CITY OF GREATER GEELONG

MANAGEMENT PROCEDURE

Heat and UV Protection	Document No:	D18-383020
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	Approved By:	CEO
	Review Date:	11 Jan 2023
Responsible Officer: **Executive Manager, P&OD**		
	Version No:	06
Authorising Officer:	**Chief Executive Officer**	

1. PURPOSE

This procedure outlines the requirements and method for the City to manage the risk of heat illness and exposure to harmful ultra-violet (UV) radiation.

2. SCOPE

This procedure applies to all personnel engaged by the City including staff and volunteers during working hours. The requirements placed upon contractors in regards to heat and UV protection are detailed in section 5.2.6.

3. REFERENCES.

- Victorian Occupational Health and Safety Act 2004
- WorkSafe Victoria – Guide for Employers: Skin Cancer and Outdoor Work - 2012
- Safe Work Australia – Guide on Exposure to Solar UV Radiation - 2013
- SunSmart - The Cancer Council Victoria – Sun Protection, Skin Cancer and Outdoor Work
- SunSmart – UV exposure and heat illness guide

4. DEFINITIONS

City means the City of Greater Geelong.

Heat Illness a heat induced illness that can cause serious injury.

Heat Strain the net physiological load resulting from heat stress.

Heat Stress is the net heat load on the body from the ambient environment, clothing, PPE requirements and metabolic demands of work. Factors that influence heat stress include; muscular activity, conductive and convective heat and radiant heat.

Heat Stroke a failure of the body's perspiration mechanism resulting in accelerating rise in body core temperature.

Heat Wave the Australian Bureau of Meteorology defines this as period of 3 days or more of unusually high maximum and minimum temperatures.

Hydration the process of absorbing and retaining water in the human body.

Radiant Heat is heat directly transmitted by infrared radiation from a heat source, and not by conduction or convection.

Shall or **Must** means a mandatory requirement.

Ultraviolet (UV) Radiation means a wavelength of sunlight that can damage the skin. The level of UV radiation varies depending on the time of the year and the proximity to surfaces such as concrete and metal which can reflect and scatter UV radiation.

5. PROCEDURES

5.1 Authorities & Responsibilities

Directors and Executive Managers shall:

- Review and approve any variations to the requirements of this procedure based on a risk assessment being completed under section 5.2.5 or 5.2.6.

Department Managers shall:

- Ensure the requirements of this procedure are implemented in the workplace.
- Provide sufficient personnel and resources to implement the requirements of this procedure.
- Monitor the implementation of the procedure in the workplace.

Supervisors shall:

- Ensure all work tasks that have potential to expose employees to heat or UV radiation are identified.
- Ensure the UV protection and heat illness controls outlined in this procedure are adhered to.
- Ensure that affected staff without access to CityWeb are made aware of the UV index rating on a daily or as required basis.
- Retain all relevant documentation.
- Monitor the implementation and use of agreed control measures.
- Consult with employees and Health and Safety Representatives.
- Provide relevant instruction, information and training to employees on the use of agreed control measures.
- Monitor for signs and symptoms of heat illness.
- Ensure that workers are issued with suitable personal protective equipment (PPE).

- Review (and where necessary, adjust) work patterns during the summer months to reduce employees risk of harmful UV radiation exposure.
- Ensure that any personal and/or health information collected in the application of this procedure will be handled in accordance with CPL545.1 – Information privacy and health records policy and MPR545.1.1 – Information privacy procedure.

Health and Safety Representatives (HSRs) shall:

- Be afforded the opportunity to participate in the identification, assessment and control of work tasks that have potential to expose workers to high levels of heat and UV radiation.

Employees shall:

- Comply with the requirements of this procedure and implement control measures that provide protection against hazards associated with heat and UV radiation exposure.
- Comply with all reasonable directions and instructions in regards to how their work is undertaken in accordance with any relevant information and training provided to them.
- Correctly use, wear and maintain all required personal protective equipment.
- Advise supervisors of any current medications being taken or applied or any pre-existing medical condition that may cause photosensitivity to UV radiation.
- Monitor for signs and symptoms of heat illness in themselves and others working around them and report to their supervisor if symptoms develop.
- Maintain an understanding and awareness of heat and UV exposure risk.

People and Organisation Development shall:

- Facilitate the non-work related injury or illness procedure as required under section 5.2.5.

5.2 Procedure Instructions

5.2.1 UV Radiation and Exposure

Overexposure to UV radiation causes skin and eye damage, sunburn, tanning and ultimately can result in skin cancer.

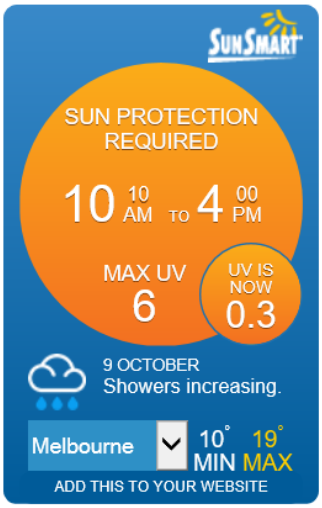
5.2.2 Assessment of UV exposure risk

Categories	UV Index
Low	UV Index of 1 – 2
Moderate	UV Index of 3 – 5
High	UV Index of 6 – 7
Very High	UV Index of 8 – 10
Extreme	UV Index of 11 and above

When the UV Index is at three or above, personal protective equipment must be used as per section 5.2.4.

The SunSmart UV Alert, on the CitySafe web page (link here) predicts when sun protection is required on a daily basis.

Fig 1: Example of SunSmart UV alert from CitySafe



Sun protection times vary during the year depending on the season. Generally in Victoria, the UV index rating is above three from September to May. At these levels the UV radiation can damage your skin and sun protection is essential.

When the UV Index is below three it is safe to go out in the sun without protection. However it is recommended that sun protection is used when the UV index is below three for:

- workers who spend extended periods of time outdoors (>20 minutes), and
- those who work near highly reflective surfaces.

Ingestion or topical application of certain medications may cause photosensitivity in some individuals (meaning they are sensitive to lower levels of UV radiation). Workers who are required to work outdoors that are taking or applying medications that have the potential to cause photosensitivity are at higher risk of harmful UV exposure.

5.2.3 Control of UV exposure risk

Some control measures are more effective than others. Control measures can be ranked from the highest level of protection and reliability to the lowest. This ranking is known as the hierarchy of control. It is an OHS legal requirement to apply the hierarchy of controls in order from highest (most preferable) to lowest (least preferable).

To help determine appropriate controls for UV exposure, refer to the hierarchy of control elements below:

Control type	Description
Elimination	• Carry out the work indoors.
Engineering / Substitution	• Shelter the task from direct sunlight with shade sails. • Carry out the work during the early morning or late afternoon. • Relocated the task away from any reflective surfaces (eg. concrete, glass, metal, sand, water).
Administration	• Reorganise or reschedule the work process or system of work to avoid or reduce peak heat and UV radiation exposure periods (in accordance with the Enterprise Agreement working hours of 6am to 6pm Monday to Friday). • Rotate employee work tasks or vary their jobs to reduce exposure time.
Personal Protective Equipment	PPE is the lowest order control measure in the hierarchy of controls. PPE should only be considered when other higher order control measures are not reasonably practicable or to increase protection from the hazard. Examples of PPE include sun protective work clothing, sun protective hats, sunglasses and sunscreen. PPE requirements are detailed in section 5.2.4

In most cases, a combination of control measures will provide the best solution to minimise the risk to the lowest level reasonably practicable. For example, use engineering controls like shade structures along with sun protective clothing and administrative controls like rotating workers. The chosen control measures must be checked to ensure they do not introduce new hazards, for example temporary shade structures may not be secured properly.

5.2.4 Personal Protective Equipment

PPE may be used either as a stand-alone control measure if all higher-order controls are impracticable, as a short-term control measure while higher-order controls are implemented or as a longer-term control measure in conjunction with higher-order controls.

In addition to the general requirements detailed in the CitySafe PPE procedure, the following minimum specific PPE requirements apply to employees who are required to be outdoors, including indoor staff who are required to work outdoors during the high risk times when the UV level is >3 as outlined in 5.2.2.

Protective Clothing

Unless impracticable (causes another safety concern such as entanglement) all workers are required to wear hats, long sleeve shirts and full length (long) trousers when working outdoors or whenever outdoors for a period greater than 20 minutes (in one block).

Shirts must have a collar and the selection of the fabric should consider the Ultraviolet Protection Factor (UPF). Information regarding a garment's UPF should be listed on the label. The higher the number, the greater the protection (range 15 to 50).

Sunhats

Hats must be worn when outdoors in the peak period to protect against UV exposure. The brim must be a minimum of 7.5cm for broad brim hats whilst bucket hats will be a minimum of 6cm. Where employees are required to wear safety helmets, attachments shall be used to provide protection to the face, ears and neck.

Only broad brimmed hats are to be worn and baseball style caps are not suitable.

Sunglasses

Employees required to work outdoors shall be provided with glasses that give protection to UV radiation and comply with AS/NZS 1067.

Where potential impact hazards have been identified, employees shall wear safety glasses that provide protection to UV radiation and impact hazards and comply with AS/NZS 1337.

Sunscreen

Workers shall use sunscreen on exposed areas of skin. Sunscreen should be applied in conjunction to other protective measures such as clothing.

Sunscreen shall be a minimum of "broad spectrum SPF 50+" type and be re-applied a minimum of every two hours (or more frequently if perspiring or in contact with water).

Sunscreen should be stored in an easily accessible and cool place, and used within its expiry date.

5.2.5 Variation of PPE Requirements

Where a work group or department are unable to meet the requirements detailed in section 5.2.4 a risk assessment must be completed which details the reasons why compliance cannot be achieved. Other controls must be included in the risk assessment to ensure sun exposure is adequately managed.

The risk assessment requires approval from the Health and Safety Unit and the respective Director of the Division affected.

Where a medical condition prevents an employee from meeting the requirements listed in section 5.2.4, the Non-work Related Injury or Illness management procedure will be applied (link here). This procedure ensures that the employee is

not placed at further risk of injury and that the City can fulfil its obligations under the OHS Act 2004.

5.2.6 Contractors

Contractors are required to have documented systems of work that detail how they manage the risks associated with heat illness and UV exposure. These systems of work must be included in safety plans or other contract documents.

The minimum PPE requirements for all contractors are as per section 5.2.4 unless a risk assessment is prepared by the contractor and approval obtained from the owning Division's Director.

5.2.7 Heat Illness

Heat illness or stress occurs when the body is unable to cool itself enough to maintain a healthy temperature. Normally, the body cools itself by sweating, but sometimes sweating isn't enough and the body temperature keeps rising. Heat-related illness can range from mild conditions such as a rash or cramps to very serious conditions such as heat stroke, which can kill.

5.2.8 Assessment of Heat Illness risk

Anyone can suffer from heat-related illness, but those most at risk (relevant to the workplace) are:

- People over 65 years of age
- Pregnant and nursing mothers
- People who are physically unwell, especially with heart disease, high blood pressure or lung disease
- People on medications that affect their thermal regulation

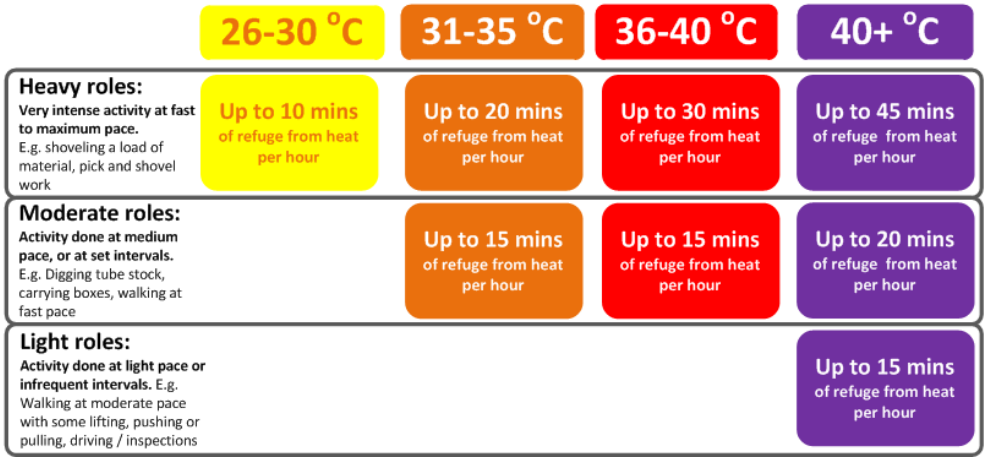
The risk of heat illness can be determined using the below table. For the purpose of assessing temperature, readings shall be from the Bureau of Meteorology website.

Figure 2: Heat illness risk ratings

Temperature	Description	Heat Illness Risk Rating
15-25 ^{0}C	• Comfortable, continue with usual activities. • Heat illness can occur in prolonged high-intensity activities. • Be cautious of people who fit into high-risk categories at temperatures over 21 Degrees and when relative humidity reaches over 70%.	**Low**
26-30 ^{0}C	• Uncomfortable for some people. • Be cautious when relative humidity reaches over 60%.	**Medium**
31-35 ^{0}C	• Uncomfortable for most people, modify activities. • Be cautious when relative humidity reaches over 50%.	**High**
36-40 ^{0}C	• Very uncomfortable for most people. • Be cautious when relative humidity reaches over 30%.	**Very high**
40 ^{0}C & above	• Very stressful for most people. • Be cautious when relative humidity reaches over 30%.	**Extreme**

5.2.9 Control of Heat Illness risk

The most effective way of reducing the risk of heat illness is to limit exposure to heat, minimise task intensity and ensure adequate hydration. To help determine appropriate controls for the risk of heat illness, refer to the hierarchy of control elements below:

<table>
<tr><th>Control type</th><th>Description</th></tr>
<tr><td>Elimination</td><td>
Complete the task on another (cooler) day.
</td></tr>
<tr><td>Engineering / Substitution</td><td>
Complete the task sheltered from direct sunlight.
Change, modify or move the equipment.
Use natural ventilation or install fans or air conditioners.
</td></tr>
<tr><td>Administration</td><td>
Reorganised or rescheduled the work process or system of work to avoid or reduce exposure to the hottest period in the day.
Locate cool palatable drinking water adjacent to the task.
Where operationally appropriate, rotate employees to lighter tasks which will reduce task intensity.
Implement a cycle of work and refuge.
The table below shows the minimum recommended number of minutes per 1 hour block that an employee who works outdoors or in non air-conditioned environments should seek refuge from the heat under various temperature and work activities (where a reduction in temperature cannot be achieved through the implementation of suitable controls).
The need for refuge can be reduced, or in some cases eliminated, by rotating all tasks in the 1 hour block to lighter tasks. Doing so will minimise the risk of heat related illness and the impact on productivity from requiring long periods of refuge.
In situations where the role being performed for an uninterrupted 1 hour block meets the refuge thresholds as outlined on the table below (and the Heat and UV Guidelines poster), the current work duties must be ceased and refuge taken from the source of heat for up to the time specified. During periods of refuge, it may be appropriate for the employees to undertake other work-related non-physical tasks such as record keeping or reading documents. When refuge is taken it may be in (but is not limited to) the following locations:
a) Refuge in a stationary air conditioned vehicle or site hut
b) Refuge in a sheltered location out of direct sunlight
c) Refuge in an office or other building


</td></tr>
<tr><td>Personal Protective Equipment</td><td>
The selection of PPE for sun protection as identified in section 5.2.4 may have an impact on a person's ability to cope with heat. Also, tasks that must be performed whilst wearing or using other PPE (such as chaps for chainsaw work) may have a similar impact.
At all times the control of UV exposure must take precedent over heat illness.
Where the PPE controls contradict each other (i.e. long sleeves are beneficial to protect against UV, but may be negative in terms of heat illness) higher order controls such as task elimination or rescheduling must be implemented.
</td></tr>
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5.2.10 Symptoms and first aid for heat related illness

It is important to know the signs and symptoms of heat exposure and the required response. Symptoms and treatment options vary according to the type of heat-related illness. Information about Heat Illness can be sourced from the Victorian Government 'Better Heath' website (link here).

Common heat illness and first aid actions

Disorder	Symptoms	What to do
Heat cramps	• Muscle pains • Spasms in the abdomen, arms or legs	• Stop activity and sit quietly in a cool place • Increase fluid intake • Rest a few hours before returning to activity • Seek medical help if cramps persist
Heat exhaustion	• Pale complexion and sweating • Rapid heart rate • Muscle cramps, weakness • Dizziness, headache • Nausea, vomiting • Fainting	• Get the person to a cool area and lie them down • Remove outer clothing • Wet skin with cool water or wet clothes • Seek medical advice
Heat stroke *(a life threatening emergency)*	• Same symptoms as heat exhaustion • Dry skin with no sweating • Mental condition worsens, confusion • Seizure • Appear to have a stroke or collapse • Unconsciousness	• Call an ambulance • Get the person to a cool area and lie them down • Remove clothing • Wet skin with water, fanning continuously • Position an unconscious person on their side and clear the airway

5.2.11 Heatwaves

The Department of Health has developed a heat health alert system which aims to issue health alerts to local governments and service providers advising the activation of state and local Heatwave responses.

The alert will be issued for the 'Central' region of Victoria (which Geelong is in) when the average temperature threshold of 30^0C between the maximum daily temp and the forecast overnight temp is reached.

This assessment is done based on seven-day forecast maximum and minimum temperatures. This means that Heatwaves can be predicted between one and seven days before the event and proactive OHS responses can be put into practice.

The Health and Safety Unit will distribute heat health alerts to inform OHS considerations when the alerts are provided to Council.

5.2.12 Emergency Work

Where there is a need to undertake emergency work, hazards associated with heat and UV radiation shall be identified, assessed and appropriate control measures determined prior to undertaking the work.

Consideration should also be given to the provision of additional employees to enable frequent rotation and the provision of adequate rest and refreshment breaks.

5.2.13 Training

Any employee whose main work activity is performed outdoors shall be provided with appropriate information, instruction and training prior to the commencement of summer each year.

Training shall include:

- Increasing awareness of harmful effects of heat and UV radiation
- Promotion of control measures
- Provision of information for self-screening for skin cancer

6. QUALITY RECORDS

Quality Records shall be retained for at least the period shown below.

Record	Retention/Disposal Responsibility	Retention Period	Location
Nil			

7. ATTACHMENTS

Heat and UV Guidelines – Poster (link here)