

Order 34 Mid-Year Workshop

Underground session
Southern Mines Rescue



Thursday, 25 June 2026

Cindy James
Order 34 Manager

Acknowledgement of Country



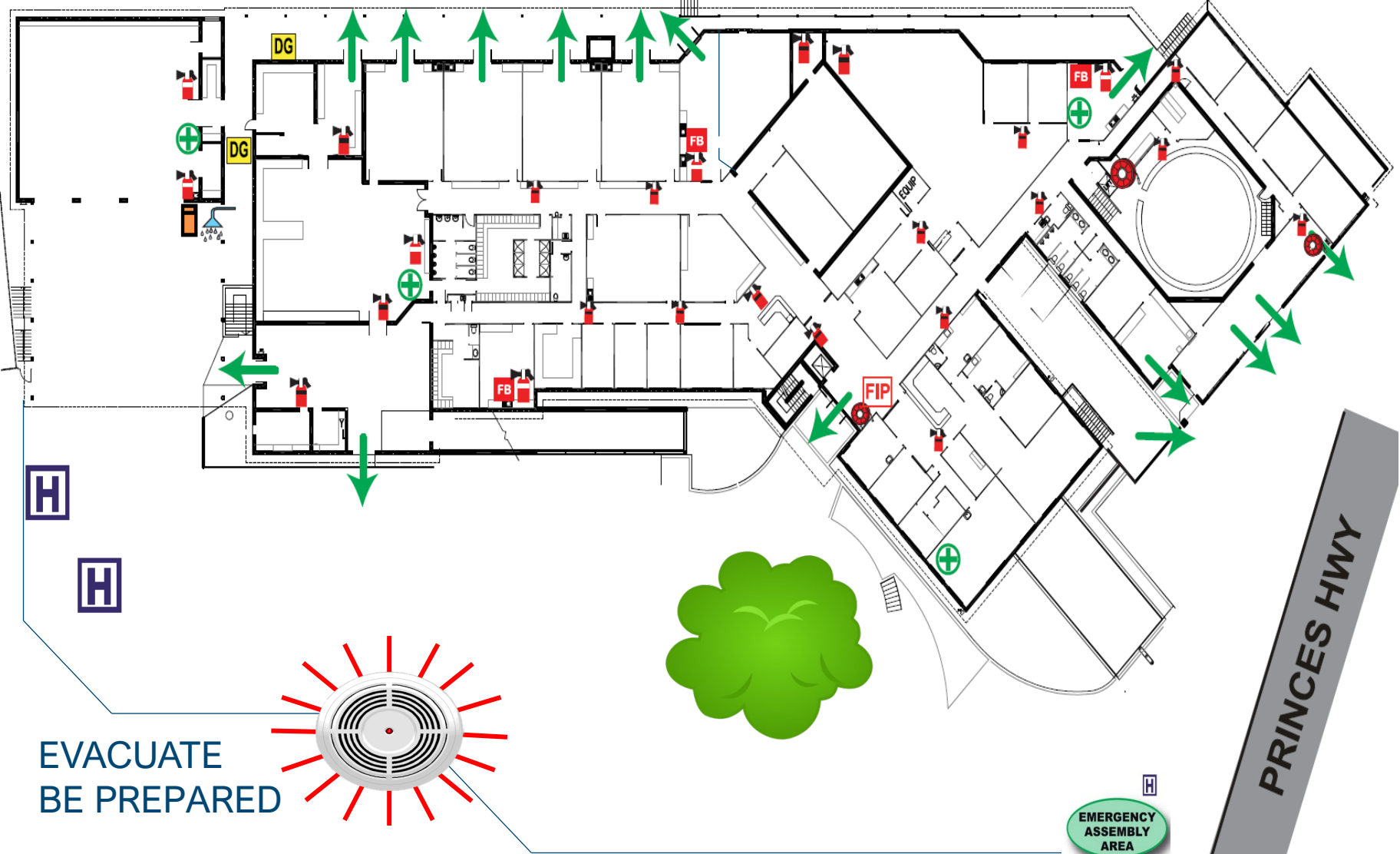
We acknowledge the Dharawal People as the Traditional Owners and custodians of the land on which we meet today in the Illawarra region.

We pay respect to all Aboriginal Elders, past, present and emerging, who have a spiritual connection to these lands.

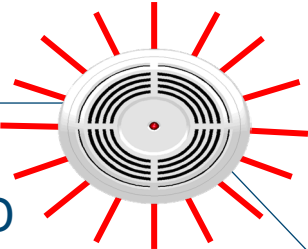
Emergency Procedures



Emergency Procedures



EVACUATE
BE PREPARED



EMERGENCY
ASSEMBLY
AREA

Emergency Procedures



Housekeeping



There are several toilets on site:

- F toilets down to the middle of the hallway to the left
- M toilets straight down the end to the left before the double doors

Smoking is prohibited within the boundaries and 10 metres outside the boundary of Mines Rescue.



Today's program



Time	Agenda item	Presenter
9.00 am	Registration	
9:15 am	Welcome and overview	Cindy James (Order 34)
9.20 am	Introductions, general discussion	Group
9:30 am	Industry update	Cindy James (Order 34)
Throughout	<i>Discussion on RII units used for internal training from Underground Coal Operations Qualifications</i>	<i>Cindy James (Order 34)</i>
9:40 am	First Aid Training Insights	Chloe Betts (Central West FA)
10:40 am Break – 20 minutes		
11.00 am	CMI Industry Data – Underground Specific	Bede Baratta (CMI)
11:30 am	The Keystone Capability Program	Elliot Baume (Critical Risk Group)
12.30 pm Lunch – 30 minutes		
1:00 pm	Course in Field-based Training and Assessment	Helen McMahon (Training Services Australia)
1:50 pm	Summary and close out	Cindy James (Order 34)

Introductions and general discussion



Introductions

- Name
- Company/Operation
- Role
- What would you like to get out of today?



Order 34

Industry Update

Current NSW coal operations



Open Cut

Gunnedah Region

Boggabri (Idemitsu)
Maules Creek (Whitehaven)
Tarrawonga (Whitehaven)
Vickery (Whitehaven)

Hunter Region

Bengalla (New Hope Group)
Bulga (Glencore)
Hunter Valley Operations (Glencore/Yancoal)
Mangoola (Glencore)
Mount Thorley Warkworth (Yancoal)
Mt Arthur North (BHP)
Mt Arthur South (Thiess)
Mt Owen Glendell (Glencore)
Mt Pleasant (Thiess)
Ravensworth (Glencore)
Rix's Creek (Bloomfield Group)
United Wambo Joint Venture (Glencore/Peabody)

Newcastle Region

Bloomfield Mine (Bloomfield Group)

Western Region

Invincible (Castlereagh Coal)
Moolarben Open Cut (Yancoal)
Wilpinjong (Peabody)

Underground

Gunnedah Region

Narrabri (Whitehaven)

Hunter Region

Ashton (Yancoal)
Maxwell (Malabar Resources)

Newcastle Region

Chain Valley (Delta Coal)
Mandalong (Centennial)
Myuna (Centennial)

Southern Region

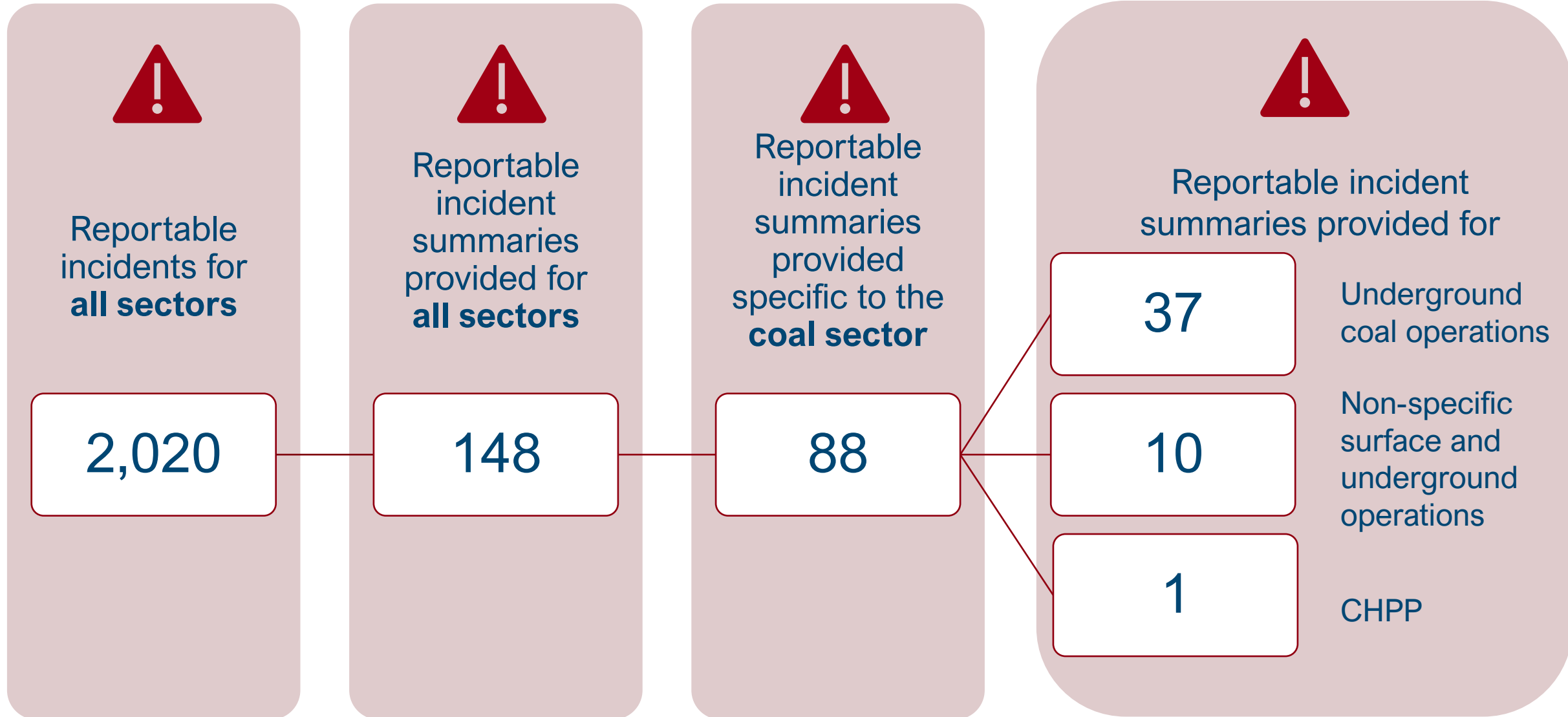
Appin (GM3)
Dendrobium (GM3)
Metropolitan (Peabody)
Tahmoor – *Currently Offline*

Western Region

Airly (Centennial)
Clarence (Centennial)
Moolarben Underground (Yancoal)
Springvale (Centennial)
Ulan Underground (Glencore)
Ulan West (Glencore)

Resources Regulator incident summary

10 May 2025 – 16 May 2026

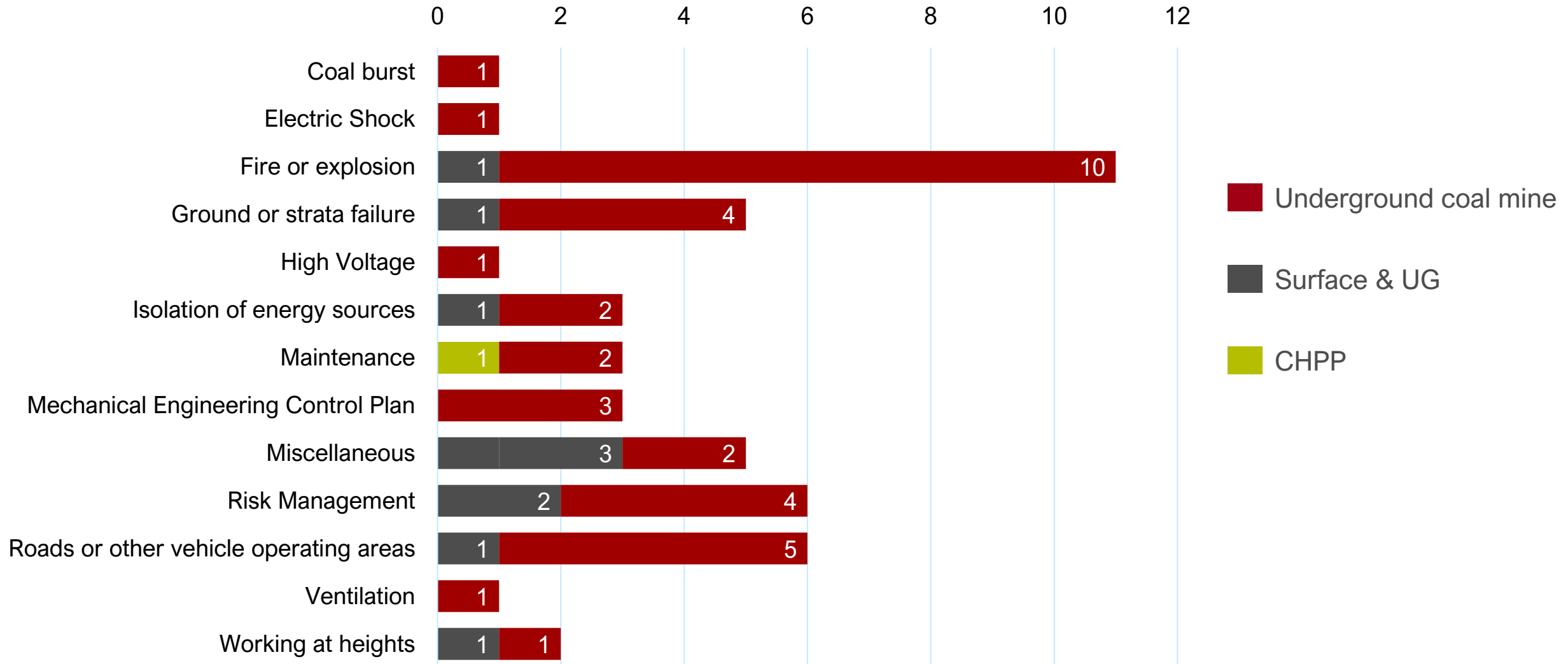


Resources Regulator incident summary

10 May 2025 – 16 May 2026



Notifiable Incidents where summary provided by the Resources Regulator



Underground incidents

Training and competency



Category	Comments to Industry
Electric shock	Mine operators are reminded of the need for: <ul style="list-style-type: none">• consideration of engineering controls that prevent the potential for electric shock• electrical work and inspections to be conducted by trained and competent electricians and supported by the site's electrical engineering control plan.
Ground or strata failure	Mine operators must design strata support systems that adequately address the risks of rock fall exposure to workers. Where roadway conditions or installed support deviation results in a larger than desired gap between the roof mesh and the rib line, mine operators should establish standards and procedures for the installation of additional support and workers should be trained to implement them.
Isolation of energy sources	This incident highlights the need for safe work procedures to be developed and implemented. Workers must be trained in relevant safe work procedures for tasks they are conducting.
Maintenance	Mine operators should verify that workers undertaking welding activities: remain insulated from the workpiece and surrounding conductive structures while welding. <ul style="list-style-type: none">• identify and establish an appropriate and effective earth (return) path prior to striking an arc.• ensure personal protective equipment (PPE), including gloves and clothing, is dry and in good condition.• avoid holding, repositioning, or contacting the earth return clamp or workpiece when an arc is struck.• ensure other workers stand clear and do not come into contact with the workpiece, bench, vice, or any connected conductive components while welding is being undertaken.• are appropriately trained and competent in undertaking welding activities.

Underground incidents

Training and competency



Category	Comments to Industry
Mechanical Engineering Control Plan	<p>Mechanical engineering control plans must set out the control measures for risks associated with the unintended release of mechanical energy by considering safe work systems for people dealing with plant or structures. Mine operators should review how workers and supervisors are trained to recognise the potential hazards associated with all energy sources, including the load introduced by winching equipment. This is especially important when there is the potential for stored energy to be released without warning. When using slings, operators must ensure that they are appropriately rated for the job, fit-for-purpose and free of any wear and tear.</p> <hr/> <p>Alterations to design-registered plant is not permitted unless authorised.</p> <p>The low water shutdown float is a critical control of the diesel engine system that ensures a water barrier is present to prevent propagation of flames or sparks from the diesel engine system.</p> <p>Mine operators must have controls in place to ensure work carried out on explosion-protected diesel engine systems (ExDES) is authorised and carried out by people who are trained and competent for that work.</p> <p>Fitters who are required to work on ExDES should be trained on the specific requirements for maintenance and repair of ExDES to ensure that engine maintenance is carried out in such a manner as to maintain the explosion-protection properties and engine system reliability.</p> <p>Maintenance work orders are to be reviewed upon completion with additional work orders raised for any emerging or not completed work.</p> <hr/> <p>Mine operators should thoroughly inspect critical joints and assemblies, especially following intrusive maintenance. When conducting a review of control measures after incidents, mine operators should verify that hazards identified are not present across other similar vehicles on site and update relevant procedures and training of maintenance personnel.</p>

Underground incidents

Training and competency



Category	Comments to Industry
Miscellaneous	<p>Mine operators must ensure that:</p> <ul style="list-style-type: none">• procedures and training prohibit workers from standing in areas that expose them to the risk of entrapment and adjacent work parties. Consideration to be given to the number of concurrent work tasks which may give rise to worker entrapment.• positive communications are established between relevant work parties.

Other mine type relevant incidents

Training and competency



Category	Comments to Industry
Fire or explosion	<p>Workers are reminded that they have duty under the Work Health and Safety Act to comply with all reasonable instructions, policies and procedures that mines have in place. Mine operators must have processes in place to ensure that the controls identified within site procedures and permits are implemented. Workers must be trained regularly about how to respond in an emergency such as a fire. Workers should be aware of the location of emergency equipment and mine operators should conduct regular emergency management training. Work procedures should not allow for flammable liquids to be in the vicinity of hot work.</p> <hr/> <p>Mine operators must have processes in place to ensure that the controls identified within site procedures and permits are implemented. Work procedures should not allow for flammable materials to be in the vicinity of hot work. Workers must be trained regularly about how to respond in an emergency such as a fire. Workers should be aware of the location of emergency equipment and mine operators should conduct regular emergency response training.</p> <hr/> <p>Mine operators should ensure that:</p> <ul style="list-style-type: none">• emergency management plans include suitable controls and procedures for lithium-based battery fires• first responders have ready access to, and are trained in the use of, personal protection equipment (PPE) suitable to protect from exposure to toxic and corrosive chemicals that may be liberated during and following a thermal runaway event• first responders are trained in the mine's procedures and understand the risks associated with the lithium-based batteries in use at the mine. This should also include awareness of the risk of electric shock and burns from stranded energy in a damaged battery unit and of exposure to toxic gases. <p>The Regulator published a safety bulletin SB22-17 in December 2022 to communicate the fire risks associated with lithium-ion battery powered tools.</p> <p>The safety bulletin made recommendations including advice on the increased fire risk when ambient temperature exceed 50 degrees. Celsius. The full bulletin can be found here.</p>

To subscribe go to: <https://www.resourcesregulator.nsw.gov.au/news/weekly-incident-summary>

Other mine type relevant incidents

Training and competency



Category	Comments to Industry
Isolation of energy sources	<p>Mines should assess the risks associated with the task of flushing air conditioning systems and develop a safe system of work for the task that includes the provision and use of fit-for-purpose equipment.</p> <p>Work involving pressurised systems and components must only be carried out by workers who are competent, trained and appointed.</p> <p>Pre-task hazard assessments should include the assessment of pressurized systems and identification and implementation of controls.</p>
Risk Management	<p>Mine operators must provide fit for purpose equipment suitable for the task being undertaken. This should include consideration of the terrain and loads being transported. Mine operators need to ensure that workers are trained and competent in the task being undertaken. Documented procedures providing step-by-step instructions for the task should be provided to workers. Supervisors should ensure that the approved procedures are followed.</p>
Working at heights	<p>When conducting work at height, mine operators must ensure that hazards are identified and controls are in place to prevent a fall.</p> <p>Mine operators should consider the use of work platforms where practical to manage the risk of a fall from one level to another.</p> <p>Mine operators must ensure that appropriate information, training, instruction and supervision is provided to workers.</p>

Other mine type relevant incidents

Training and competency



Category	Comments to Industry
Roads or other vehicle operating areas	<p>Mine operators need to review the Resources Regulator’s technical reference guide (TRG) Surface ROVOA as part of their consideration of this incident, in particular:</p> <p>Layer 4 of the layered defence approach focuses on authority to operate. This layer establishes that only qualified and authorised personnel operate vehicles and perform tasks. Key components should include:</p> <ul style="list-style-type: none">• Training: Comprehensive training should be included in training programs to enable all personnel to be knowledgeable about operational procedures and protocols.• Induction: Conducting thorough induction program for new workers to familiarize them with site-specific operational requirements and procedures.- Access mechanisms: Implementing systems to manage and monitor access to mine vehicle operating areas, validating only authorised personnel can enter.
	<p>Operators are reminded to respond appropriately to all machine alarms and warning systems when activated. Caution should be taken before overriding safety systems and operators should contact their mining supervisors if in doubt about how to proceed. Training of rig operators should ensure that they are competent in the use of the control panel used for stabilising the rig, particularly when overriding the automatic levelling system.</p>

Resources Regulator information

Training & Competency Themes from Safety Alerts & Bulletins

NSW Resources Regulator Safety Alerts & Bulletins (Jun 2025 – Mar 2026)



Key themes

- Exposure to uncontrolled movement hazards (ventilation doors, stored energy, mobile plant).
- Ground and strata risks requiring active hazard identification (unsupported ground, rock fall).
- Electrical hazards and increased incidence of shocks, including apprentices.
- Interaction with services and infrastructure (HV cables, confined environments).
- Use of improvised or ineffective controls and absence of engineered solutions.

Training & competency implications

- Strengthen competency in hazard identification and risk assessment for dynamic underground conditions.
- Ensure training includes clear procedures, task sequencing and exclusion zones for high-risk tasks.
- Increase focus on electrical safety competence, supervision and task allocation for less experienced workers.
- Reinforce competency in managing stored energy, ventilation systems and confined hazards.
- Validate competence through practical verification in the workplace, not just documentation.

Resources Regulator information



Remember to regularly refer to the [Resources Regulator document library](#) for new and updates of the following:

Fact
Sheets

Guides
(Technical
Reference
Guides)

Incident
Summaries

Information
Releases

Reports

Safety
Alerts

Safety
Bulletins

These should be reviewed in line with your operation's Training & Competency Management System Documents and Training Needs Analysis

Order 34 Audits



Key areas of focus for your next Coal Services Order 34 Audit:

Pre-work

- Have you reviewed the Pre-Audit Preparation requirements in the Order 34 – Audit Overview and Plan?
- Some requirements need to be sent through at least **1 week** prior and others at least **2 working days** before
- **Benefits:** less time on site conducting the audit, and less work post-audit

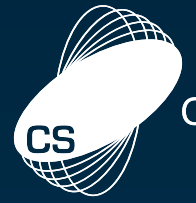
Internal Audits

- This is your operation's self-assessment
- Do you do what your TCMS says you will do?
- What evidence demonstrates how you comply with what you say you will do?
- **Audit Tool** available on the Coal Services Order 34 website

Actions from previous audits

- Are these tracked in your site's action management system?
- Have they been considered and/or actioned?
- If they have been considered and/or actioned, what evidence do you have to demonstrate?

Remember that the TCMS is how you meet your legislative obligations in relation to Training and Competence. Following the Order 34 Guideline assists to ensure that you are.



Coal Services





First Aid Training Insights 2026

How NSW Coal Mines are Evolving First Aid Delivery & Observations & Innovations From the Field

Chloe Betts | Director

06/06/2026



Contents

- Introduction to Central West First Aid Training Specialists
- HLTAID014 & HLTAID011
- Low Voltage Rescue & CPR Scope & Legislation
- Incident Review – Appin Mine April 2025 & Pelvic Injuries
- Burns Management
- Evolution of Emergency Response Equipment
- Standardising Clinical Handover
- VCC in Mining
- Psychological Safety in Emergencies
- High Performance CPR
- Defibrillator Nuances in Vehicles & Transport
- Mechanical CPR Devices



Chloe Betts



Clinical & Academic Foundation

- Dual Specialist: Current on-road Intensive Care & Extended Care Paramedic.
- Academic: Lecturer in Paramedicine; Bachelor of Clinical Practice; Master of Paramedicine (Critical Care Specialisation).
- Researcher: International peer-reviewed author focusing on psychosocial Safety and worker wellbeing.

Service & Crisis Leadership

- Premier's Citation: Awarded for service during the Bushfire Emergencies.
- National COVID-19 Medal: Recognised for frontline service and healthcare resilience.
- Good Conduct Medal: Recognition of over 10 years on road and good conduct.

Central West First Aid Training

Clinical Excellence. Operational Readiness.

- **Frontline Led:** Delivered by current, on-road Paramedics (10+ years experience).
- **Site-Integrated:** Custom scenarios built alongside your ERTs and Training Departments.
- **Elite Simulation:** Heavy investment in high-fidelity equipment and realistic "on-site" drills.
- **End-to-End Solution:** Accredited training paired with professional first aid kit supply.
- **Mental Health First Aid:** Psychosocial solutions for site.
- **Mobile Capability:** Specialised training trailer for remote, on-site delivery.



Trusted by leading Australian ASX-listed mining, resource, and heavy industry operations such as Vertex Minerals, Glencore, GM3, Yancoal, Peabody & Harmony

The Shift Towards Contextualised On-Site Training

The methodology sites are using to bridge the gap between compliance and actual emergency readiness.



HLTAID014 & HLTAID011

Why Sites are Moving Toward Advanced First Aid

Advanced Trauma Control

Haemorrhage: Tourniquets, haemostatic dressings, and wound packing.

Complex Injury: Management of crush syndrome, flail chest, and sucking chest wounds.

Incident Command & Triage

Leadership: Establishing command and coordinating site evacuations.

Prioritisation: Triage systems for mass casualty events.

Clinical Monitoring

Vital Signs: Tracking clinical trends and patient deterioration.

Assessment: Comprehensive secondary head-to-toe examinations.

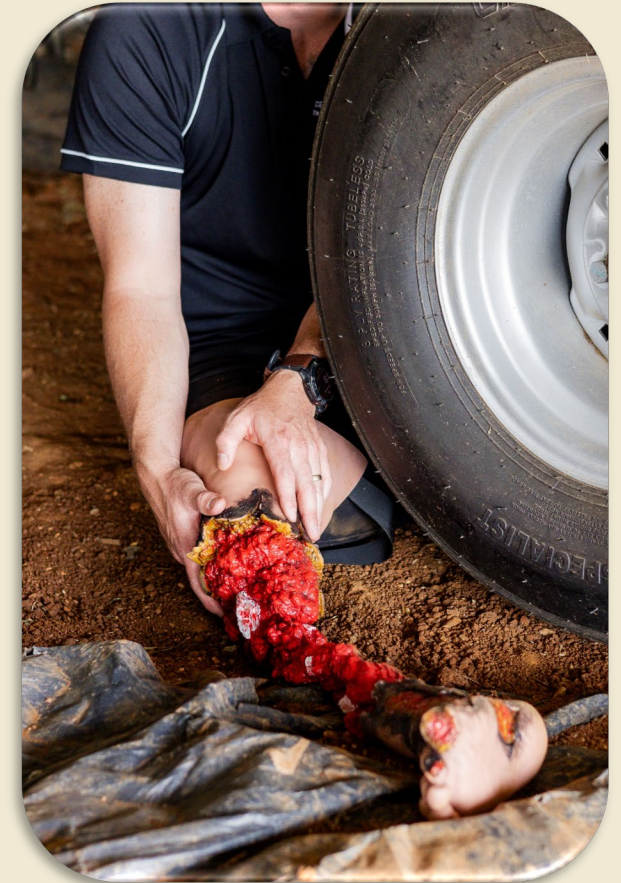
Logistics & Communication

Professional Links: Establishing effective medical handovers and resource identification.

Specialised Scenarios

Response: Substance awareness and unplanned emergency childbirth.

Simulations: Participation in large-scale, extended-care simulations.



Low Voltage Rescue & CPR

01

The Hidden Danger: Most of Australian electrical fatalities occur $\leq 1000V$, not on high-voltage lines.

02

Frequency vs Perception: Hundreds of LV shocks are reported annually; it is one of the most underestimated hazards on-site.

03

The 30/30 Threshold: Just 30mA of current for 30ms can cause fatal arrhythmias

04

Arc Flash Intensity: Temperatures can exceed $19,000^{\circ}C$, hotter than the surface of the sun



Defining LVR

Scope of the Rescue

- Definition: Rescue of personnel from live LV equipment.
- Operational Range: $\leq 1000V$ AC / $\leq 1500V$ DC.
- Exclusions: High Voltage (HV) Overhead and Underground lines
- The Framework: Safe Isolation – Contact Rescue – CPR/AED - Coordination

Regulatory Compliance

- UETDRMP018: Perform Rescue from a Live LV Panel (Refreshed every 12 months)
- HLTAID009: Provide Cardiopulmonary Resuscitation (Refreshed every 12 months).
- Note: Standard First Aid (3 years) is insufficient for electrical trades.

Critical Personnel

- Mandated: All licensed electricians and electrical trades.
- Safety Observers: Dedicated observers for high-risk electrical work.
- Operational Roles: CHPP & Fixed Plant operators, Underground Maintenance
- Leadership: Supervisors and ERT members working near energised systems.



Incident Review April 2025 Appin Mine



- **Location:** Appin Coal Mine, NSW.
- **The Event:** Significant underground geological outburst.
- **The Impact:** Approximately 100 tonnes of sandstone roof material and gas ejected into the roadway.
- **Casualties:** Four workers in the vicinity were injured, with three partially buried by coal and rock material.
- **Emergency Response:** Crews successfully freed the workers and provided on-site first aid before hospital transfer.
- **Injuries:** Severe but stable. 3 workers escaped with various cuts, deep abrasions and joint injuries. The fourth worker sustained major injuries including fractures to their ribs, vertebrae and pelvis, due to the crushing force of the sandstone.
- **Outcome:** All four were successfully treated at Wollongong and Liverpool Hospital.

Clinical Focus: Pelvic Injuries

Why Pelvic Injuries Are High-Risk

- **High-Energy Trauma:** Often occurs from crush injuries (such as rock burial/falls), falls from height, or motor vehicle collisions.
- **Hidden Bleeding:** The pelvis can hold **2 litres of blood** internally posing a major hidden bleeding risk without external wounds.
- **Bleeding Sources:** May be arterial, venous, or directly from the pelvic bone vasculature.
- **Signs of Shock:** Casualty may present with pale skin, a rapid pulse, and low blood pressure, even if no obvious bleeding is visible.



Clinical Focus: Pelvic Injuries

SAM Pelvic Splint Application

- **Purpose:** A non-invasive device used to stabilise the pelvic ring, reduce internal bleeding and relieve pain.
- **When to Use:**
Suspected pelvic fracture with a significant trauma mechanism, pelvic pain, or instability
Any unconscious casualty after a high-energy impact where a pelvic injury is possible



Burns Management & Infection in High-Risk Environments

Guideline: Cool with clean, cool running water for at least 20 minutes.

Time Window: Effective if started up to 3 hours post-injury.

Benefits: Reduces tissue damage, pain, and burn depth.

The Critical Danger: Infection & Sepsis

Complication Driver: Infection causes most hospital complications in partial/full-thickness burns and burns >10-20% TBSA.

Systemic Risk: In severe cases, sepsis is a leading cause of death in the later stages of care.

Why Wounds Are Vulnerable

Barrier Loss: Burned skin instantly loses its protective barrier function.

Direct Access: Provides bacteria with a direct entry point into the raw tissue and bloodstream.



Evolving Emergency Response Equipment



IMIST-AMBO

Standardising Clinical Handover in Mining

What is IMIST-AMBO?

A structured clinical tool used by emergency services and high-risk industries to standardise the transfer of patient information. While previously reserved for specialised Emergency Response Teams (ERTs), it is now being implemented site-wide to ensure seamless medical continuity.

Why it is critical for mining.

- **Precision Under Pressure:** Ensures information is transferred quickly and accurately during high-stress, chaotic events.
- **Closing the Information Gap:** Prevents the omission of critical details such as the mechanism of injury, deterioration trends, and treatments already administered.
- **External Alignment:** Uses the same pre-hospital language as the state ambulance service, allowing for faster integration with paramedics.
- **Accelerated Decision Making:** Speeds up triage, treatment continuity, and retrieval requirements.



The IMIST-AMBO Protocol

IMIST AMBO

- I** Identification of patient
- M** Mechanism /
Medical complaint
- I** Injuries / Information
about complaint
- S** Signs (vital signs &
findings)
- T** Treatment given so far
- A** Allergies
- M** Medications
- B** Background
(medical history)
Other (anything else relevant)

What is the VCCC?

A 24/7 NSW Ambulance clinical hub designed to provide secondary triage, optimise patient flow across the health system, and deliver expert clinical support when and where it is needed most.

The Team

- Paramedics
- Nurses
- Clinical Nurse Consultants
- Doctors

Core Capabilities & Services

- **Secondary Triage:** Reviewing and assessing Triple Zero (000) calls to ensure patients receive the most appropriate level of care.
- **On-Scene Clinical Advice:** Providing real-time, expert guidance to paramedics, first responders, and bystanders on scene.
- **Virtual Assessments:** Utilising telephone or video streaming to visually and clinically assess patients remotely
- **Active Patient Monitoring:** Conducting structured call-backs to monitor for patient deterioration or to reassure individuals while they await care.



The VCCC's Role in Mining, Remote & Trauma Environments

Critical Incident Decision-Making

Helps guide clinical pathways and complex interventions during high-acuity events, including:

- **Real Time Expert Oversight:** Provides senior clinical escalation support directly to paramedics and emergency responders operating on site
- **Under Pressure Guidance:** Offers critical reassurance and clinical direction when site responders are forced to make high-risk decisions under intense pressure.

Bridging the Care Gap

- **Managing Transport Delays:** Supports complex, long-term decision-making when weather, transit distance, or environmental conditions delay immediate evacuation.
- **Hospital-Level Care:** Actively bridges the critical gap between on-site first aid/industrial paramedics and definitive, hospital-level trauma care.



Psychological Safety & Responding to Emergencies

The Biological Shift

- Control shifts from the **Prefrontal Cortex** (Reasoning) to the **Limbic System** (Survival).
- The Amygdala initiates an immediate Fight, Flight, Fawn or Freeze response.
- A massive surge of adrenaline and cortisol overrides logical thought.

Real-Time Performance Impacts

- Reduced ability to process complex info or follow multi-step instructions.
- Tunnel vision and auditory exclusion (hearing shuts down).
- Loss of fine motor control; reliance on gross "instinctive" movements.
- Slower decision-making despite previous high-quality training.

Mining Context

- Low visibility, high noise, and isolation accelerate the stress response.
- In time-critical trauma (crush/entrapment), miscommunication and "action paralysis" are the primary threats.
- Role clarity and high-fidelity simulation to "re-wire" the instinctual response



Post-Incident Trauma: PTSD, Anxiety & Depression

Exposure to Critical Incidents

Direct Trauma: Fatalities, serious injuries, and entrapments.

Operational Roles: Participation in rescue and recovery efforts.

The "Invisible" Trauma: High-consequence near misses (the "what could have been")



The Spectrum of Impact

Immediate: Acute stress reactions and hypervigilance.

Delayed: PTSD symptoms developing weeks or months later.

Behavioural: Withdrawal, irritability, sleep disturbance, and depression.

Why Mining is High-Risk

The 'Return to the Scene': Workers must often return to the exact site of the trauma daily.

Compounding Factors: Shift work and chronic fatigue reduce psychological resilience.

Cultural Barriers: "Toughness" expectations often delay or prevent help-seeking.

Operational Pace: Limited downtime between incidents for emotional processing.

Psychological Safety in Mining

In mining emergencies, we don't just manage the incident - we manage human stress responses in real time. Psychological safety and trauma-informed training directly improve both immediate response and long-term worker wellbeing



High Performance CPR

The Power of Performance

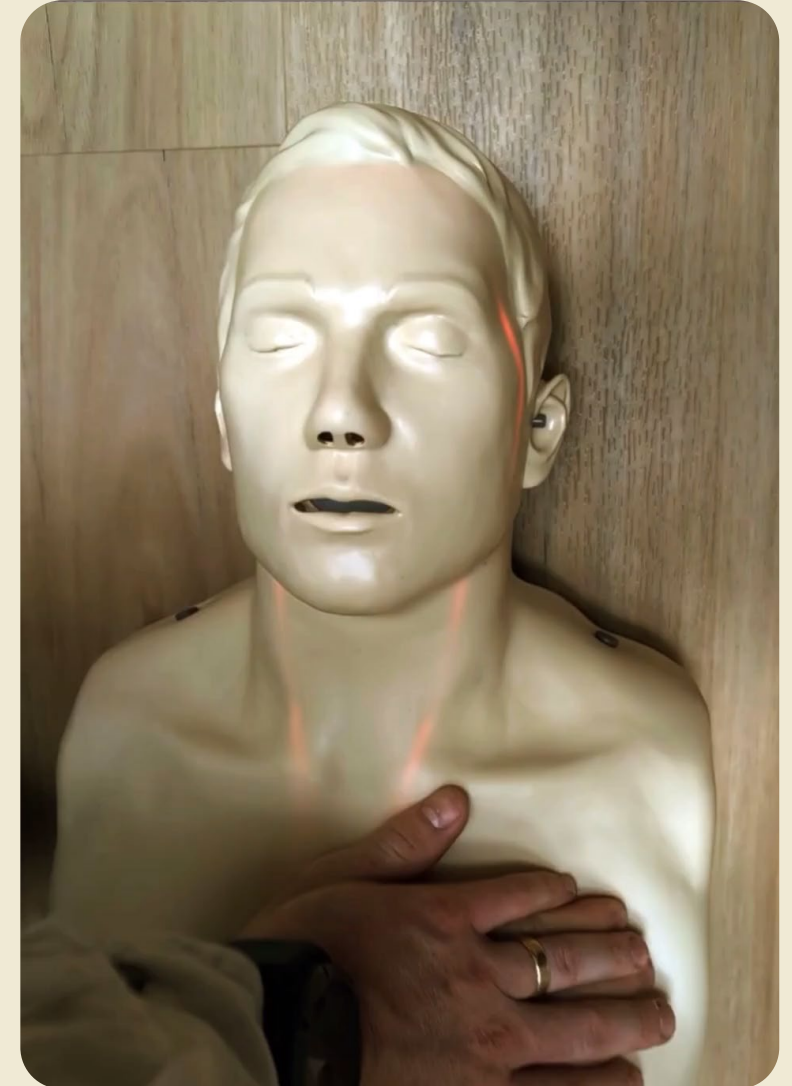
- King County (WA) saw a 50% increase in survival rates in the first year following high-performance CPR training
- Moving from individual effort to a coordinated team-based approach
- Survival rate is determined by the quality of the ‘pit-crew’ transition

The ARC Standard – Full chest recoil

- The Australian Resuscitation Council (ARC) identifies recoil as the most critical – yet most ignored- component of quality CPR
- Failing to release pressure is the silent killer of resuscitation efforts.

Why this matters

- Full recoil allows the heart to refill with blood between compressions
- Maintaining constant flow to the brain and the coronary arteries
- Prevents intrathoracic pressure buildup that blocks blood flow



Why standard CPR fails in the pit

- **The Physical Toll**

- Performance Degradation: Heavy gear, hard hats, and respirators significantly accelerate responder fatigue.
- Quality Drop: Effective compression depth and recoil much faster than in a controlled environment.

- **Environmental Constraints**

- Confined Spaces: Narrow tunnels and machinery layouts limit movement and the ability to rotate responders.
- Physical Barriers: Difficulty maneuvering a team of 4 around a casualty in high-hazard areas.

- **Sensory Overload and Stress**

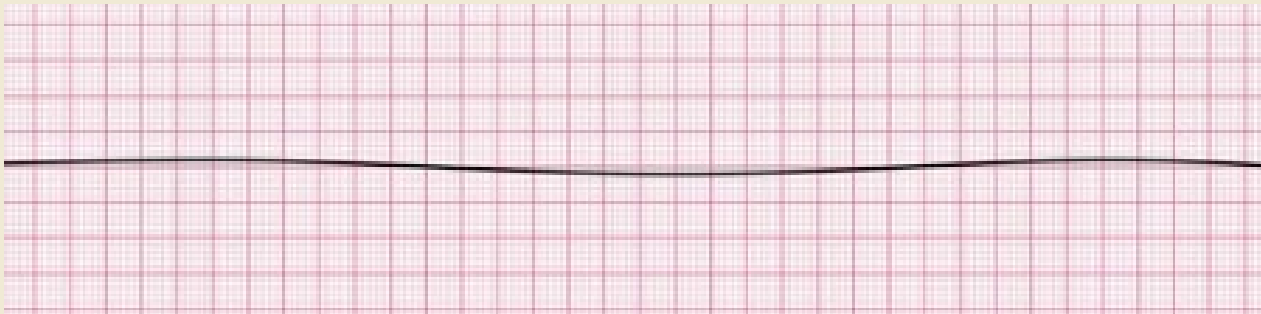
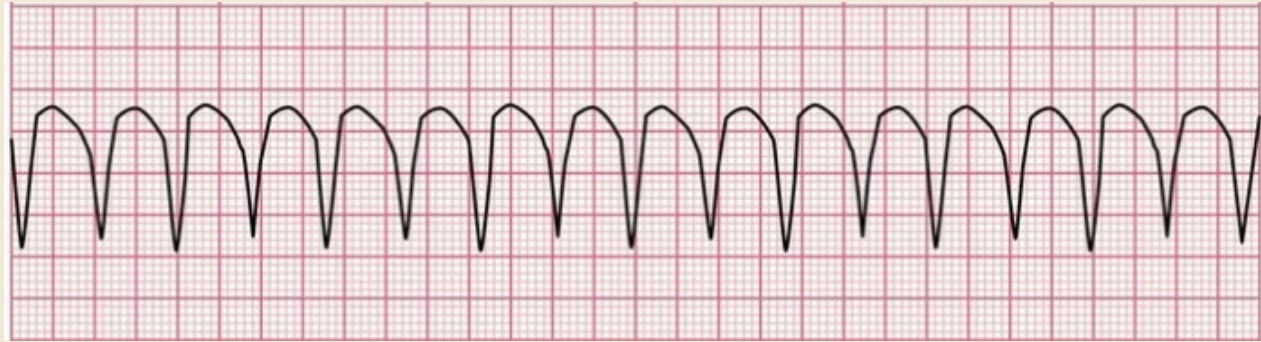
- Communication Breakdown: High ambient noise and acoustic echoes degrade critical verbal commands.
- Cognitive tunneling: High-stress environments lead to a loss of role clarity and task saturation.

- **The Solution**

- Automation: Pre-defined roles within the pit crew.
- Resilience: Training specific for challenging and degraded environments, not just a classroom.

Defibrillator Nuances In The Back Of A Moving Vehicle

Shockable & Non-Shockable Rhythms



Cardiac Arrest Patient Transport



Mechanical CPR - Zoll Autopulse

Solving the 'transit gap' in high-risk underground extraction



The Mining Reality

Long-haul rescue:

Sustains continuous compressions during extended physical extraction transits from deep-cut mines up to the surface.

Confined spaces:

Delivers stable CPR inside highly restricted environments, including escape shafts, mining elevators, and escape stairwells.

Moving assets:

Assures a 100% CPR fraction with absolutely zero pauses while moving on rapid SMV mining vehicles

Automated Precision

Circumferential Compressions:

Delivers continuous, automated, and patient-customised chest cycles that secure arterial flow.

Load-Distributing Band:

Compresses across the entire thoracic frame evenly, significantly reducing trauma risk compared to point-force CPR.

Consistent Quality:

Maintains uninterrupted perfusion parameters, eliminating the degradation typical of physical responder fatigue.

Tactical Extraction & Safety

Enabling continuous CPR during mobile evacuations

RAPID EXTRICATION PROTOCOLS

With the AutoPulse NXT secured to the carry sheet, rescue teams can confidently lift, carry, and slide patients down shafts while mechanical cycles run uninterrupted. Supports rapid scoop-and-run tactics.

SUBTERRANEAN RESPONDER PROTECTION

Allows medics to remain safely buckled and seated while the emergency vehicle travels through rough, unpredictable mine routes. Eliminates manual CPR hazards in unstable, high-vibration spaces.

THE "EXTRA HANDS" CLINICAL CATALYST

Acts as an automated clinical partner, freeing responders to focus physical energy and cognitive attention on navigating complex mine geography and preparing advanced airway support.



Questions



Chloe Betts

Website: www.centralwestfirstaidtraining.com.au

Email: chloe@centralwestfirstaidtraining.com.au

Phone: 0437 437 833



Thank you, lets stay connected.



CENTRAL WEST
TRAINING SPECIALISTS





Coal Services



Any
QUESTIONS?



Break

20 mins

Bede Baratta

Coal Mines Insurance

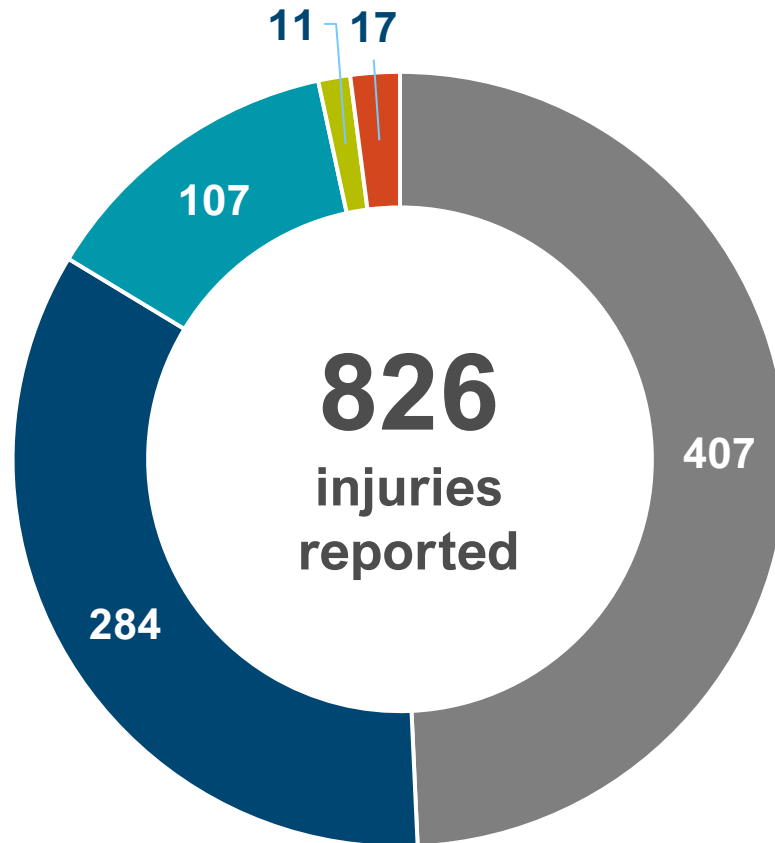
Workers compensation claims
and injury profile

NSW coal industry

Claims and injury profile from 1 July 2025 to 31 March 2026 (Inc. Industrial Deafness)



Injuries by risk category



- Underground
- Open Cut
- Operational Mining Services (on/offsite)
- Administration (on/offsite)
- Unknown

Open Cut

34%

46

\$41,322

Injuries reported

Avg. age at date of incident

Avg. cost incurred

Underground

49%

46

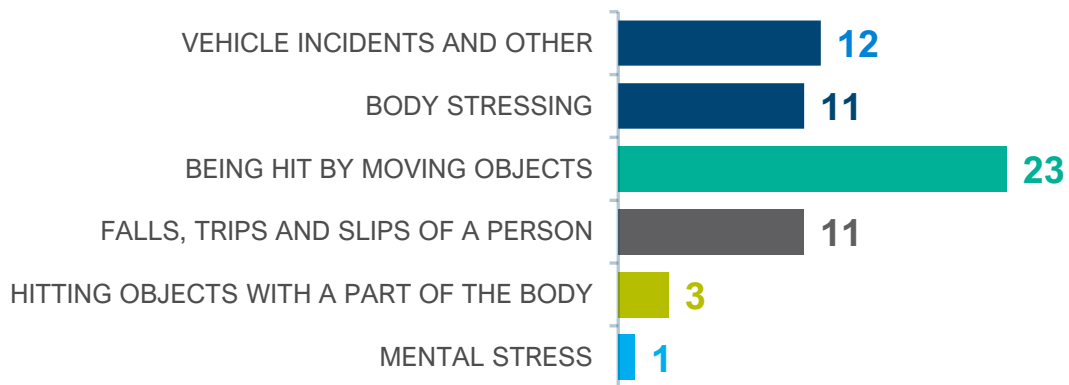
\$30,508

Claims and injury profile (mechanism of injury)

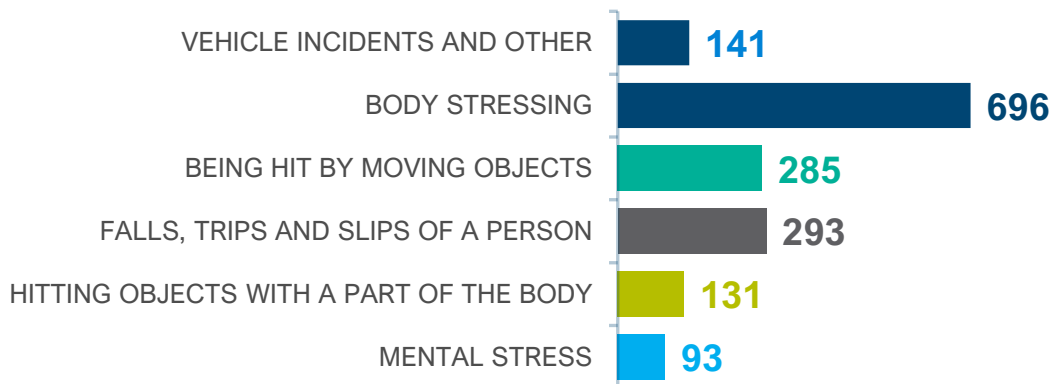
By age groups, data from 1 July 2021 to 31 March 2026



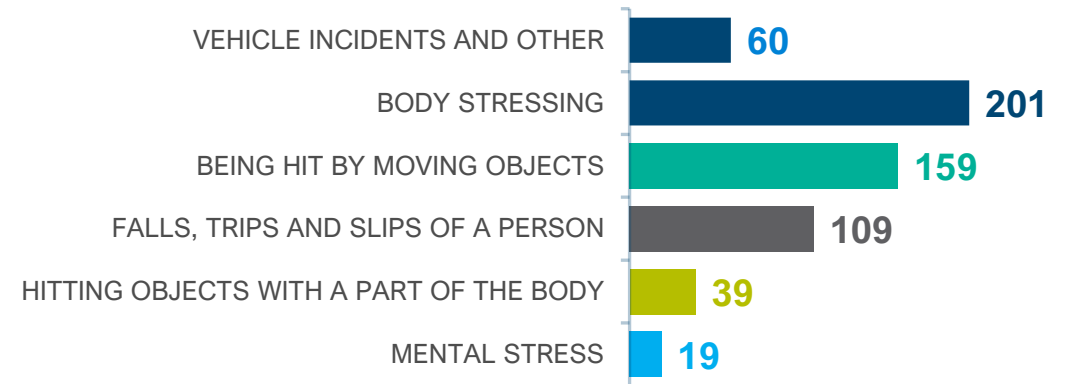
<20 years old 71 Claims



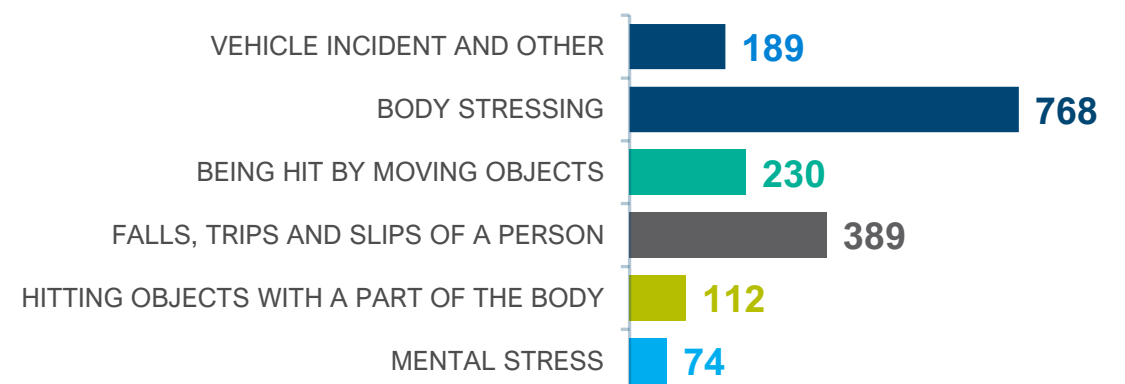
31-45 years old 1,841 claims



21-30 years old 644 claims



46-60 years old 2,193 claims

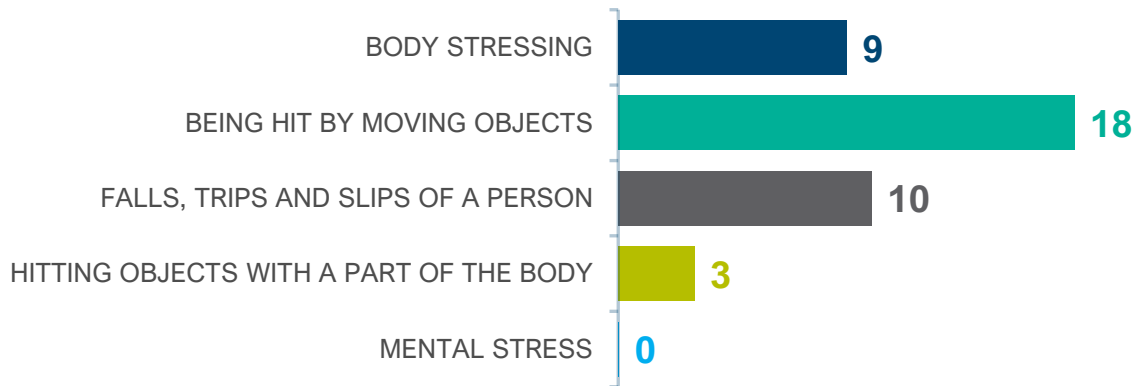


Claims and injury profile (mechanism of injury)

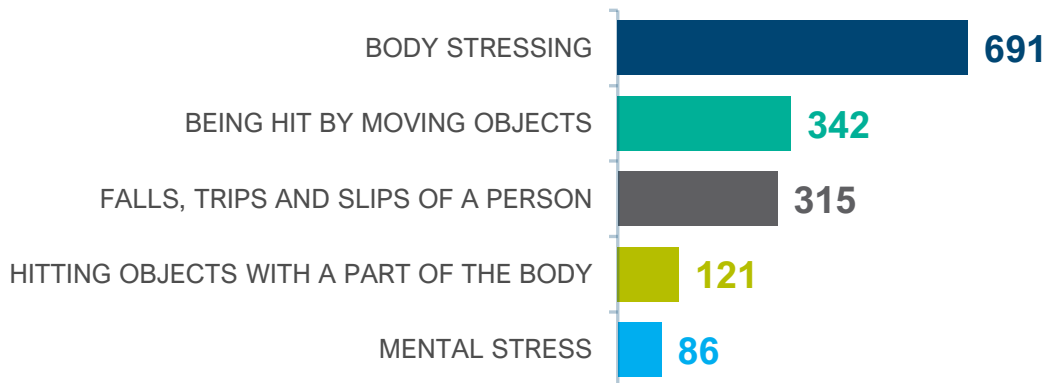
By age groups, data from 1 July 2020 to 31 March 2025



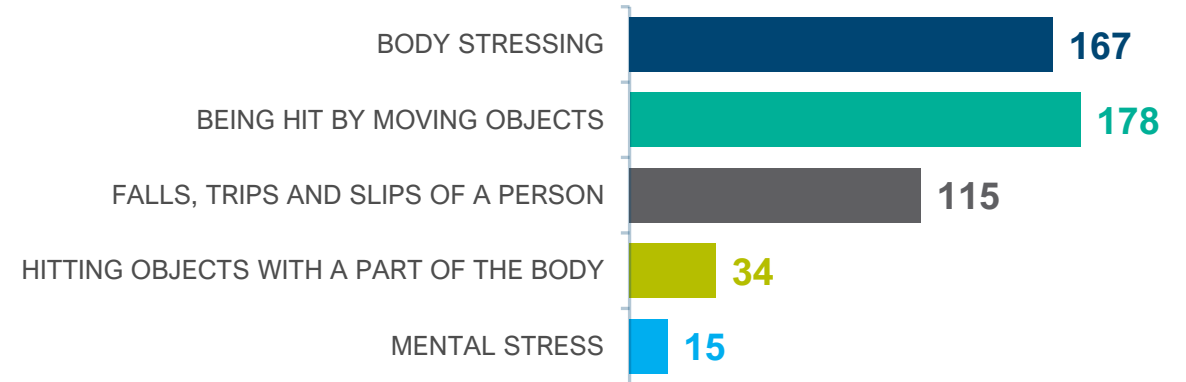
<20 years old 53 Claims



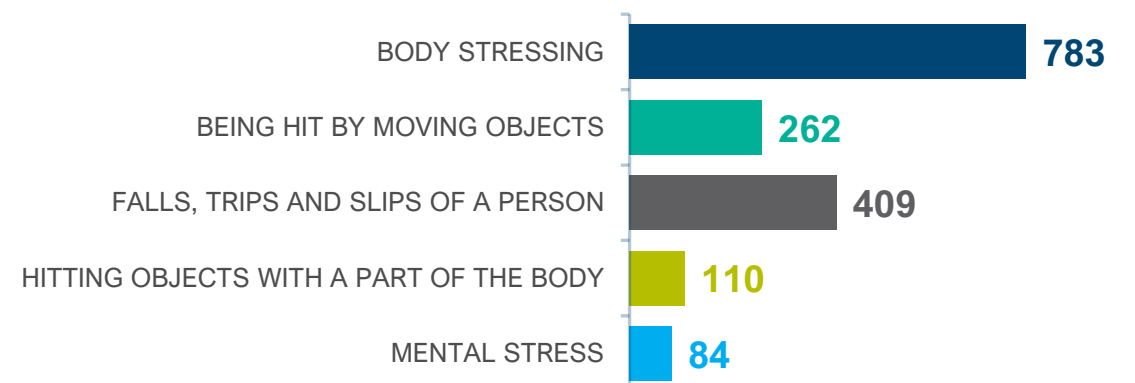
30-45 years old 1,840 claims



20-30 years old 596 claims



45-60 years old 2,216 claims

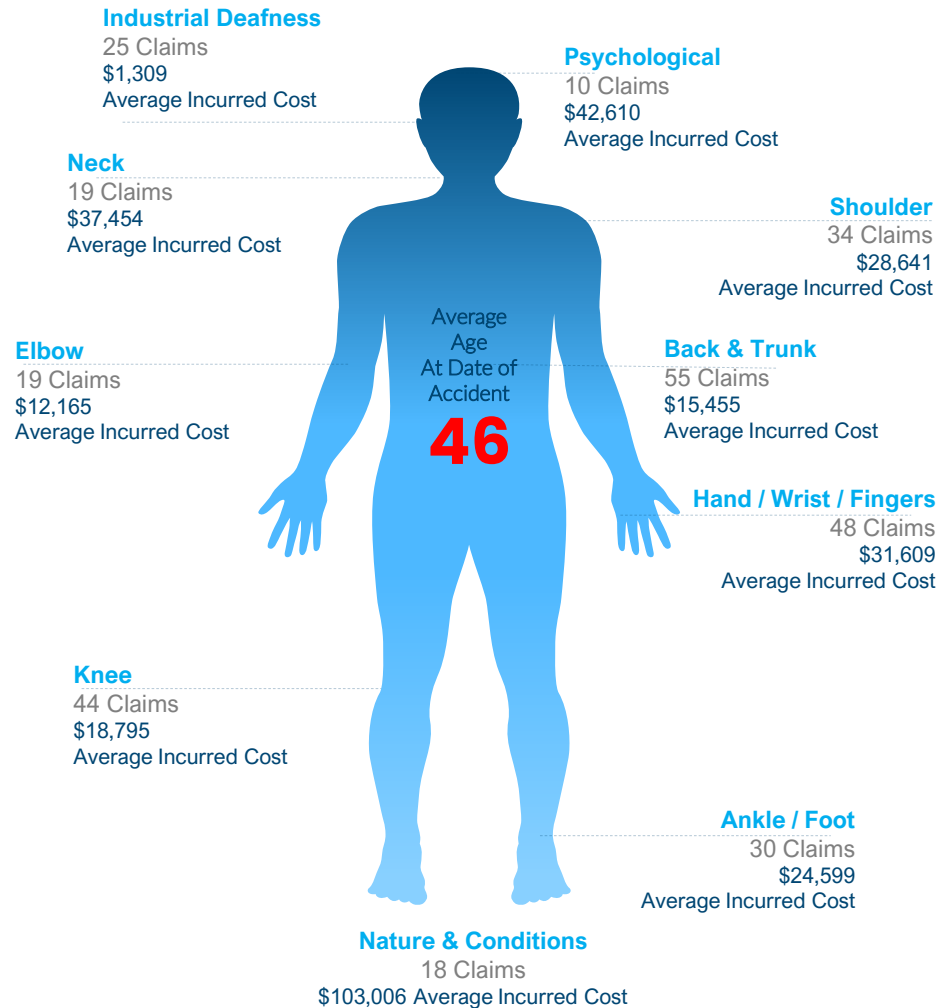


Underground – mine owners

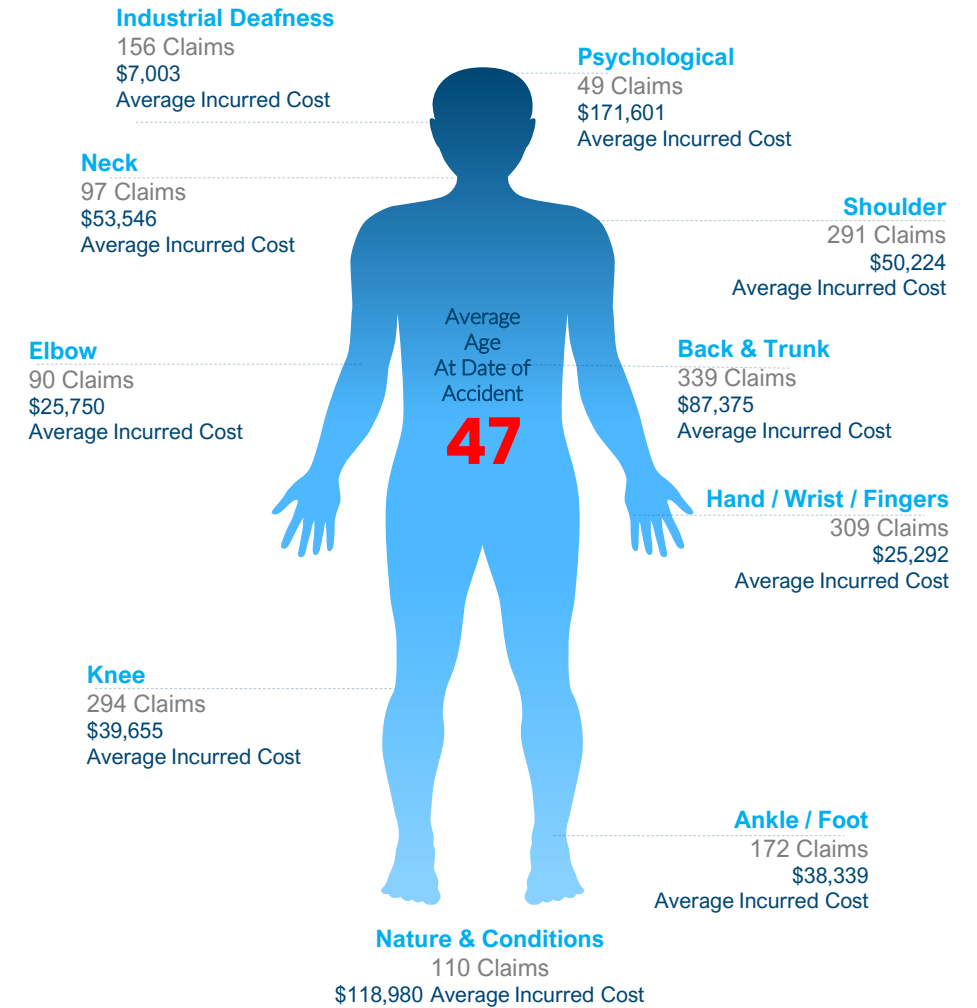
Claims and average incurred cost (data as at 31 March 2026)



Body location (FY26)



Body location (FY21 to FY26)



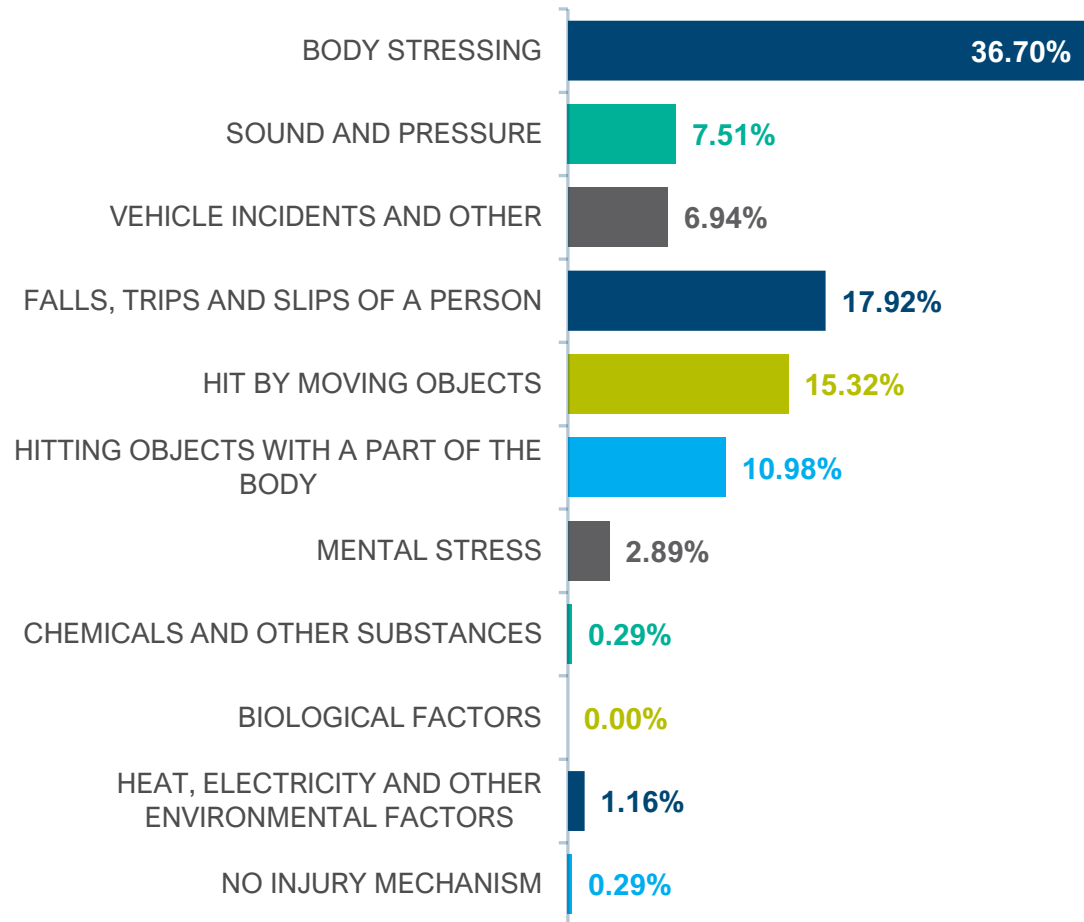
Underground – mine owners

Claims and average incurred cost (data as at 31 March 2026)



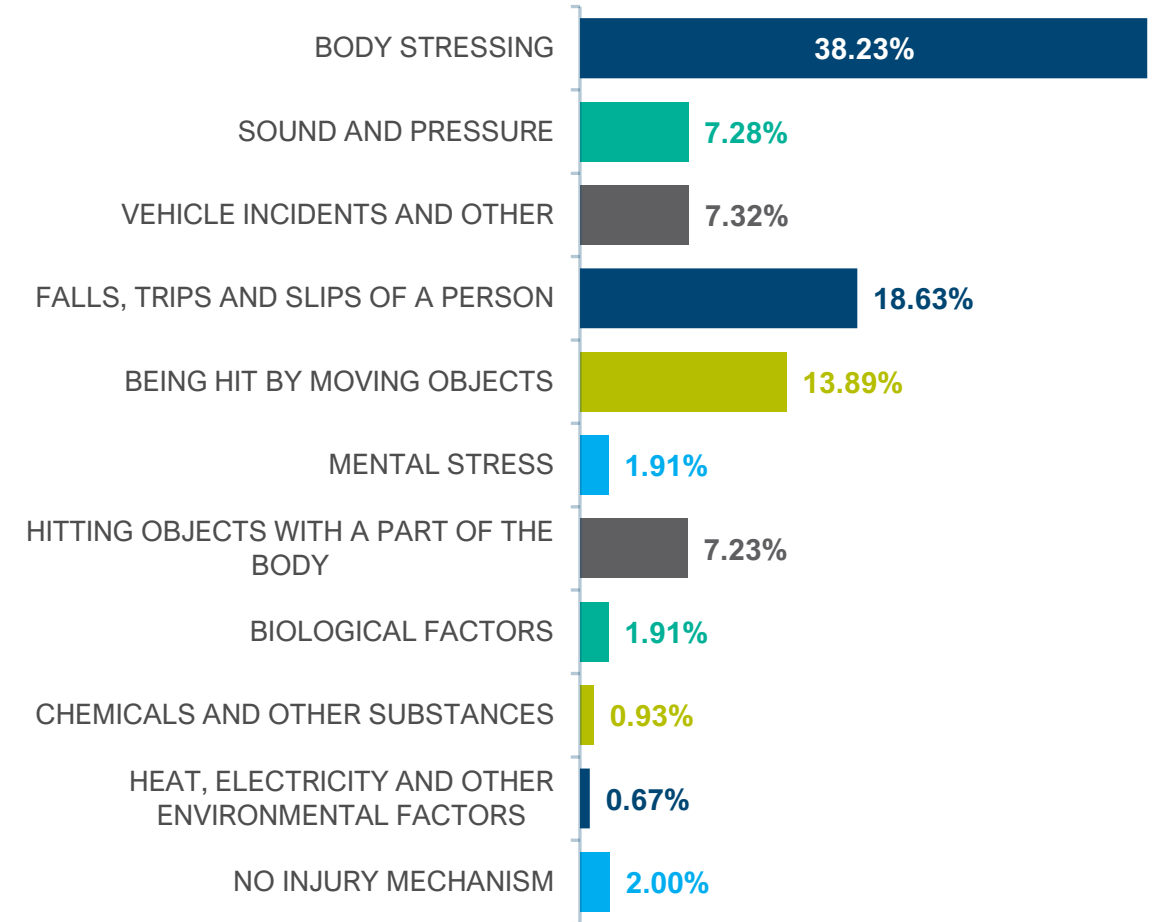
Mechanism of Injury (FY26)

346 claims



Mechanism of Injury (FY21 to FY26)

2,254 claims

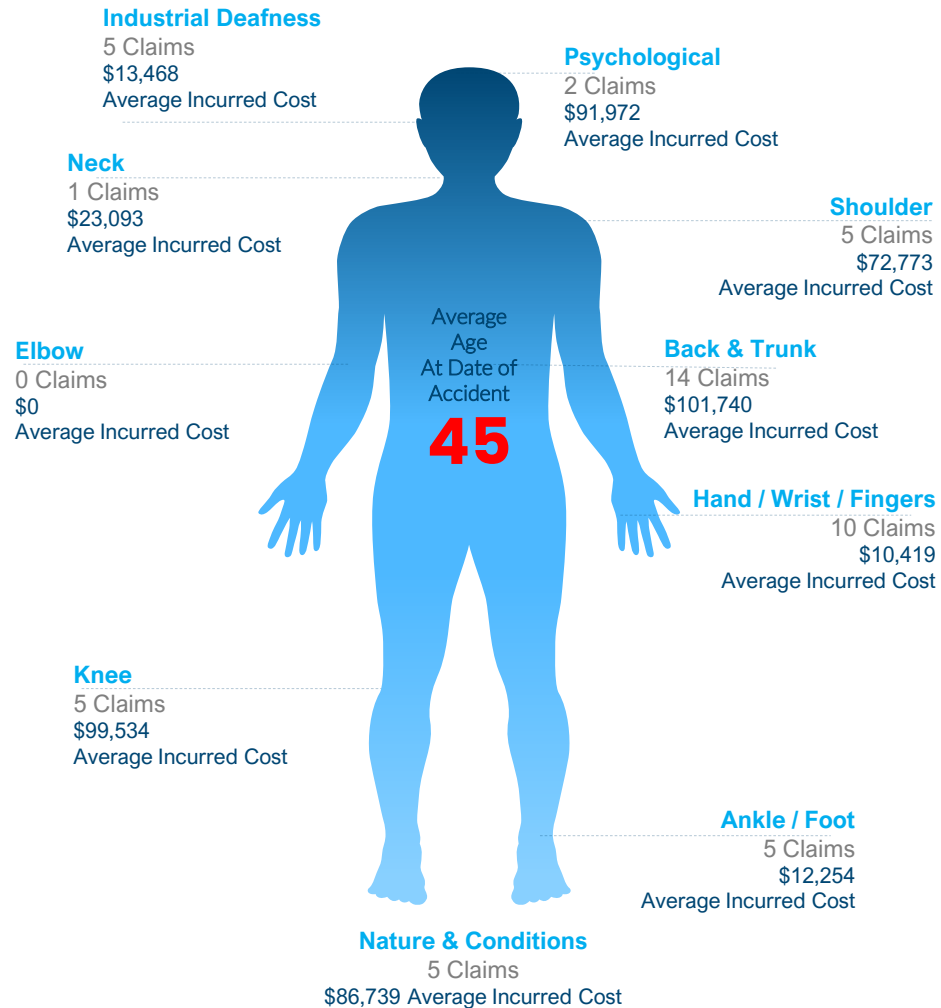


Underground – contractors

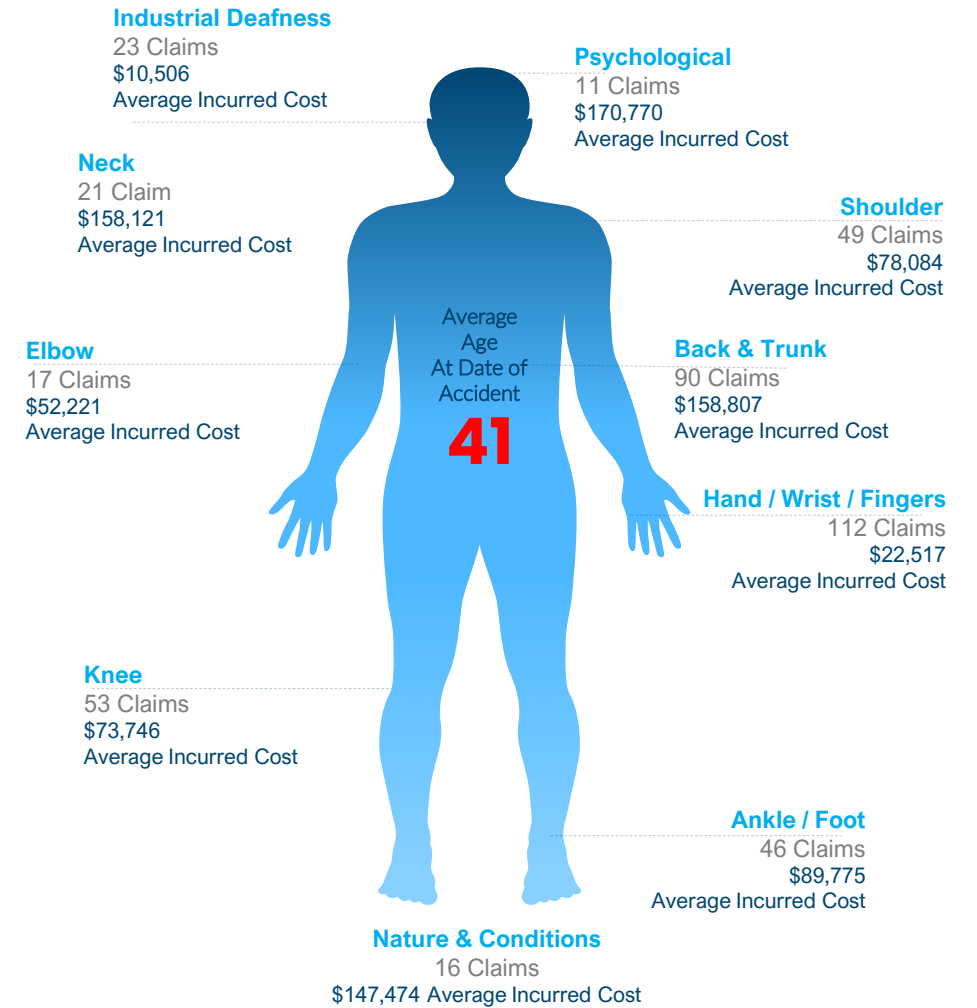
Claims and average incurred cost (data as at 31 March 2026)



Body location (FY26)



Body location (FY21 to FY26)



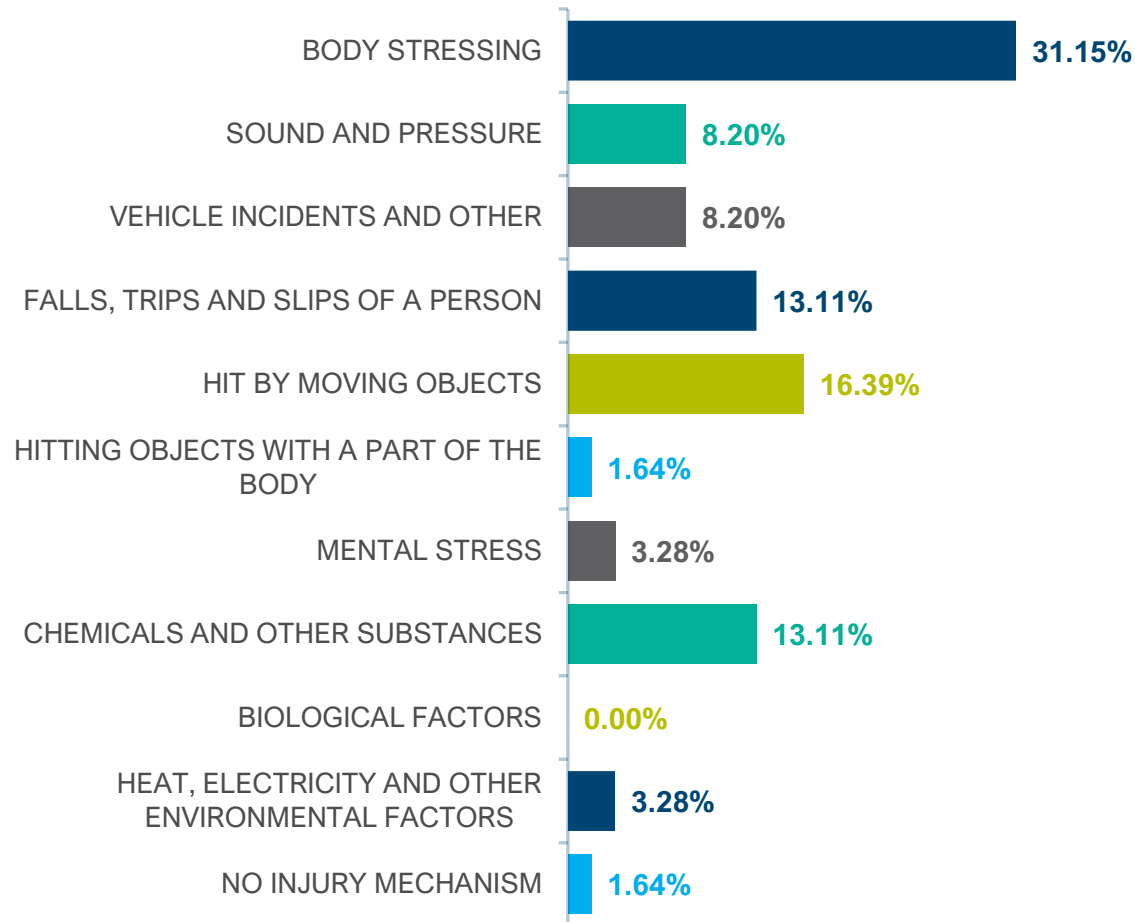
Underground – contractors

Claims and average incurred cost (data as at 31 March 2026)



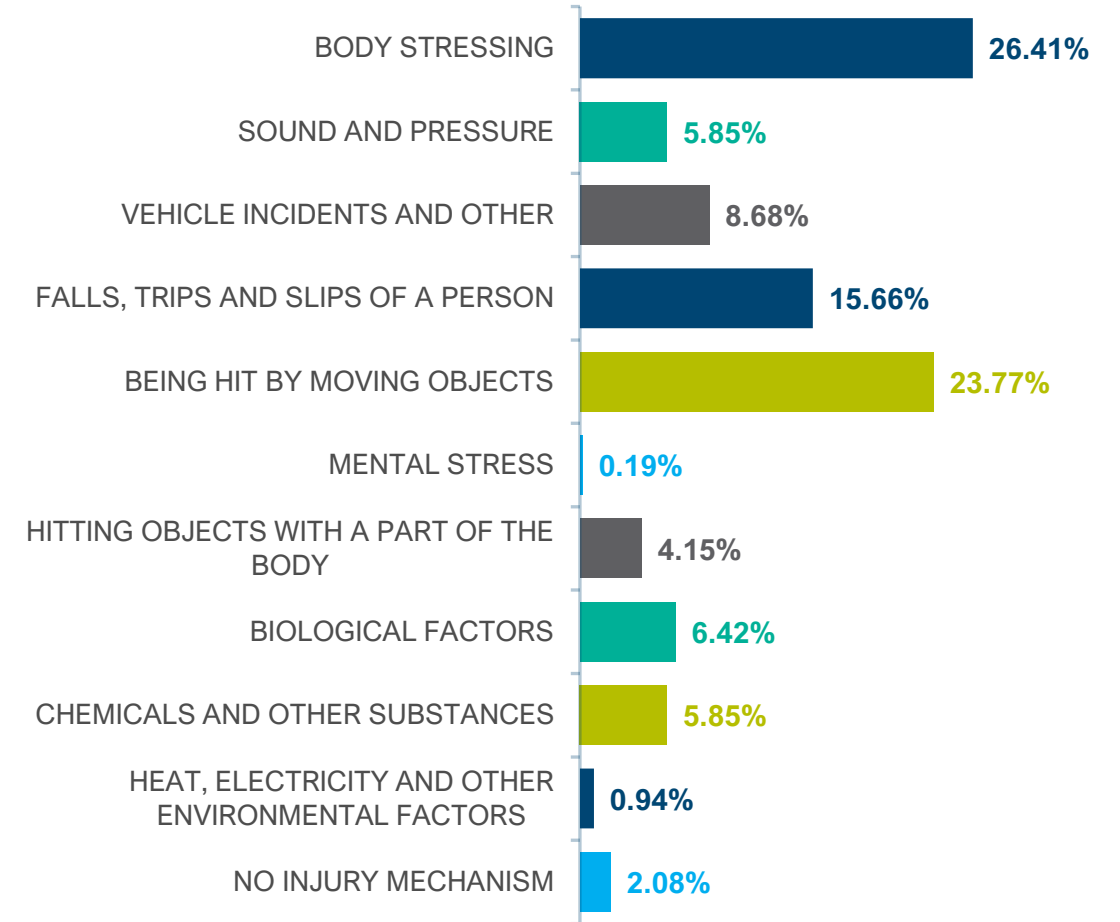
Mechanism of Injury (FY26)

61 claims



Mechanism of Injury (FY21 to FY26)

530 claims





Any
QUESTIONS?



KEYSTONE CAPABILITY PROGRAM

ORDER 34 WORKSHOPS

*Building statutory
capability in NSW
underground coal*

PRESENTED BY: ELLIOT BAUME

25 JUNE 2026

Who We Are

Critical Risk Group: Risk, Assurance and Capability.

EXPERTISE

Risk, assurance & investigations

Working with mining and heavy industry clients on risk, assurance and critical controls.

APPROACH

Practical, on-site risk management

Close to how risk is actually managed on site.

FOUNDATION

Supervisor-focused knowledge

What supervisors need to know, notice and decide.

DESIGNED BY

Built by mining people for mining people

Keystone grew from a practical base built for the industry.

The Problem

Sites need more than names on a succession chart

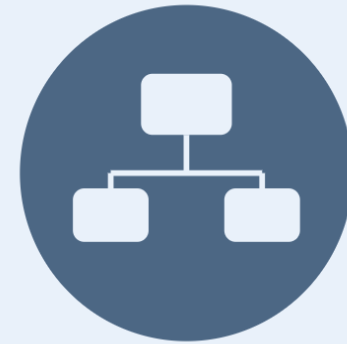
Underground coal sites need a deeper bench of capable statutory supervisors.

Many candidates are time-poor, shift-bound and preparing around full-time operational roles.

Traditional succession planning often identifies people before they are ready.

The gap is not interest.

The gap is structured development.

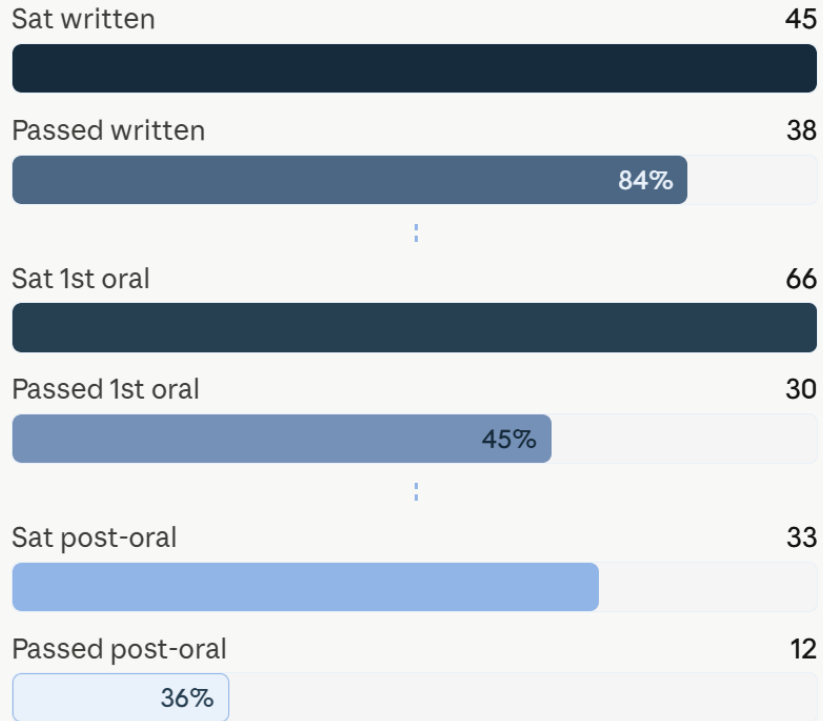


**Plenty of names on paper.
Not enough ready
supervisors.**

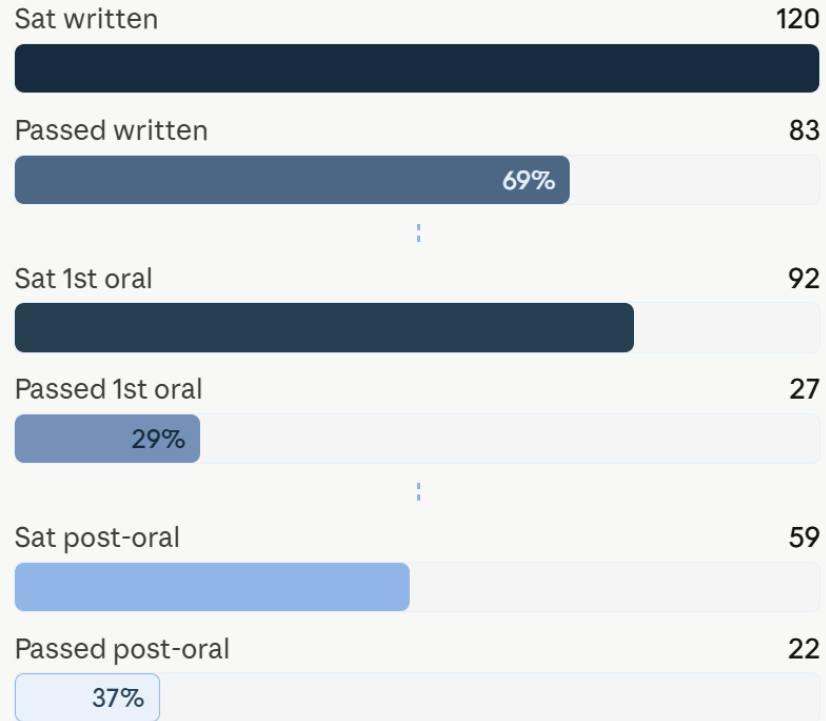
The Problem – Deputy

Sat exam
 Passed written
 Passed 1st oral
 Passed post-oral

2022



2024



Overall competent
41%

Total competent

4 out of 10



41% overall pass rate

Did not achieve competency

6 out of 10

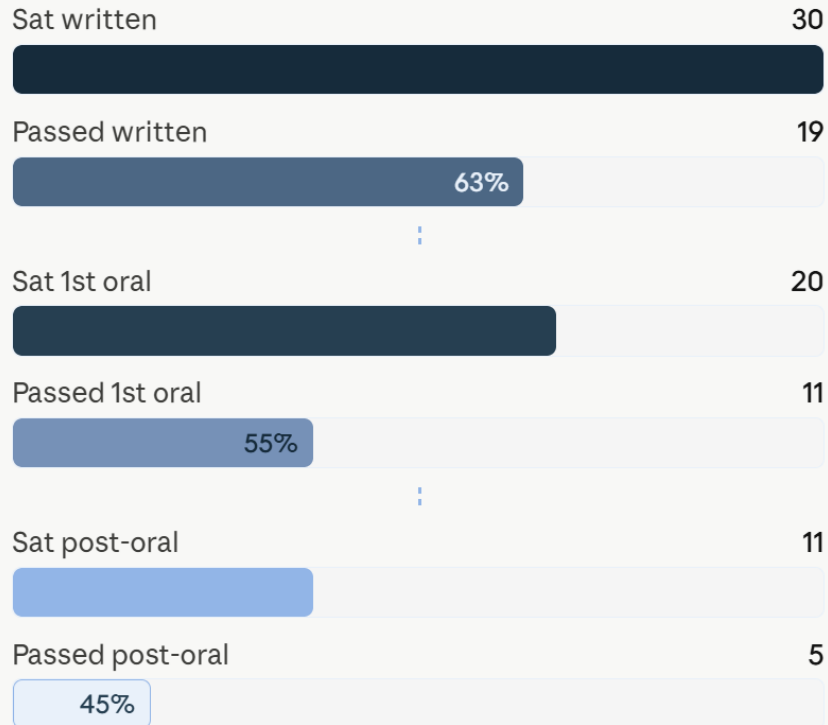


59% do not complete

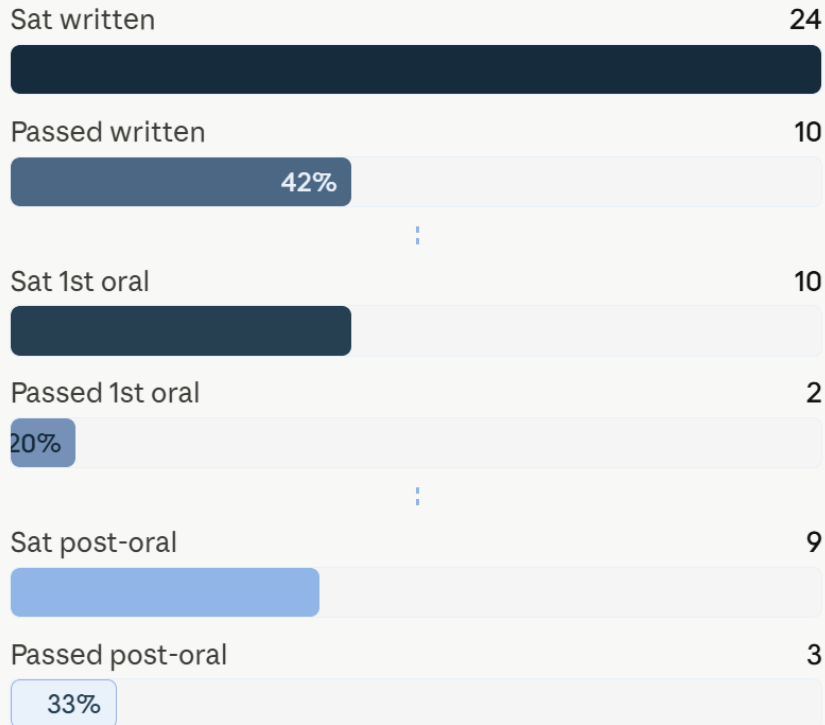
The Problem – Undermanager

Sat exam
 Passed written
 Passed 1st oral
 Passed post-oral

2021



2024



Overall competent
21%

Total competent

1 out of 4



21% overall pass rate

Did not achieve competency

3 out of 4



79% do not complete

The Problem

Cramming legislation does not build a supervisor



RECALL

Knowing the words of the legislation matters; however, recall is not enough.



APPLICATION

Supervisors have to apply the law in messy, incomplete and time-pressured situations.



DECISIONS

Many candidates study hard and still struggle to turn knowledge into decisions.



CAPABILITY

A pass attempt is not the same thing as operational capability.

The Approach

Get the supervisor right and the ticket follows





THE KEYSTONE DECISION FRAMEWORK

SECTION ONE

*How capable supervisors
think*

The Framework

Eight stages, Three phases

Investigate

STAGES 1 – 5

1 **Scenario framing**
Separate fact from assumption

2 **Causes and exposures**
Where could this go

3 **System and statutory requirements**
What the law and site systems require

4 **Proportional risk**
The right level of urgency

5 **Testing assumptions**
Verify before committing

Execute

STAGES 6 – 7

6 **Control actions**
What to do, by whom, in what order

7 **Monitor and verify**
Confirm it is working and adjust

Govern

STAGE 8

8 **Close-out and review**
Document, report, capture the lessons

The Framework

From a developing situation to a sound decision

A supervisor first frames what is actually happening and separates fact from assumption, rather than reacting first.

They map likely causes, check what the legislation and site systems require, and weigh how urgent the risk really is.

Only then do they decide the controls, put them in place, and keep checking they are working.

They close the event out properly: records, notifications, and what to do differently next time.



Most errors in judgement happen when execution begins before the information gathering is complete.

The Framework

The real test is judgement under pressure

READ CONDITIONS



Reading conditions and recognising change

Knowing when something has shifted on site.

ESCALATE OR STOP



Knowing when to stop, withdraw or escalate

Withdrawing or authorising work at the right moment.

APPLY LEGISLATION



Applying legislation and site systems

To the actual situation at hand, not in theory.

DECIDE AND EXPLAIN



Making a clear decision and explaining why

Being able to justify the call under pressure.

CRITICAL RISK GROUP

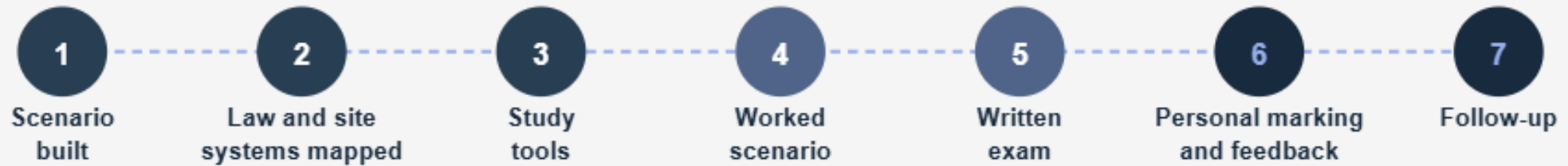
INSIDE A KEYSTONE WEEK

SECTION TWO

*What every candidate
does, every week, for the
whole pathway*

The Weekly Loop

One week, Start to Finish



5 – 6 hrs

of focused work for the candidate each week, built around a working roster.



Every step builds toward a written exam and individual feedback.

We build a realistic operational scenario

Step 1 of 8

- We start with a situation a supervisor would actually face: the role, the shift, the type of mine, the conditions.
- The scenario unfolds in stages, the way a real shift does, with new information arriving as it goes
- It is built to make the candidate think, not to be answered straight from a textbook.



1

REALISTIC SCENARIO

We map the law and the site's own systems to it

Step 2 of 8

- For each scenario we identify exactly which sections of the legislation are in play
- We identify the safety management system documents that apply, for example ventilation control plans, TARPs and principal hazard management plans
- Candidates source these from their own mine, so they are working through their actual site systems, not generic examples



2

LAW & SITE SYSTEMS

We give a clear roadmap of what to study

Step 3 of 8

- Candidates get a focused view of the legislation that matters for the week, and why
- The focus is on understanding the obligation and how it applies, not memorising section numbers
- No guesswork about what to prepare. The week has a clear direction



3

STUDY ROADMAP

We drive it home through more than one medium

Step 4 of 8

- Flashcards for the recall layer, at the candidate's own pace
- Knowledge checks that score understanding and show where the gaps are
- The same material approached different ways, so it actually sticks



MULTIPLE MEDIUMS

A worked scenario, with model answers

Step 5 of 8

- Candidates work through an interactive scenario, stage by stage
- They see worked model answers at the end, so they can compare their own thinking
- This is where the framework becomes second nature, applied rather than described



5

WORKED SCENARIO

A written exam, every candidate, every week

Step 6 of 8

- A separate, exam-style scenario completed under exam conditions
- Broad, high-level questions that ask the candidate to demonstrate their thinking
- Same theme as the week, a completely different situation, so it tests capability rather than recall



6

WRITTEN EXAM

Personally mark every exam

Step 7 of 8

- Every exam is marked by hand, against the standard expected of a statutory supervisor
- Feedback is specific to what the candidate actually wrote: what was sound, what was missed, what to sharpen
- No automated scoring and no generic comments

A large, bold, blue number '7' centered within a light blue square background.

MARKING EXAMS

Individual follow up

Step 8 of 8

- One-to-one conversations to work through the feedback
- Group sessions where candidates learn from each other
- Development tracked week to week, so progress is visible across the pathway

A large, bold, blue number '8' centered on a light blue square background.

FOLLOW UP

CRITICAL RISK GROUP

WHAT IT HAS DELIVERED

SECTION THREE

The track record so far

Track Record

78 exams, personally marked



78

- 6 undermanager candidates over 8 weeks, 48 exams
- 5 deputy candidates over 6 weeks, 30 exams
- Every exam marked by hand, with individual written feedback
- Backed by dozens of one-to-one calls and several candidate group sessions

Track Record

What tailored feedback looks like

SPECIFIC TO THE CANDIDATE



**Specific to their own
answer**

Feedback on what they wrote,
not a generic template response.

LIFT THE NEXT ANSWER



**Marks strength, names
gaps, shows how to improve**

What was strong, what was missed,
and how to lift the next answer.

Evidence

Built, tested and improving



PATHWAYS

**Deputy and
undermanager
pathways run**

Both cohorts delivered



FEEDBACK

**Candidate
feedback has
been positive**

From those who went through



IMPROVING

**Keeps improving
through delivery
and candidate needs**

Refined with every cohort

The core stays the same:

practical statutory capability before examination performance.

A stronger statutory bench

For your site

Better-prepared candidates before they sit.

More consistent development across the deputy and undermanager pathways.

Stronger succession depth for statutory roles.

Less reliance on last-minute exam preparation.



**A deeper, more
consistent statutory
bench.**

Capability doesn't stop at a ticket

Looking ahead

The same approach keeps statutory supervisors sharp well after they pass.

Working through current site systems, scenarios and legislation is how competence stays current.

Keystone is built to support capability over time, not just for a single exam.



**Capability is ongoing,
not a one-off.**

Building the next Statutory Supervisors



BEFORE THE GATE

Sites can use Keystone to support candidates before the exam gate.



ACT EARLY

The best time to develop capability is before the shortage becomes urgent.



GET STARTED

We can discuss Deputy and Undermanager pathway options.



Questions and discussion

Additional Leadership Capability Programs



Why it matters

Operational and leadership capability cannot be assumed. Organisations invest heavily in technical systems. The same discipline must extend to the people executing them.



Driven by your data

Learning is shaped by internal signals including incidents, audits, TARP trends and procedure deviations, as well as external intelligence including regulators, codes of practice and industry guidance.



Who it covers

A holistic, operational approach tailored to your SMS and risk profile.

Statutory officials

Leaders & management

Planning roles

Technical roles

Support services



YOUR SMS SHOULD DRIVE COMPETENCE

Learning should reflect your operational risk profile and SMS. In turn this supports leaders to make effective decisions in line with operational expectations priorities.

Internal Operational Drivers

Your operation is already signaling where capability gaps exist



Incident Investigation – recurring casual factors



Audit Findings – system weaknesses



Verification Failures – control degradation



Procedure Deviations – execution inconsistency



TARP Trends



Process non-conformances

Maintenance of Competence



WHAT YOUR STATUTORY OFFICIALS ALREADY DO

Your statutory officials are already required to maintain their competence to hold their certificate. That work is happening regardless.



THE OPPORTUNITY

So why not use that moment to go further and build the operational capability your business actually needs?



Better decisions



Stronger systems



Business goals met

CRITICAL RISK GROUP



Elliot Baume

Partner

elliott@criticalrisk.com.au

0405067600



John Van der Merwe

Partner

John@criticalrisk.com.au

0431308441



Alex Warren

Partner

Alex@criticalrisk.com.au

0458565082



Bethany Hord

Safety Practice Lead

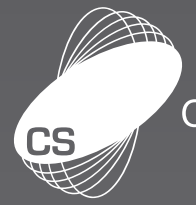
bethany@criticalrisk.com.au

0439135590





Any
QUESTIONS?



Coal Services

Lunch

30 mins



Course in Field-Based Training and Assessment (FBTA)

Developed by industry, for industry, to support workplace trainers and assessors in operational environments.

Presented by Training Services Australia

Building capability is part of the job



Think about the last time you learned something important at work

Who taught you?



Supervisor



Team
Leader



Experienced
Operator



Co-worker



How many of those people were actually employed as trainers?



The reality is, workplace capability is often built by supervisors, team leaders and experienced operators

Why was FBTA developed?



**The TAE
changed
over time**

Designed for
RTO
environments

Less
aligned to
operational
workplaces

More
compliance
focused

Greater
complexity

Industry needed another option



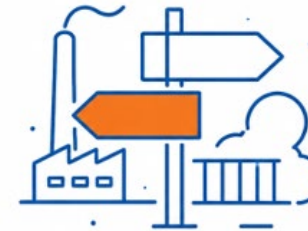
Skilled workers, stuck on paperwork

Highly skilled operators wanted to train others but found the TAE increasingly difficult to complete



Training didn't match the role

Much of the content wasn't relevant to what workplace trainers and assessors actually do day-to-day



No alternative pathway

Organisations had no recognised alternative — leaving a critical gap in capability development.

Industry needed something different

The FBTA solution

The course was developed to fill that gap



Practical focus

Centred on real workplace training and assessment



Operational design

Built for operational environments, not classrooms



Recognised credential

Aligned to workplace trainer and assessor roles



Workplace systems

Uses your procedures, tools, and standards

Who is it intended for?

✓ Designed for

People who:

- Train and assess as part of their normal role
- Supervise and coach others on site
- Use workplace systems and procedures
- Are workplace trainers, assessors, supervisors, or experienced operators

✗ Not designed for

FBTA is not intended for:

- RTO trainers and assessors
- Assessing nationally recognised units of competency
- Meeting trainer/assessor requirements under the RTO Standards

FBTA and TAE: Different purposes

FBTA

- Workplace-focused
- Practical and operational
- Uses workplace tools and procedures
- Confirms workplace competency

TAE

- VET/RTO-focused
- Broader framework
- Uses training products and units of competency
- Nationally recognised assessment

Not better. Different.

Why not just use TAE units?

Consider this ...



A highly experienced operator who:

- Trains new starters on site
- Coaches workers through tasks
- Signs people off as competent

Do they really need to:

- Interpret units of competency?
- Apply RPL processes?
- Map assessment tools?
- Understand VET compliance requirements?

What does the FBTA course actually involve?

Carry out workplace assessments

- Prepare for assessments
- Conduct workplace assessments
- Review assessment outcomes

Provide work skill instruction

- Deliver structured skills-based training
- Demonstrate workplace tasks and skills
- Guide practice and provide feedback

Coach others in the workplace

- Coach workers over time
- Develop job-specific skills
- Support workplace performance

Based on real workplace tasks, procedures and standards.

Workplace Assessment: Different contexts

NAT11424001 Carry out workplace assessments

Workplace assessments using site tools

Workplace procedures and standards

Real operational tasks as evidence

TAEASS412 Assess competence

Nationally recognised units of competency

Multiple candidates and RPL requirements

Validation and assessment system requirements

Different purpose. Different context. Different pathway.

Assessment Requirements

NAT11424001

3 workplace assessments

Workplace tasks

No RPL requirement

Workplace tools

Workplace procedures

TAEASS412

6+ assessments

Nationally recognised units

Includes RPL

Validated assessment tools

Broader VET requirements



The right tool for the right job



1. What do they actually **do**?
Start with their day-to-day role.



2. What are they **assessing**?
Are they assessing workplace tasks and procedures or nationally recognised units of competency?



3. What do you **need**?
What outcome or evidence do you need for your workplace?



The right tool for the right job

FBTA

Workplace procedures, site requirements and operational competency

Choose the pathway

That best matches the role

TAE

Nationally recognised units of competency and VET assessment requirements




The decision isn't about which course is easier.
It's about what the person needs to do in the workplace



Coal Services



Any
QUESTIONS?

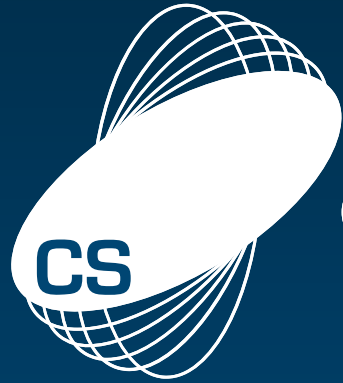


FINAL
THOUGHTS

Conclusion

Survey to be sent out following these workshops

General feedback and questions



Coal Services

