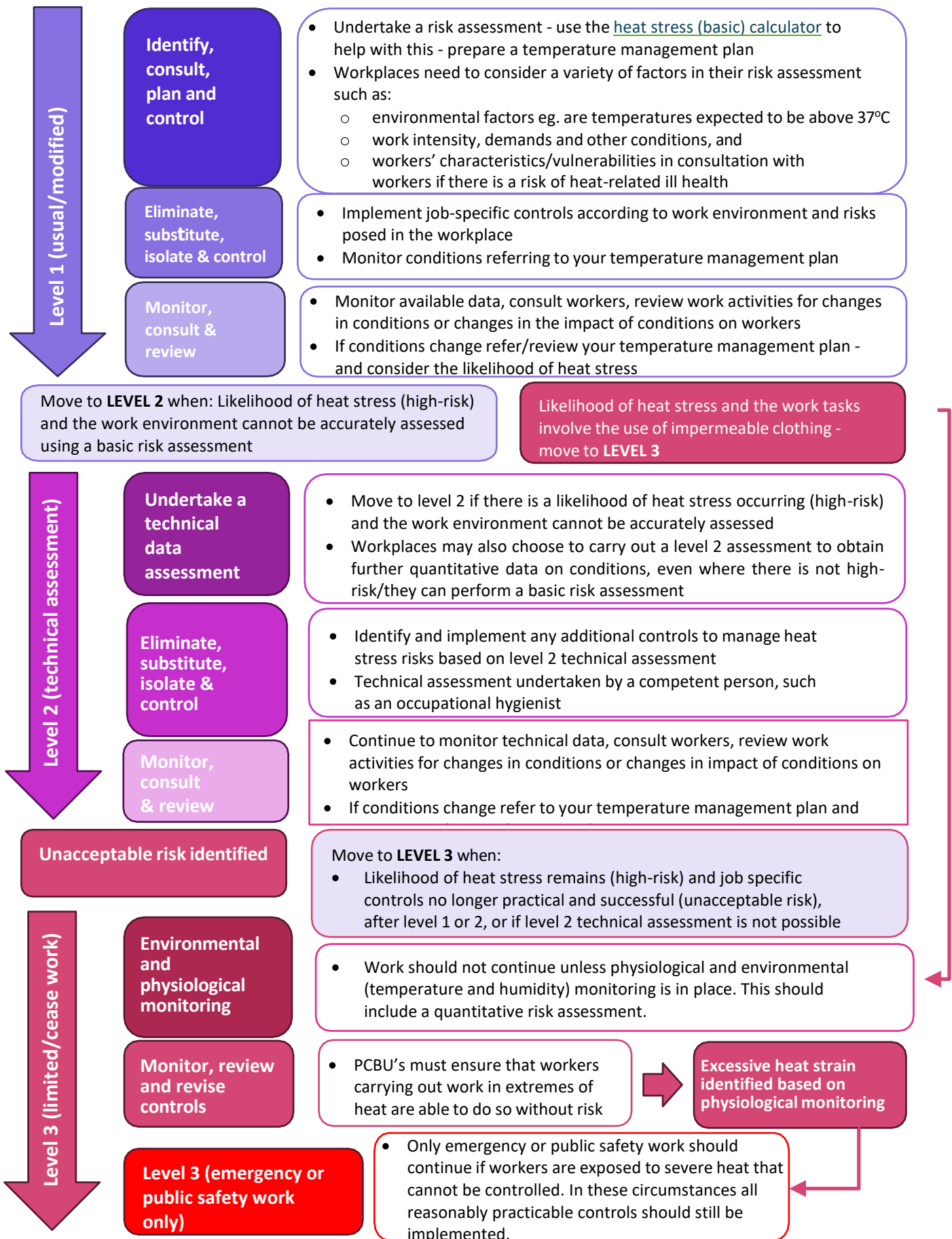
Categories of heat risks in the workplace:

- **low-risk** – the potential of a heat-induced illness is unlikely
- **medium-risk** – the potential of heat-induced illness is possible, and
- **high-risk** – the onset of a heat-induced illness is very likely.

---

<sup>3</sup> Di Corleto, R., Firth, I. and Maté, J. 2013, [A Guide to Managing Heat Stress: Developed for Use in the Australian Environment](#). AIOH, Melbourne.

# Extreme Heat Guidance Decision-Framework



## Level 1 (identify, plan and control)

Undertake a basic risk assessment which can use a simple index such as the [Heat stress \(basic\) calculator](#).

[Heat stress \(basic\) calculator](#) is a simple online tool designed for use by anyone with basic knowledge of the work area and process. There is no direct measurement of environmental conditions required to use the calculator.

Level 1 is performed in anticipation of environmental factors that may expose workers to risks associated with working in heat.

The online calculator uses a number of factors to make a basic assessment of heat stress including:

- the state of acclimatization
- work demands, location
- clothing
- sun exposure
- hot surfaces
- task complexity
- air movement, and
- apparent temperature (this is calculated using ambient temperature and relative humidity).

The online calculator is an initial qualitative review of potential heat stress situations and is not a definitive assessment tool.

**Note:** As the basic assessment is a qualitative assessment, instrumentation for measurement of wet bulb glove temperature (WBGT) is not mandatory, meaning people with limited technical expertise and equipment can identify and assess the risk factors. The basic assessment can therefore be performed using readily available information at the workplace (i.e. ambient air temperature and relative humidity).

If the risk of heat-related ill health is unlikely, then usual work activities may continue.

However, if workers are likely to be exposed to heat stress when undertaking usual work activities (for example, medium or high-risk using the heat stress calculator), workplaces must implement controls to manage these risks. A PCBU may refer to their temperature management plan to determine what controls are implemented (See [Appendix E](#)).

- ! **When determining this, consider environmental factors (e.g. are temperatures expected to be above 37°C and/or humidity), work intensity and other conditions, and the workers' characteristics/any vulnerabilities.**

Workplaces should continue to monitor work activities and repeat the risk assessment again if conditions change or controls in place are revised.

Progress to a level 2 assessment when:

- there is a likelihood of heat stress (high-risk category) and the work environment cannot be accurately assessed using the basic risk assessment tool; or
- the workplace may decide to undertake a level 2 assessment to obtain additional technical expertise.

**! ● If work tasks must be carried out using impermeable clothing and there is a likelihood of heat stress (medium or high-risk) then the workplace will need to move to a level 3 assessment.**

## Level 2 (technical assessment)

If there is still a likelihood of heat stress (i.e. high-risk category) and it is not possible to accurately assess the working environment, additional data should be collected and used.

There are a range of technical methods available that may be used, such as ISO 7933: Predicted Heat Strain (PHS) or Thermal Work Limit (TWL). A range of measuring equipment and expertise is required for this type of assessment.

The types of additional data needed for this assessment include:

- dry bulb temperature
- globe temperature
- air velocity
- humidity
- metabolic load
- clothing type; and
- posture.

This type of assessment and gathering of required data should only be undertaken by a competent person such as an occupational hygienist.

The University of Queensland (UQ) has developed a smart phone app based on ISO 7933, called PHS, visit [The Thermal Environment](#) for more information.

Progress to a level 3 assessment when:

- the likelihood of heat stress remains (high-risk category) after a level 1 or level 2 assessment and implemented job specific controls are no longer practical and successful (unacceptable risk); or
- the likelihood of heat stress remains (high-risk category) and implemented job specific controls are no longer practical and successful, and a level 2 assessment is not possible.

## Level 3 (environmental and physiological monitoring required)

This level of assessment should be undertaken when:

- the likelihood of heat stress remains (high-risk category) after a level 1 or level 2 assessment and implemented job specific controls are no longer practical and successful (unacceptable risk); or
- the likelihood of heat stress (high-risk category) and implemented job specific controls are no longer practical and successful, and a level 2 assessment is not possible.

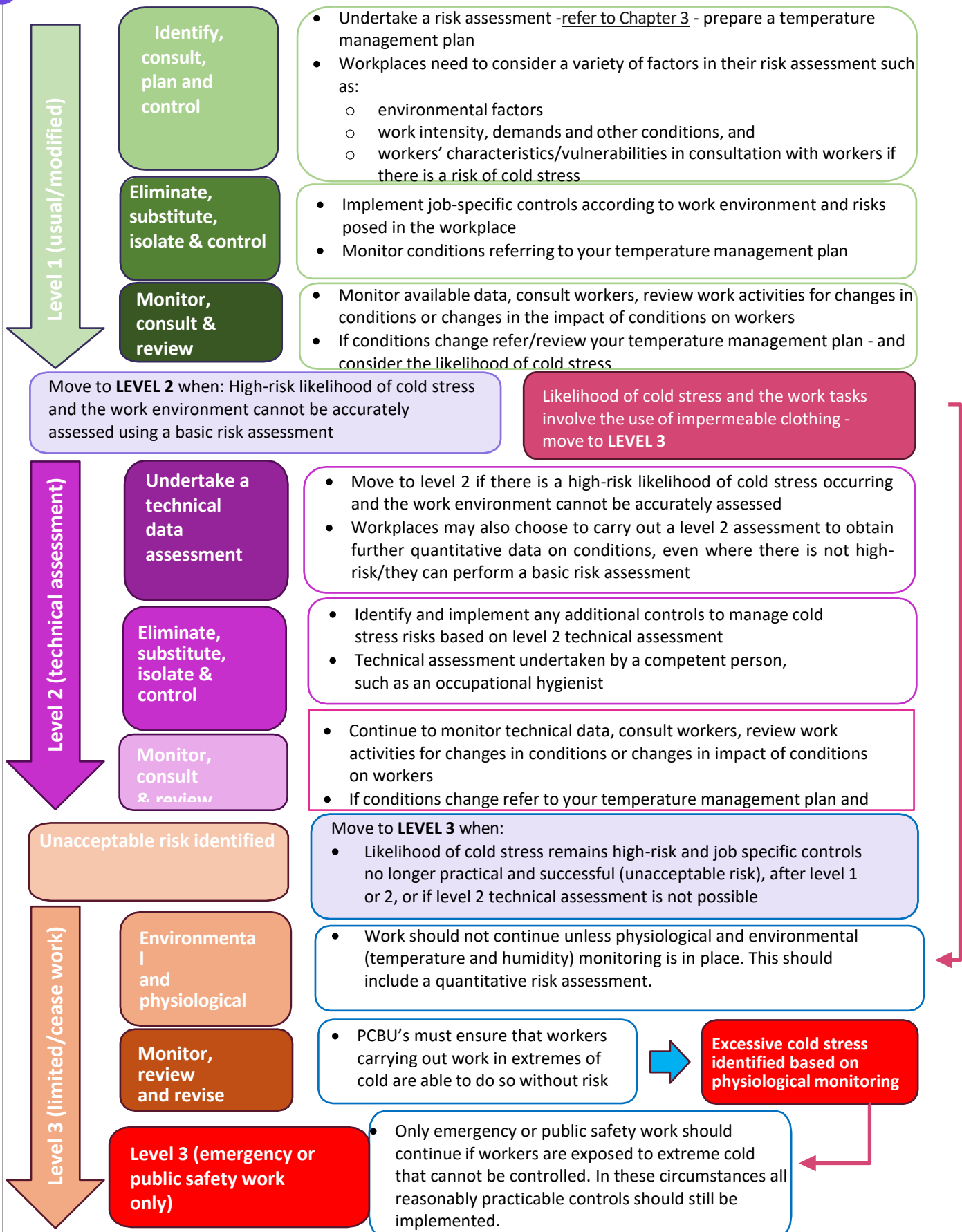
At this level work should not continue unless a heat strain (physiological monitoring) and environmental (temperature and humidity) monitoring is in place for the activities. This should include the development of a quantitative risk assessment. Physiological monitoring is used in cases of high heat stress risk such as:

- work involving the use of impermeable clothing such as encapsulating suits (e.g. hazmat suits) or high levels of external PPE where there is a likelihood of heat stress (medium or high-risk)
- environments where the level 1 assessment indicates a high-risk likelihood of heat stress for workers, a level 2 assessment cannot be undertaken, and job specific controls are no longer practical and successful; or
- environments where the level 2 assessment indicates allowable exposure times of less than 30 minutes.

The risk and severity of heat-related ill health will vary widely among workers, even under identical heat stress conditions. Individual monitoring measures a worker's physiological responses (such as elevated body temperature and/or heart rate) to assess the effectiveness of implemented controls.

When excessive heat strain is identified based on physiological monitoring that cannot be managed, only emergency or public safety work should continue. In these circumstances all reasonably practicable controls should still be implemented.

# Appendix B: Decision-making approach to Identify and Manage Cold Stress



# Appendix C: Heat-related ill health First Aid Fact Sheet

You have a duty to provide first aid equipment and facilities, and access to trained first aid officers, for sick or injured workers. Heat-related ill health is progressive. If the worker is not treated or remains in a hot environment, it can be fatal.

**Note on pre-existing medical conditions and medications.** Previous heat-related ill health, certain medications and medical conditions can make a worker more susceptible to heat related ill health and can affect how the worker can be treated. You should alert workers to this risk and monitor them closely as far as is reasonably practicable.

## Dehydration – Seek medical advice if symptoms don’t improve or are severe

Symptoms	First aid for dehydration
Mild to severe thirst (remember that thirst is satisfied before fluid loss is fully replaced so a person may not realise they are dehydrated). Dry lips and tongue. Slowed mental function and lowered performance. Reduced or dark urine output.	Drink water. Avoid caffeinated, carbonated and alcoholic drinks, and salt tablets. Loosen tight clothing and remove unnecessary clothing, including PPE, while maintaining reasonable respect for the worker. In cases of extreme heat or dehydration, replace electrolytes.

## Heat rash- Seek medical advice if symptoms don’t improve

Symptoms	First aid for heat rash
Itchy rash with small raised red spots on the face, neck, back, chest or thighs.	Move to a cooler, less humid environment. Keep the affected area dry and remove unnecessary clothing, including PPE, while maintaining reasonable respect for the worker. Apply a cold compress.

## Heat cramps- Seek medical advice if symptoms don’t improve

Symptoms	First aid for heat cramps
Painful and often incapacitating cramps in muscles, particularly when undertaking demanding physical work.	Stop activity and rest quietly in a cool place until recovered. Drink an electrolyte solution.

## Fainting- Seek medical advice

Symptoms	First aid for fainting
Fainting (heat syncope) can occur while standing or rising from a sitting position.	Lie the worker flat immediately with their legs slightly raised. Do not raise the head. Treat as for heat stroke and follow medical advice.

## Heat stroke- Call an ambulance immediately

Symptoms (not all will be present)	First aid for heat stroke
<ul style="list-style-type: none"><li>• dehydration, thirst, and reduced or dark urine output</li><li>• sweating</li><li>• the person stops sweating</li><li>• skin can be pink, warm and dry, or cool and blue</li><li>• high body temperature above 39 degrees Celsius</li><li>• weakness or fatigue</li><li>• cramps</li><li>• pounding, rapid pulse</li><li>• headache, dizziness and visual disturbances</li><li>• muscle cramps</li><li>• nausea and/or vomiting</li><li>• clumsiness or slower reaction times</li><li>• disorientation or impaired judgement</li><li>• tingling or numbness in fingers or toes</li><li>• rapid or short breathing</li><li>• rapid weak pulse or heart palpitations</li><li>• vomiting or an unwillingness to drink</li><li>• irritability and mental confusion</li><li>• collapse, seizures and unconsciousness</li><li>• cardiac arrest. Can be characterised by unconsciousness, stopped breathing and no pulse</li></ul>	<ul style="list-style-type: none"><li>• call 000 and evacuate by ambulance immediately</li><li>• ensure that the ambulance is updated if the worker experiences seizures or becomes unconscious</li><li>• follow all directions given by the ambulance operator</li><li>• if cardiac arrest occurs follow <a href="#">DRSABCD action plan</a></li></ul> <p><b>While waiting for the ambulance:</b></p> <ul style="list-style-type: none"><li>• move the worker to a cool place with circulating air</li><li>• remove unnecessary clothing, including PPE, while maintaining reasonable respect for the worker</li><li>• loosen tight clothing</li><li>• if practicable and safe to do, immersion in a bath of cold water is the most effective means for cooling a person</li><li>• immerse the worker (whole-body from the neck down) in a bath of cold water (preferably 1–7 °) for 15 minutes. Continuously observe the worker to ensure an open airway in case of any change in their level of consciousness</li><li>• if a cold bath is not available, or is not reasonably practicable or safe to use, use a combination of the following as available: cool the worker by splashing cool or cold water on their skin or sponging their skin with a damp cloth</li><li>• make a wind tunnel by suspending sheets around, not on, the worker's body. Use a fan to direct gentle airflow over the worker's body</li><li>• apply cold packs or wrapped ice to the worker's neck, groin and armpits</li><li>• if the worker is fully conscious, sit them up to facilitate drinking and provide cool fluid to drink</li><li>• provide an electrolyte solution with sugar. Do not attempt to give oral fluid if the worker is not fully conscious</li><li>• shivering is an automatic muscular reaction which warms the body. It will make the body temperature rise even further. If the worker starts shivering, stop cooling immediately and cover them until they stop. Once they have stopped recommence first aid treatment</li></ul>

## Appendix D: Risk management checklist- Heat

<b>Risk factors to consider</b>	<b>Why this is important</b>	<b>Is the risk present? Is it controlled?</b>
Are ambient conditions hot?	This contributes to incidents such as heat-related ill health and burns.	
Are days and nights hotter than usual?	A heatwave can make it harder to sleep and workers may become fatigued.	
Is it humid?	High humidity makes it harder for the body to cool itself.	
When is work done?	Certain times of the day and year will be hotter.	
How often can workers take breaks somewhere cool?	Working in heat for long periods of time is very dangerous.	
Is there air movement or a breeze?	This can help cool workers.	
Is the work intense or long?	The harder the body is working the more heat it needs to lose.	
Are workers physically fit and acclimatised?	Fit and acclimatised workers generally have higher heat tolerances.	
Do workers wear hot clothing (including PPE)?	Some clothing can prevent the evaporation of sweat or prevent air movement.	
Are the workers qualified, trained and experienced?	Experienced workers may be more efficient and use less energy for the same work. They may also be more aware of the hazards, health effects and controls.	

---

(If known) do workers have medical conditions?

Some conditions and medications can make workers less able to cope with heat.

---

Is there cool drinking water and electrolyte drinks on hand?

Dehydration can be dangerous and contributes to heat-related ill health.

---

# Appendix E: Example Template Temperature Management Plan

## Risk Assessment

**Note:** The impact temperatures will have on workers will be different in every situation depending on the individual worker, the work they are doing, and the environmental conditions. When assessing risks to health and safety, persons conducting a business or undertaking (PCBUs) must consult with workers and any health and safety representatives (HSRs).

Undertake a risk assessment to determine the severity of risks and what action you should take. When assessing heat risks you can use the [heat stress \(basic\) calculator](#) to assist.

Where appropriate, undertake formal workplace assessments by a suitably qualified occupational hygienist, refer to the decision framework at [Appendix A](#) and [Appendix B](#) to assist in determining when this is necessary.

**Note:** there may be other factors in your workplace to consider, beyond those included in the list below.

### Where is the work being done?

Factors to consider	Assessment
<b>Temperature and humidity</b>	
<b>Working in high levels of humidity can make it more difficult for a person to cool down.</b>	
<b>Sun exposure</b>	
<b>Consider whether work is indoors or under shade.</b>	
<b>Distance from temperature-controlled rest area and drinking water</b>	e.g. a temperature-controlled rest area and drinking water station is less than 10 meters from workers. Scheduled hourly drink breaks have already been implemented. Existing control measures are effective in current environmental conditions.
<b>Working in extreme temperatures for long periods of time is very dangerous.</b>	
<b>Heatwaves</b>	

---

*A heatwave occurs when the maximum and the minimum temperatures are unusually hot over at least a three-day period.*

---

**Wind-chill and wind speed**

*e.g. wind-chill in winter months may increase risk.*

---

**Work near heat sources and in confined spaces with minimal air flow (such as a roof cavity)**

---

**Radiant temperatures when working in the sun, particularly on a concrete or metal roof, or near hot machinery or processes (for instance a furnace, kitchen or manufacturing workshop)**

---

**Ratio of space to workers**

*A small room/workspace with a number of workers in it can see a rise in temperature.*

---

**Outdoor temperature compared to indoor temperature**

*The perceived “comfortable” temperature inside a workplace depends on the outside temperature.*

---

**Temperature of air conditioning/heating and position of workers**

*If the air is cooler than the environment, then it may help to cool workers in a warm environment, however, it could cause further discomfort to workers in a cool environment. For example, if someone sits directly under an air conditioning vent, then they may be in a draught and therefore much cooler than is ideal.*

---

## What type of work?

Factors to consider	Assessment
<b>Physical exertion, particularly over long periods, increases the risk of heat-related ill health, even in moderate conditions</b>	
<b>Some workers may not be able to pace their work and may be at greater risk from the heat</b>	
	<i>e.g. workers on performance-based salaries are generally less likely to reduce their work rate to prevent over exertion and can put themselves at higher risks of heat-related ill health.</i>
<b>Concentration may be affected by heat and cold, particularly for complex or difficult tasks</b>	
<b>Clothing, including PPE, uniforms and standard dress, may impair the evaporation of sweat and increase the risk of heat-related ill health</b>	
<b>Likewise, workers can manage thermal comfort if they can add layers of clothing (when feeling too cold)</b>	
<b>Sedentary work in cool or cold environments can make it difficult for workers to generate heat</b>	

## Who is working?

Factors to consider	Assessment
<b>Experience of workers</b>	
	<i>e.g. an apprentice may take longer to do a task or might not know how to work safely. Their supervisor might also be at increased risk if they are also exposed to temperatures for a longer time.</i>
<b>Physical fitness and acclimatisation to current working conditions</b>	
	<i>Workers who are new to the conditions or the type of work can be significantly more susceptible to conditions.</i>

---

**Tense or stressed workers can feel colder**

*e.g. consider whether high job demands are increasing risk.*

---

**Medication/drugs**

*Consider whether workers are taking certain medications such as diuretics, or taking non-medical drugs such as drugs not prescribed through the medical system or the use of drugs (prescription or non-prescription) for purposes other than as part of a treatment prescribed or recommended by a medical professional.*

---

**Pregnant workers**

*Pregnant workers may be more susceptible to heat-related ill health or cold stress.*

---

**Workers experiencing menopause**

*Workers experiencing menopause may be more susceptible to heat-related ill health or cold stress.*

---

**Relevant condition or illness**

*e.g. diabetes, obesity, heart disease, respiratory disease, fever, or previous experience of heat-related ill health.*

---

**Risk of dehydration or electrolyte depletion**

*e.g. if workers are on a fluid-restricted diet.*

---

**Younger (aged 25 or under) or older (aged 55 or more)**

*Younger or older workers may be more susceptible to heat-related ill health or cold stress.*

---

**Returning to work after an absence or incident**

*e.g. a fly-in-fly-out worker.*

---

## Controls

You must eliminate the risks of exposure to extreme temperatures at your workplace, so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, then it must be minimised.

PCBUs should consult about and determine specific circumstances/conditions where risk levels are unacceptable, and work must be stopped to eliminate the risk. Agreed parameters should be included in the table below.

PCBUs must ensure that information, training, and instruction provided to workers is suitable and adequate, having regard to the nature of the work, risks associated with the work, and control measures implemented. Ensure the information and training is understood by all workers – including those from culturally and linguistically diverse backgrounds.

Agreed control measure	When control will be implemented	Who is responsible
<b>e.g. provision of well-maintained heating units inside office building</b>	e.g. during cooler months	e.g. facilities team under the direction of the Corporate Manager
<b>e.g. wind shields installed while working in exposed areas</b>	e.g. on days when wind chill and wind-speed poses a risk to workers	e.g. Site Manager

## Review and Revise

Monitor conditions, refer to your plan, and revise controls according to conditions. You should regularly review and revise control measures to maintain a safe working environment.

Control measures must be reviewed and, as necessary, revised in any of the following circumstances:

- the control measure is not controlling the risk
- before a change at the workplace that is likely to give rise to a new or different risk that the control measure may not effectively control
- a new relevant hazard or risk is identified
- the results of consultation indicate a review is necessary; or
- a Health and Safety Representative (HSR) requests a review.

**Conduct a new risk assessment and review the control measures detailed in this plan to determine if they are still operating effectively.**