



STANDARD WORKING WITH LEAD

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1 Purpose

This document describes the standards and procedures within Hunter Water Corporation (HWC) to effectively manage the health, safety, and welfare of all workers and other persons who may be involved in working with organic lead at Hunter Water Corporation's places of work. It describes the HWC Workplace Health and Safety (WHS) Management System's commitment to compliance with the NSW WHS Act and WHS Regulation

All at-risk lead workers must comply with documented work instructions, including the requirements of this Standard. This includes participating in the blood lead testing program.

2 Objectives

The objectives of this standard are to ensure that all areas, functions, and work processes that may have been working with lead risk are effectively managed to ensure the health and safety of Hunter Water people, contractors, and the general public.

3 Scope

This Standard applies to all Hunter Water Business Units. This standard covers the requirements associated with working with lead within HWC.

4 Definitions, Acronyms and Abbreviations

Term	Definition
Risk Standard	The Risk Standards are a Water Services Association Australia (WSAA) initiative to collectively identify the industry fatality potential topics and identify the critical controls (i.e., "must do's, critical elements") to provide clarity to workers and leaders on the controls that will prevent fatality.
First Aid	The immediate treatment or care given to a person suffering from an injury or illness by a trained competent first aider until more advanced care is provided or the person recovers.
Hazard	A situation that can harm a person and the environment and damage property.
Hierarchy of controls	<p>Identify the risk control actions and responsibilities by identifying controls in the following specific order:</p> <ul style="list-style-type: none"> ▪ Eliminate the hazard <p>If elimination of the hazard is not reasonably practicable, minimise the risk so far as reasonably practicable by:</p> <ul style="list-style-type: none"> ▪ Substituting (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk ▪ Isolating the hazard from any person exposed to it ▪ Implementing engineering controls ▪ Administrative controls ▪ Personal Protective Equipment (PPE) <p>The aim should be to apply controls as far up the hierarchy as practicable, recognising that the residual risk rating should be reduced to as low as reasonably practicable or to a tolerable level for work to proceed.</p>



Term	Definition
	<p>Multiple controls should be considered, offering several layers of defence.</p> <p>Whenever there is a strong reliance on administrative and PPE over higher-order controls, there should be increased levels of supervision.</p>
Incident	<p>An event or circumstance that could have or did lead to unintended and unnecessary harm to a person and loss or damage or adverse consequences. This definition of an incident includes near misses.</p>
Line Leader	<p>A Line Leader is a person with day-to-day supervisory responsibilities for workers within a functional area of the business. A Line Leader includes, but is not limited to, Supervisors, Gangers, Work Group Leaders. A Line Leader is also considered a worker but has additional responsibilities for implementing the WHS Management System as identified in the WHS Management System and position description.</p>
High-Risk Work Permit	<p>A permit is developed to lower the risk of activities by controlling when and how the high-risk activity is undertaken.</p>
Manager	<p>A person is responsible for managing a functional area of the business, including the workers within the relevant functional area. This includes, but is not limited to, Group Managers, Business Unit Managers, Department Managers, and Project Managers. A manager is also considered a worker. However, managers may have additional responsibilities for implementing the WHS Management System and any other duties as an officer of the business.</p>
Notifiable incident	<p>A 'notifiable incident' as outlined in the WHS Act is:</p> <ul style="list-style-type: none"> ▪ Death of a person ▪ 'Serious Injury or illness' or ▪ 'Dangerous incident'
Personal Protective Equipment (PPE)	<p>Any clothing, equipment, or substance designed to protect a person from risks of injury or illness.</p>
PCBU	<p>A 'person conducting a business or undertaking' (PCBU) is a legal term under WHS laws for individuals, businesses or organisations conducting business. A person who performs work for a PCBU is considered a worker.</p>
Reasonably practicable	<p>The following criteria must be applied in determining what is reasonably practicable:</p> <ul style="list-style-type: none"> ▪ What the person knows or ought to reasonably know about the hazard and ways of eliminating or minimising the hazard ▪ Availability and suitability of ways of eliminating or minimising the hazard <p>The cost associated with the availability and suitability of eliminating or minimising the hazard, considering the cost if it is grossly disproportionate to the risk.</p>
Risk	<p>Risk is the likelihood and consequence of injury or harm when exposed to a hazard.</p>
Risk Control	<p>This means acting to eliminate health and safety risks so far as is reasonably practicable and, if that is not possible, minimising the risks so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.</p>



Term	Definition
Structure	<p>Includes but is not limited to:</p> <ul style="list-style-type: none"> ▪ A building, construction, wall, mast, tower, pylon, structural cable or telecommunications structure ▪ Underground works (including shafts and tunnels), pipe, pipeline, river works, earthworks or earth retaining construction, or other construction designed to preserve or alter a natural feature ▪ A road or highway, footpath or driveway, railway line or siding, tramway line, dock or harbour, water storage or supply system (including a constructed lagoon), sewerage or drainage system, electricity or gas generation facility, transmission or distribution facility ▪ Gasholder, park, or recreation ground (including, for example, a playing field or swimming pool) ▪ Production, storage, or distribution facilities for heavy industries ▪ Fixed plant

5 Roles and Responsibilities

Roles and Responsibilities can be located in the [WHSMA Manual](#).

Individual guidance booklets are in the Responsibility, Accountability, and Authority Manual [HW2021-534](#).

6 General Requirements

6.1 What is lead exposure?

Lead is a heavy metal widely distributed in the environment, and it is normal for some lead to be detected in the bloodstream.

The Chichester Trunk Gravitational Main (CTGM) maintenance work has been assessed as high lead risk work. Exposure to lead can occur through ingestion, inhalation, or skin contact and can cause significant levels of toxicity.

7 Key Element/Requirement

7.1 Health Surveillance

- Under Hunter Water’s Health Surveillance Standard, it is a condition of employment that all lead-risk workers have their blood tested initially before commencing work with lead and then every six months to monitor the lead level in their bloodstream. Medical examinations may be required depending on the outcome of the blood test. The purpose of this is to protect the health of the workers by ensuring that they are not exposed to excessive amounts of lead

Job rotation is part of the lead-based program.

- Any workers being treated for medical conditions must report their condition to the Corporation or discuss it with their treating doctor to ensure that contact with lead will not affect their condition.
- Children are more prone to lead poisoning because of high absorption rates compared with adults. Unborn children and infants are particularly susceptible to the effects of lead, and on this basis, workers who are pregnant or breastfeeding are excluded from working in lead-risk environments. Subsequently, all sources of lead contamination must be controlled and not taken away from the workplace.



7.2 Exposure

During maintenance work on the CTGM, lead exposure can occur from:

- Direct contact with the skin
- Inhalation of lead dust, fumes or vapours
- Swallowing
- Contact with contaminated people, vehicles, equipment or tools
 - Lead is a toxic substance that can be stored in the body long term. Excess lead can affect the nervous system, kidneys, bones, and reproductive system if uncontrolled. Therefore, all safety and hygiene procedures must be followed, including removing all excess lead from the work site.

7.3 Hygiene

Personal safety and hygiene for lead risk workers include:

- Wearing all personal protective equipment as outlined in the work instruction
- All personnel involved in lead work must shave daily to enable a good facial fit of respirators. Alternatively, a suitable full-face respirator must be requested and worn. Non-disposable respirators must be cleaned after every use.
- Protective clothing must be changed daily and shall be laundered by the Corporation. Lead-contaminated protective clothing to be sent for cleaning must be placed in impermeable containers or bags and clearly marked as lead-contaminated clothing. Disposable overalls and respirators must be disposed of after every use, i.e., every time they are taken off.
- Hands and face must be washed with soap and water before eating or drinking and on completion of work
- Smoking is not permitted on the worksite
- Smoking materials must not be taken into lead risk areas as cigarettes, tobacco, and papers can absorb lead fumes and dust
- All personnel involved in lead work must shower and change into clean clothing and footwear at the end of their shift or on completion of lead work

7.4 Vehicle Cleanliness

- The exterior of vehicles used for lead work must be washed at least weekly
- The vehicle cabin and seats must be vacuumed and cleaned at the end of each shift if the vehicle is to be driven home. Otherwise, it is to be cleaned at least once a week.
- Vehicles are swabbed every six months by an approved occupational hygienist as part of the health surveillance requirements.

8 Training

Hunter Water must provide training for workers who will be exposed to lead. Appropriate first aid training shall also be provided where applicable.



9 Monitoring and Review

Monitoring processes for this topic include:

- High Risk Audits
- Critical Element Focussed Observations
- Safe Behaviour Observations
- Field Inspections

Review processes for this topic include:

- Review of applicable injury and incident reports
- Review of hazard reports in Protecht
- Review of this standard and associated documents, Risk Register, Bow Tie diagrams following a high potential incident
- Engagement with the Field Safety Committee and any relevant sub-committees.

10 Related Documents

Document ID	Document Title
Assessment	Pre-Task Risk Assessment - PTRA
Standard	Consultation, Cooperation, Participation and Coordination
Manual	WHSMA
Manual	Responsibility, Accountability and Authority Manual (HW2021-534)
Standard	Health Surveillance
Work Instruction	WI 005 – Working on the CTGM

11 Associated Regulations and Standards

Document ID	Document Title
Act	WHS Act 2011 (NSW)
Regulation	WHS Regulations 2023 – Chapter 7, Part 7.2
Code of Practice	Code of Practice – How to manage work health and safety risks
Code of Practice	Code of Practice – Work Health and Safety Consultation
Code of Practice	Code of Practice – First Aid in the Workplace