

Procedure:

Working during Extreme Weather

1. Purpose

To identify environmental hazards faced by workers and eliminate where possible or otherwise reduce worker exposure to those hazards.

2. Actions Required

- Identify environmental hazards for workers
- Implement effective control measures
- Audit and review.

3. Definitions

GSCC- Greater Shepparton City Council

GSCC RO - GSCC Responsible Officer, a Greater Shepparton City Council employee, who in their area of responsibility has a managerial or supervisory role or has engaged a contractor(s)

OUTDOOR WORK - any work outdoors for part or all of the day

PPE - Personal protective equipment

SUNSCREEN - 30+ rated product designed for skin protection

UV - Ultra violet referring to the radiation levels emitted from the sun.

Council approved - Clothing or headwear that complies with Council's uniform policy, approved items that features the Council logo and/or meets the requirements within this procedure.

4. Responsibility and Authority

Managers / Supervisors

- Identify hazards that may be present due to the environment
- Identify means within workgroups to eliminate or reduce worker exposure to potentially harmful environmental conditions.
- Monitor effectiveness of strategies in place to eliminate or reduce worker exposure to potentially harmful environmental conditions.
- Provide appropriate work procedures and PPE and monitor its effectiveness
- Encourage employees to monitor weather conditions to ensure they are not putting themselves or others at risk
- Access forecast weather conditions (This may be gained from ABC radio 97.7FM or 774 AM or Bureau of Meteorology web site www.bom.gov.au or GSCC intranet, Insite)

Workers

- Follow guidelines or work practices given to minimise environmental risks
- Use PPE when and as required

Report any hazardous situations they become aware of due to weather conditions

5. Procedure

Risk Assessments

Risk assessments are to be conducted to identify effect on workers from possible extreme weather conditions.

The Risk Assessment should consider:

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- Workers exposure to Ultra Violet (UV) index levels of 3 and above or adverse cold weather
- PPE requirements
- Procedures to deal with extreme weather days
- Radiant heat and “one off” or consecutive hot periods
- Access to shade and water
- Wind conditions
- Effect of weather conditions to plant.
- Sweat causing loss of grip or eyesight
- Visibility issues due to sun glare or darkness due to rain/cloudy
- Fatigue and loss of concentration
- Burns from hot or cold surfaces
- Effect of weather conditions on chemicals.

6. Strategies for Dealing with Different Working Environments

Hot Weather and High UV

There is no set temperature at which work must be halted. Working in seasonal heat presents a number of health and safety hazards, which may be influenced by a number of risk factors.

The following factors should be considered:

- Consideration of “consecutive hot days” or “one off” day of heat
- The task being performed
- Access to shade and water
- Availability to rotate duties, more frequent breaks or extension of breaks. GSCC RO’s are required to report any rescheduling of work activities to their respective Managers
- Ability to adjust the work/rest regime due
- Use of PPE such as broad brimmed hats. PPE is the least effective control measure and other more effective means to ensure workers health in extreme weather are to be implemented

During days of extreme heat GSCC RO’s are responsible for ensuring workers:

- Avoid prolonged and continuous periods in the direct sun
- Consider means of reducing heat loads such as the provision of a shaded work area
- Access to shade where appropriate
- Have an adequate supply of cool drinking water
- Adequate sun screen protection
- Advise workers to maintain hydration (drinking approximately of half a litre of liquid every hour worked. Carbonated soft drinks do not effectively hydrate the body).

Prior to ceasing work to seek medical attention or due to signs of stress, workers must make every reasonable effort to notify their manager or supervisor.

Personnel Protective Equipment (PPE)

PPE provided for workers working in the outdoor environment must be aimed at eliminating where possible or otherwise reducing worker exposure to harsh environmental hazards.

PPE Clothing

Where activities and tasks occur outdoors and in outdoor environment, the minimum acceptable standard PPE **clothing** includes:

- Long sleeved shirts and long trousers or long skirt/dress.
(Different types of fabric provide different protection. GSCC can only advise employees not issued with a uniform to seek clothing for outdoor work with a suitable UPF rating.

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Fabrics should carry a swing tag with a UPF rating, 50+ provides the best protection. GSCC RO's responsible for deciding on employee uniforms where outdoor work is required, must seek appropriate sun smart fabrics/uniforms for such work.)

PPE Headwear

During Day light saving period

Required headwear for work in outdoor environment includes:

- A Council approved wide brimmed hat:
 - With a rim of at least 8 cm wide
 - Constructed from material that transmits less than 10% of UV radiation
 - That allows user to wear ear protection where required or
- A bucket hat with a brim of 6-7 cm or
- A Council approved Baseball cap- **Legionnaire style only.**
- On sites where safety helmets (hard hats) are mandatory, additional sun protection is needed during outdoor work to protect face, ears and neck.

(Various sun protection accessories are available for attaching to helmets, such as broad brims or Legionnaire covers with peak and flap at the back and sides.)

During Non-Day light saving period

Headwear for work in outdoor environment includes:

- Any of the above headwear.
- A Council approved Baseball cap- Legionnaire style or standard
- A Council approved beanie

During the non-day light saving period GSCC Responsible Officers are expected to monitor expected UV levels and where the predicted UV reading is expected to reach 3+, GSCC Responsible Officers are instruct personnel to comply with the **Day light saving period head wear** requirements.

NOTE: Employees are not **required** to wear headwear:

- Whilst in a cabin of a vehicle or
- Where Plant or machinery is fitted with appropriate shade cover or sun protection,

But when required to perform any duties without the above UV protection, all persons must comply with the required PPE outlined in this procedure.

Other Sun Protection

- Sun screen lotions are to be provided and available on location for outdoor employees and should exceed a sun protection factor (SPF) of 30+
- Training for outdoor employees detailing the potential hazards of UV radiation exposure, the use of PPE and the application of sun screens that should be applied hourly due to the sweating process removing the product from the skin

Exemptions to PPE Requirements

- Life guards are exempt from wearing long pants whilst on lifeguard duties.
- But are encouraged to:
 - Apply sunscreen to exposed limbs regularly.
(as sweating can remove sunscreen from the body) and

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- Are encouraged to use provided or natural shade areas if tasks can be appropriately completed whilst doing so.
- Work groups that develop a job or location specific sun smart procedure approved by GSCC OHS Committee may be exempt from particular items of PPE
- Workers exposed to UV radiation performing duties that are not a part of their regular tasks and would be classified as a “one off”
- Workers not exposed to UV radiation for longer than 15 minutes.

How to Apply For Exemption

Work groups wishing to apply for exemption of PPE items must provide the OHS Committee with a detailed sun smart plan.

GSCC Discipline Procedures will be initiated where an employee fails to comply with sun protective control measures.

Identifying heat illness hazards

Air temperature alone cannot be used to determine whether there is a risk of heat illness. The key risk factors that need to be taken into account are:

- ✚ air temperature
- ✚ humidity (in the environment or workplaces such as laundries and mines)
- ✚ radiant heat (from the sun or other sources such as furnaces and ovens)
- ✚ air movement or wind speed
- ✚ workload (nature of the work and duration)
- ✚ physical fitness of the worker (including acclimatisation and any pre-existing conditions e.g. overweight, heart/ circulatory diseases, skin diseases or use of certain medicines)
- ✚ clothing (including protective clothing such as overalls, coveralls and suits worn during insecticide spraying).

Is there a risk of heat illness?

If there is a risk of heat illness at work, it must be controlled. Advice may be sought from a person competent in heat assessment. They can provide recommendations about how the risk can be controlled.

Any assessment should include an appropriate heat stress index. A commonly used and recognised index is the **Wet Bulb Globe Temperature (WBGT)**. The WBGT takes into account air temperature, radiant heat, humidity and air movement. Adjustments are also made to take into account things such as physical workload, clothing and work organisation.

Preparedness - What to do before doing outdoor activities when the WBGT is high -

- ✚ Wear a hat and light weight, light fitting, light coloured clothes.
- ✚ Plan to take frequent breaks in shady areas.

Safety - What to do while doing outdoor activities when the WBGT is high -

- ✚ **Take breaks in the shade.** Strenuous outdoor activities should be reduced, especially in direct sunlight where there is little ventilation.

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- ✚ **Drink plenty of water or other non-alcohol fluids.** Your body needs water to keep cool. Drink plenty of fluids even if you don't feel thirsty.
- ✚ **Don't get too much sun.** Sunburn makes the job of heat dissipation that much more difficult

Suggested Actions and Impact Prevention		
WBGT(F)	Effects	Precautionary Actions
< 80		
80-85	Working or exercising in direct sunlight will stress your body after 45 minutes.	Take at least 15 minutes of breaks each hour if working or exercising in direct sunlight
85-88	Working or exercising in direct sunlight will stress your body after 30 minutes.	Take at least 30 minutes of breaks each hour if working or exercising in direct sunlight
88-90	Working or exercising in direct sunlight will stress your body after 20 minutes.	Take at least 40 minutes of breaks each hour if working or exercising in direct sunlight
>90	Working or exercising in direct sunlight will stress your body after 15 minutes.	Take at least 45 minutes of breaks each hour if working or exercising in direct sunlight

Related health and safety problems

Apart from heat illness, hot working conditions may either contribute to or cause other health and safety problems, for example:

- ✚ loss of grip while handling tools, objects and controls due to sweaty hands
- ✚ slips, trips and falls due to fainting or fatigue
- ✚ errors/mistakes due to heat fatigue
- ✚ not following safe work procedures or cutting corners due to fatigue and/or discomfort
- ✚ not using PPE due to discomfort
- ✚ burns from contact with hot surfaces or substances.

Heat discomfort

Heat discomfort is what many people feel when it is hot. It is not a medical condition like heat illness and therefore is not considered a risk to health.

People who work in office type environments and who do very little physical work are unlikely to be at risk of suffering heat illness.

What they experience as a result of higher temperature and increased humidity is likely to be heat discomfort.

Heat discomfort can generally be managed by:

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- ✚ increasing air movement
- ✚ providing air conditioning (if practical)
- ✚ providing access to cool water
- ✚ wearing suitable light, loose fitting clothing.

Thermal comfort is subjective, but generally, conditions considered comfortable for people working indoors and doing light work are:

- ✚ air temperature (dry bulb temperature) 23 to 26 degrees C
- ✚ relative humidity 30 to 60 per cent.

The Wind Chill Factor

What Is The Wind Chill Temperature?

The combined effect of cold air and wind speed is expressed as "equivalent chill temperature" (ECT) or simply "wind chill" temperature in degrees Celsius or Fahrenheit. It is essentially the air temperature that would feel the same on exposed human flesh as the given combination of air temperature and wind speed. It can be used as a general guideline for deciding clothing requirements and the possible health effects of cold.

		WIND CHILL CHART								
		Ambient Temperature (°C)								
		4	-1	-7	-12	-18	-23	-29	-34	-40
Wind km/h	Velocity mph	Equivalent Chill Temperature (°C)								
Calm										
0	0	4	-1	-7	-12	-18	-23	-29	-34	-40
8	5	3	-3	-9	-14	-21	-26	-32	-38	-44
16	10	-2	-9	-16	-23	-30	-35	-43	-50	-57
24	15	-6	-13	-20	-28	-36	-43	-50	-58	-65
32	20	-8	-16	-23	-32	-39	-47	-55	-63	-71
40	25	-9	-18	-26	-34	-42	-51	-59	-67	-76
48	30	-16	-19	-22	-36	-44	-53	-62	-70	-78
56	35	-11	-20	-29	-37	-46	-55	-63	-72	-81
64	40	-12	-21	-29	-38	-47	-56	-65	-73	-82

Adapted from: Threshold Limit Values (TLV™) and Biological Exposure Indices (BEI™) booklet; published by ACGIH, Cincinnati, Ohio

Little danger in less than one hour exposure of dry skin	DANGER – Exposed flesh freezes within one minute	GREAT DANGER – Flash may freeze within 30 seconds
Maximum danger of false sense of security		

Equipment Design

For work below the freezing point, metal handles and bars should be covered by thermal insulating material. Machines and tools should be designed so that they can be operated without having to remove gloves.

Wind

Wind may cause areas to become dangerous due to falling or flying objects. Procedures are to be in place to deal with the effect wind will have on workplaces and plant items including vehicle travel when windy conditions are forecast or occur.

All activities in areas such as bushland should cease and the area evacuated if wind speeds above 6 on the Beaufort scale occur.

Beaufort wind speed scale			
No.	Description	Observable effects	Approx. Wind speed Kph
1	Calm	Smoke rises vertically	1.6
2	Light Air	Smoke drifts slightly	1.6-5
3	Light breeze	Leaves rustle gently	6-11
4	Gentle breeze	Leaves and small twigs move	13-20
5	Moderate breeze	Small branches move, paper blown around.	20-30
6	Strong Breeze	Smaller trees sway	40-50
*****Assess duties and surroundings at these wind speeds*****			
7	Moderate gale	Large branches sway	50-60
8	Fresh gale	Small branches broken, walking difficult	60-75
9	Strong gale	Loose exterior fixtures damaged	75-85
10	Whole gale	Trees blown down, significant damage	75-85
11	Storm	Much damage	100-120
12	Hurricane	Major natural disaster	120+

Rain/Severe Storms

- If lightning is imminent, seek shelter immediately (not a tree)
- Seek shelter clear of windows, doors and skylights
- If driving, stop clear of trees, powerlines and streams
- Do not use a landline telephone during a thunderstorm due to lightning danger
- Minimize slipping hazards, check all treads (steps, ladders, trucks, etc.) before wet weather occurs to be sure they are in good condition
- Make sure all electrical equipment is kept out of the water
- Be aware of your surroundings. Watch foot placement, falling objects, slippery surfaces. Do not run on wet surfaces, reassess footwear due to changed conditions
- Do not continue work in trenches or excavations until a competent person has deemed it safe
- Workers are not to drive or walk through flood waters
- Drive to the conditions.

7. References

- *Occupational Health and Safety Act 2004*
- Beaufort Wind Force Scale
- Greater Shepparton Heat Wave Plan 2009
- Sun Smart Victoria Web Site
- WorkSafe; Sun protection for construction and other outdoor workers, Version 2.
- WorkSafe Website <https://www.worksafe.vic.gov.au/resources/working-heat>
- Protection of Workers from the Ultraviolet Radiation in Sunlight Safework Australia Guidance Note 2008
 - <http://www.bom.gov.au/vic/?ref=hdr>

8. Related Documents

Supporting Documents Refer Trim Reference:

- M10/109368: Working without support systems
- M10/109360: Hazard Identification, Risk assessment, Control & Reporting

Procedure update and review table		
Date	Details	By
26/7/2014	Change of date that GSCC sun smart policy starts. Sun smart to start at same time as day light saving times.	OHS Committee
30/06/2022	Reviewed and discussed daylight savings times and sun smart clothing	HSR committee