STANDARD OPERATING PROCEDURE

SAFETY Everyone. Everywhere. Every day

HOT AND COLD ENVIRONMENTS

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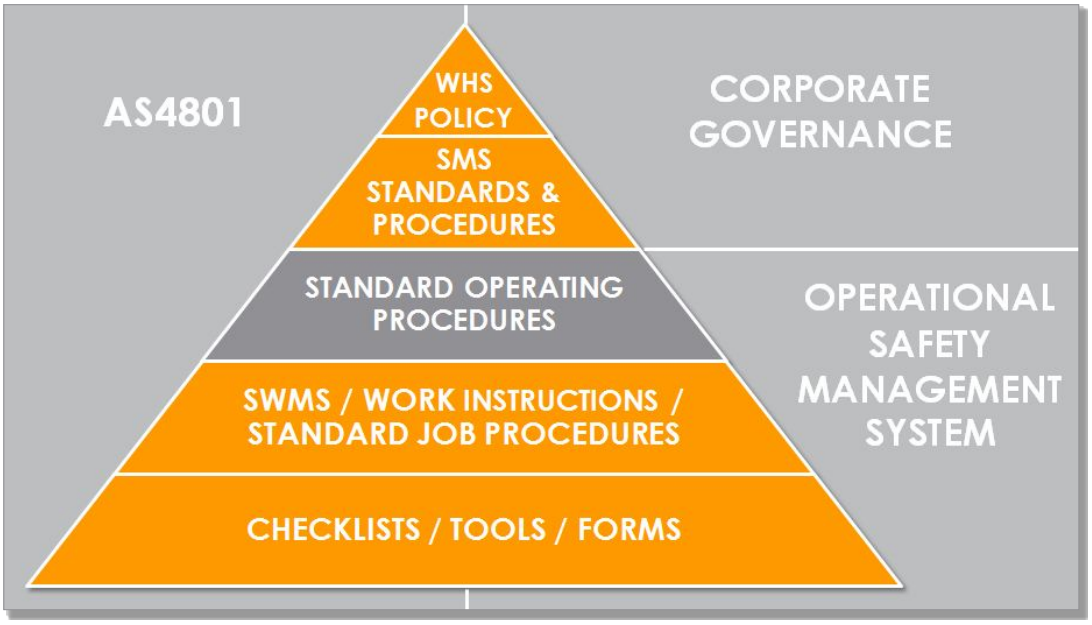
TABLE OF CONTENTS

1. SMS DOCUMENT HIERARCHY



2. PURPOSE

This Standard Operating Procedure (SOP) documents Queensland Urban Utilities (QUU) approach to the management of WHS risks associated with working in hot and cold environments. The purpose of this procedure is to outline safe procedures to ensure that risks associated with activities where there may be heat or cold exposure are adequately managed in order to minimise the risk of injury or harm to workers and contractors.

3. SCOPE

This SOP applies to all QUU employees and contractors that undertake activities where they may be heat or cold exposure when undertaking work for QUU.

4. DEFINITIONS AND ACRONYMS

Cold Environment – Where there is a risk of hypothermia. Symptoms include:

- Numbness
- Uncontrolled shivering
- Loss of fine motor skills
- Slurred speech and difficulty thinking clearly
- Irrational behaviour

Heat Stress – Can occur when the body is unable to cool itself adequately and body temperature rises. This can be associated with different effects ranging from mild heat rash or cramps through to heat exhaustion or the more severe and potentially fatal heat stroke.

HSR – Acronym for Health and Safety Representative.

Hypothermia – Occurs when the body's temperature falls below 35˚C.

Manager – As per QUU naming conventions, the Manager who has direct responsibility for the activity being performed or the area the activity is occurring in.

Officer - As per Section 9 of the *Corporations Act 2001 (Cth),* an officer is a person who makes, or participates in making decisions that affect the whole, or a substantial part, of the organisation's activities. Specific to QUU, a QUU officer has been defined as Board Members; Chief Executive Officer (CEO); Executive Leadership Team Members and Operational General Managers.

Operational Areas – Refers to all areas where QUU employees undertake work.

Supervisor – Term used for any QUU employee who acts or is appointed as a Supervisor, Coordinator or Team Leader within QUU.

WHS – Acronym used for Work Health and Safety.

WHSQ – Acronym used for Workplace Health and Safety Queensland.

Worker – Employees, contractors, subcontractors, outworkers, apprentices and trainees, work experience students, volunteers and PCBUs who are individuals if they perform work for the business

5. ROLES AND RESPONSIBILITIES

Outlined below are responsibilities specific to management requirements at all QUU-controlled worksites.

5.1 QUU EXECUTIVE

QUU Executive and Senior Management (CEO, ELT, General Managers – Officer and Non-Officer Appointed) are responsible for overseeing and ensuring the implementation of the requirements of this SOP and related procedures within their respective functional areas. This includes:

- Ensuring all tasks are assessed to identify heat/cold exposure as a risk;
- Ensuring risks associated with heat/cod exposure are regularly monitored and reviewed;
- Ensuring appropriate management practices are in place; and
- Ensuring appropriate resources are installed and implemented at all QUU-controlled worksites.

5.2 MANAGER

Managers in all operational areas and QUU worksites are responsible for ensuring the review and management of risks associated with activities where heat/cold exposure is likely. This includes:

- Providing adequate resources to enable the effective implementation of systems to control and manage risks within hot and cold environments; and
- Overseeing the provision of training to workers regarding this SOP to ensure the expectations of QUU are met.

5.3 SUPERVISOR/PICOW

To minimise heat/cold exposure risks, Supervisors and Team Leaders in all operational areas and QUU worksites are responsible for the following:

- Undertaking risk assessments that take into account hot and cold environments;
- Capturing tasks that are conducted within hot and cold environments within SWMSs;
- Including instruction about risks associated with hot and cold environments in site inductions;
- Ensuring workers wear appropriate QUU-approved PPE as detailed in risk assessments or SWMS;
- Documenting inspections and retaining inspection records; and
- Providing appropriate training, instruction and supervision for workers.

5.4 WORKER

All workers shall ensure that they:

- Follow the requirements detailed in this SOP and associated documents;
- Wear, when required, and in the manner instructed, the appropriate PPE which is supplied; and
- Report any hazards/incidents/injuries immediately to their supervisor; and complete a QUU WHS Hazard/Incident Report (in Q-Pulse) in accordance with QUU WHS hazard/incident reporting procedures.

5.5 CONTRACTORS

At all times when performing work on a QUU site or for/on behalf of QUU, contractors must meet and comply with QUU's sun exposure management requirements detailed in this and related procedures. This includes satisfying the roles and responsibilities detailed in this section (i.e. as a worker) and:

- Providing adequate resources to ensure the requirements of this SOP are implemented in a timely and effective manner in all areas where work is undertaken; and
- Complying with this SOP and all relevant legislation, codes of practice, standards and licensing requirements that apply to their respective scope of work.

5.6 QUU SAFETY TEAM

QUU Safety Team will work with the business to ensure:

- The establishment, review and continual improvement of safety management systems, arrangements and related procedures relating to the management and use of PPE; and
- The provision of advice to assist in the active management and resolution of identified sun exposure hazards and risks in accordance with QUU SMS and relevant legislative requirements.

6. QUU RELATED DOCUMENTS

- WHS Hazard and Risk Management Standard (STD136)
- WHS Hazard and Risk Management Procedure (PRO363)
- PPE SOP (PRO424)
- Hazard Identification Procedure
- Incident Reporting (FOR74)

7. PROCEDURE

QUU will take action to manage their facilities, plant, work environment and tasks so as to eliminate the risks associated with heat/cold exposure at their worksites, and if that is not possible, QUU will minimise the risks so far as is reasonably practicable.

7.1 RISK ASSESSMENT

Hazards associated with exposure to heat/cold should be identified during the risk assessment process undertaken by QUU. Refer to **WHS Hazard and Risk Management Procedure (PRO363)**.

Common hazards associated with exposure to hot environments are:

- Over-exposure to UV radiation, with the potential to cause skin cancer; and
- Heat stress.

Examples of situations at QUU that may result in potential exposure to heat include working outdoors or working in confined spaces, pipe galleries or blower rooms.

Factors that will increase the risk of heat exposure include:

- Time of year – increased risk in summer (December through February in SE Queensland);
- Time of day – increased risk of heat stress and exposure to high UV index between early morning and late afternoon;
- Cloud cover – clear days will increase risk of exposure, and cloudy days can have high UV index exposure;
- Humidity;
- Working for longer periods in direct sunlight;
- Lack of appropriate shade;
- Lack of appropriate clothing;
- Dehydration;
- Influence of drugs and alcohol; and
- Working around reflective surfaces such as roads, buildings or water.

Indicators of exposure to cold environments include:

- Numbness;
- Dry/sore eyes, dry mouth, sore ears and headache;
- Uncontrolled shivering;
- Loss of fine motor skills;
- Slurred speech and difficulty thinking clearly; and
- Irrational behaviour.

Examples of situations at QUU that may result in potential exposure to cold include working outdoors during rainy, windy or cold conditions or working in wet areas.

Factors that will increase the risk of exposure to cold environments include:

- Lack of appropriate clothing/PPE; and
- Working in the rain or in wet areas.

7.2 CONTROL MEASURES TO MANAGE EXPOSURE TO UV RADIATION FROM THE SUN

Guidelines for the management of sun exposure are:

- Increasing the amount of shade available;
- Where possible, organising work schedules so that outdoor tasks are conducted before 10am and after 3pm;
- Rotating tasks that involve direct sun exposure;
- Training and educating workers;
- Providing and ensuring workers use the appropriate personal protective equipment in accordance with the current applicable Australian Standards. This includes:
    - Appropriate protective hard hats/hats with SPF 50+ plastic snap brim/broad brim to shade face and back of neck;
    - Long sleeved cotton shirts with collars and close weave;
    - Long cotton drill trousers;
    - Tinted safety glasses; and
    - SPF 30+ water-resistant broad-spectrum sunscreen.

7.2.1 SUNSCREEN

The following guidance should be applied to the use of sunscreen (note: sunscreen is often applied inadequately or incorrectly):

- Apply liberally to clean, dry skin at least 20 minutes before going outside - about a teaspoon per limb and half a teaspoon to the face and neck;
- Reapply sunscreen at least every two hours;
- Provide an adequate supply of sunscreen and zinc cream at the workplace at all times;
- Select and apply zinc cream for lips, ears and nose for extra protection;
- Select a gel-based or alcohol-based sunscreen when handling tools; and
- Use a clear lip balm that contains sunscreen, and apply it regularly.

7.2.2 CONTROL MEASURES TO MANAGE HOT/HUMID ENVIRONMENTS

The consequences of heat stress include reduced safety and productivity due to impaired concentration, muscle fatigue and heat illness. During prolonged work in the heat our body can sweat up to one litre an hour. Unless this fluid is replaced by drinking, progressive dehydration will result. Warning signs of heat stress include:

- Painful muscles spasms or cramps;
- Heavy sweating;
- Difficulty in thinking clearly;
- Slurred speech;
- Blurred vision; and
- Dizziness or fainting.

Maintaining adequate hydration is one of the most important strategies to counteract the effects of heat stress. Ways to maintain adequate hydration include:

- Start work in a well-hydrated state and maintain this with regular drinking to keep pace with sweat losses;
- Drink between 600ml and 1L of potable water per hour in summer;
- Drink 150-250ml of cool water every 15 minutes, rather than consume a 1L drink every now and again;
- Avoid caffeinated drinks;
- Increase intake of fluids if urine is dark (the normal colour should be pale yellow); and
- If you are suffering dehydration, do not recommence work until you are fully re-hydrated.

Reduce the length of exposure by:

- Using trees, buildings and other temporary shelter (tarp, umbrella etc.) to provide workers with shade;
- Where possible, organising work schedules so that outdoor tasks are conducted before 10am and after 3pm when there is extreme heat; and
- Providing shade for rest and meal breaks.

7.3 COLD ENVIRONMENTS

General guidelines for the management of cold conditions are:

- Provide protection from wind and rain. A shelter for example, such as a hut or the cabin of a vehicle, will offer relief from extreme conditions;
- Monitor environmental conditions and the physical wellbeing of people when work involves prolonged or repeated exposure to cold, or when employees are required to regularly transition back and forth between cold and hot environments.
- Cease work if conditions become too cold to continue safely. Wind chill can create significant risk even if the air temperature is above freezing point;
- Inform and train employees, so they will recognise unsafe conditions arising from exposure to cold while working;
- Develop first aid and emergency procedures (if appropriate), and make sure they are understood;
- Provide appropriate protection through warm clothing. Clothing should be worn in light, loose fitting layers and a waterproof outer layer will provide protection from rain. Gloves or mittens should also be considered; and
- Monitor the use of tools that cause significant hand-transmitted or whole body vibration as they present an increased risk to the operator in cold conditions.

7.3.1 MANAGING EXPOSURE TO COLD ENVIRONMENTS

Steps to consider when working within cold environments include:

- Provide adequate breaks and job rotation to limit the exposure to cold environments;
- Provide training about the hazards and their risk controls when working in cold environments; and
- Supply employees with suitable PPE to work in cold conditions as determined through risk assessment.

Hypothermia warning signs to watch for are:

- Numbness in hands or fingers;
- Shivering which is not under voluntary control;
- Loss of fine motor co-ordination (particularly in hands – worker may have trouble with buttons, laces, zips etc.);
- Slurred speech;
- Difficulty in thinking clearly; and
- Irrational behaviour – sometimes a person will even begin to discard clothing.

If more than one of these signs has been experienced or observed, work must be stopped and control measures implemented, such as putting on extra layers of clothing, replacing wet PPE, seeking shelter, decreasing exposure time, etc. or as determined by a risk assessment. This can include seeking medical assistance if symptoms are serious.

8. REFERENCES

The following references contain information used in the preparation and development of this plant Management SOP:

- Queensland Work Health and Safety Act 2011;
- Queensland Work Health and Safety Regulations 2011;
- Workplace Health and Safety Queensland Working in Heat Fact Sheet 2013;
- Workplace Health and Safety Queensland Sun Safety Fact Sheet 2013.
- Managing the Work Environment and Facilities Code of Practice 2011.

9. REVIEW

The Hot and Cold Environment SOP is to be reviewed every 3 years or earlier if:

- There is an identified risk to business;
- A significant safety or unplanned event occurs;
- Incident investigation or audit results show that application of the standard fails to deliver the required outcomes;
- There are changes in associated legislation;
- There is evidence that the standard is not having a positive impact on safety-related KPIs.

10. FURTHER INFORMATION

For further information, contact your Health and Safety Representative or the QUU Safety Team.