April 2022

MMQ Quarterly Report

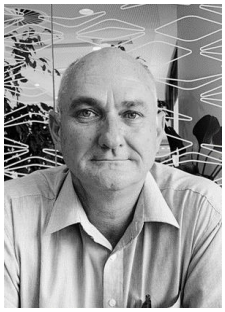
High Potential Incidents and Serious Accident Summary
Queensland Mineral Mines and Quarries Inspectorate
January- March 2022 quarter

Resources Safety & Health
Queensland

Contents

Unless otherwise stated, all data displayed is year to date

From the Chief



Hermann Fasching, Chief Inspector Mineral Mines and Quarries

Welcome to the second edition of the MMQ Quarterly Report. In the last issue I encouraged you to share feedback about the new format and content of the report with our Inspectors.

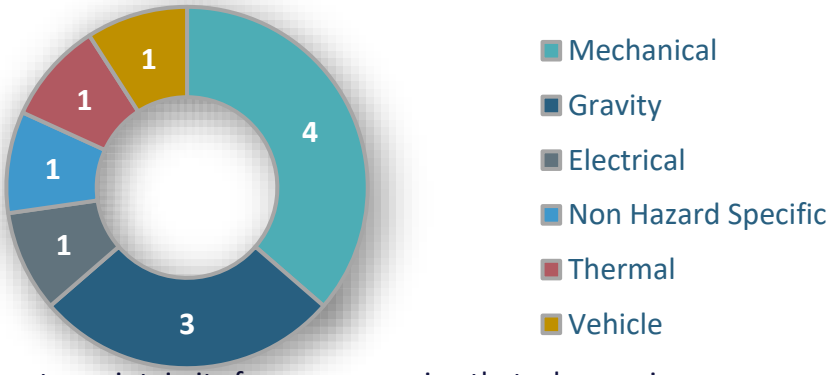
I am pleased to say that the feedback has been very encouraging, with the majority of respondents saying it was useful and provided information and lessons that could be applied directly in the workplace.

I am also happy to report that this quarter has seen an increase in reporting of high potential incidents (HPIs). Reporting HPIs is a good way to focus on issues and take action before they become serious incidents. I encourage sites to treat these as learning opportunities, conduct thorough investigations and implement effective controls to prevent reoccurrence.

I want to encourage you to continue to create an environment in your workplaces that makes people feel comfortable and able to report incidents and hazards without the fear of negative consequences or retribution. This is one of the key attributes of High Reliability Organisations and critical if we want to detect hazards and problems before they cause accidents and injuries.

Of concern is the number of serious accidents that have occurred this year. In 2020 / 2021 there were a total of 18 and so far this year there have been 22. That is 22 people who have been admitted to hospital as a result of injuries they sustained at work. The underground sector has seen the greatest increase with 6 last year and 11 this year (to date).

From the 11 serious accidents in UG mines this financial year, 4 had the hazard class of *Mechanical* which includes lacerations and nip points.



The Mines Inspectorate will continue to maintain its focus on ensuring that when serious accidents occur, sites undertake a through investigation to establish the causes, implement real controls, and monitor these for effectiveness.

News and updates from RSHQ

Trevor Brown, Deputy Chief Inspector Mineral Mines and Quarries

A key focus of the MMQ inspectorate for the 21/22 financial year has been implementing a project to reduce the serious accident frequency rate in the Mineral Mines and Quarry sector with a primary focus on small mines and quarries. The inspectorate is implementing several strategies that have started to show results as noted by Hermann Fasching, Chief Inspector of Mines. These include:

1. Educating industry on what high potential incidents are and the reporting requirements.
2. Reviewing high potential incident investigations and working with industry to ensure suitable controls are implemented to prevent a reoccurrence with a 3-month inspection follow up to ensure effectiveness and sustainability.
3. Experienced MMQ Investigators engaging with mines and quarries to review investigation processes and offered advice on improvements.

All of these initiatives require a good reporting culture so the inspectorate challenges industry leaders to welcome bad news and learn from it to continually move towards a vision of “Zero Serious Harm”.

Dan Smith, Director, Central Assessment and Performance Unit Data Analytics and Regulation

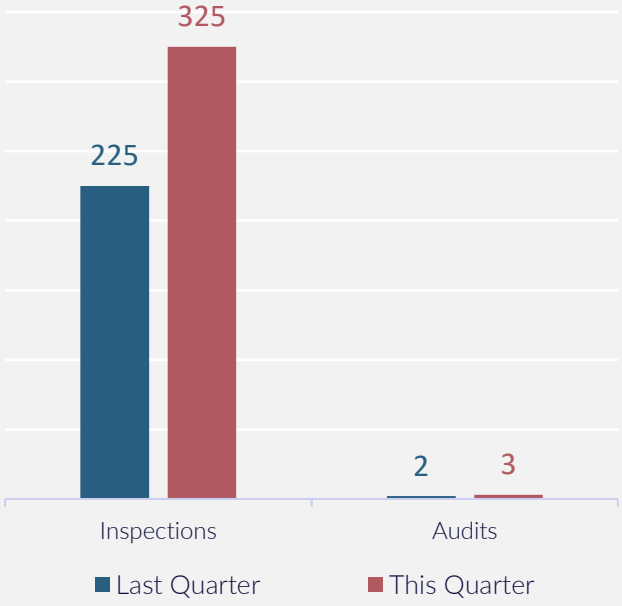
As a data driven regulator, RSHQ relies heavily on data to identify critical areas of risk, safety improvements and long-term trends within MMQ. In 2021, a Central Assessment and Performance Unit (CAPU) was established in response to the Brady Review to provide data driven insights to assist with regulation efforts.

The team conduct deep statistical analysis of the significant amount of data generated through reported incidents, material gathered by inspectors, and review of wider industry trends and developments. Ultimately these insights helps to map trends, identify issues and track the progress of change.

It also means that when the MMQ make a statement about a risk that the industry needs to address, that assertion has been backed up by the body of data we have collected and analysed.

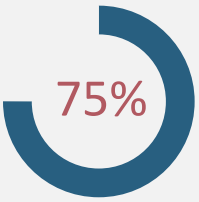
Regular and accurate reporting about incidents or HPIs isn’t just important for your business’ safety outcomes. Collective reporting helps the industry learn lessons about performance and helps to support safety for all workers.

Regulator activity



Complaints in current FY **47**

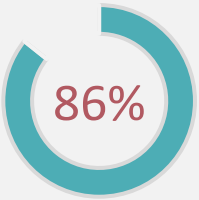
YTD Planned inspections **728**



Complete

18% Unannounced Inspections

YTD Planned audits **5**



Complete

Displayed data taken 19/04/2022

* Data supplied 14/04/2022

Resources Safety & Health Queensland

The numbers

Industry worked this quarter
7.0 Million Hours

For every million hours worked:

- **13.7HPI's (HPIFR)**
- **0.64 SA (SAFR)**

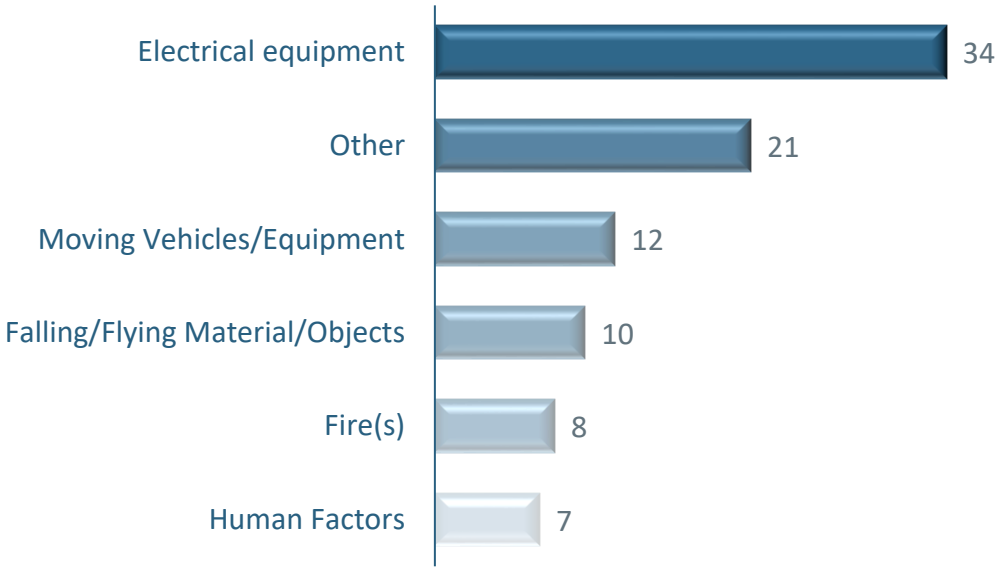
Totals incident:

- **410 High Potential Incidents**
- **23 Serious Accidents**

0 Deaths

The hazards were:

Top 6 hazards for this financial year

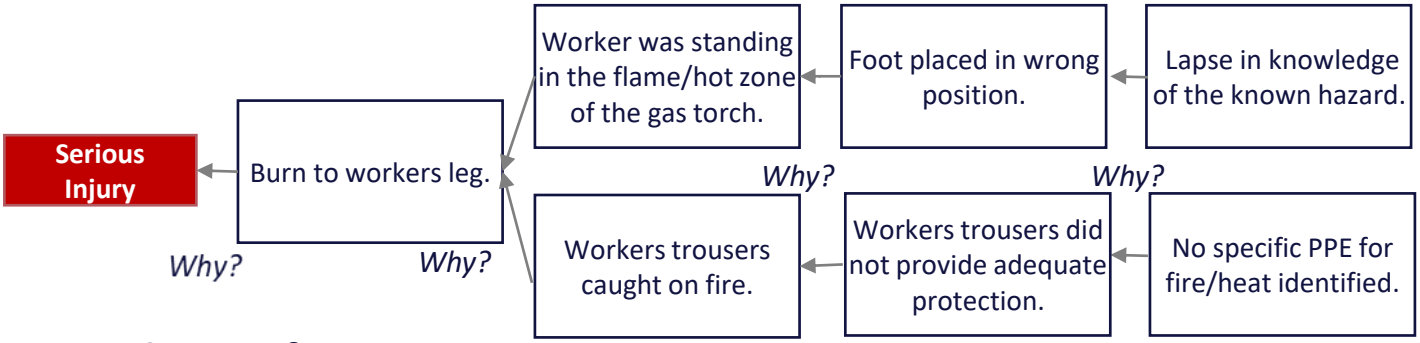


Displayed data taken 19/04/2022

Incident Focus

Worker received burns while gas torch welding a tails dam liner

A worker involved with gas torch welding on the bituminous geomembrane liner in a tailings dam has sustained significant burns to his left leg. The worker was using a hand roller to seal a seam that had been heated with a hand-held LPG gas torch, when his left trouser leg caught on fire.



Contributing factors

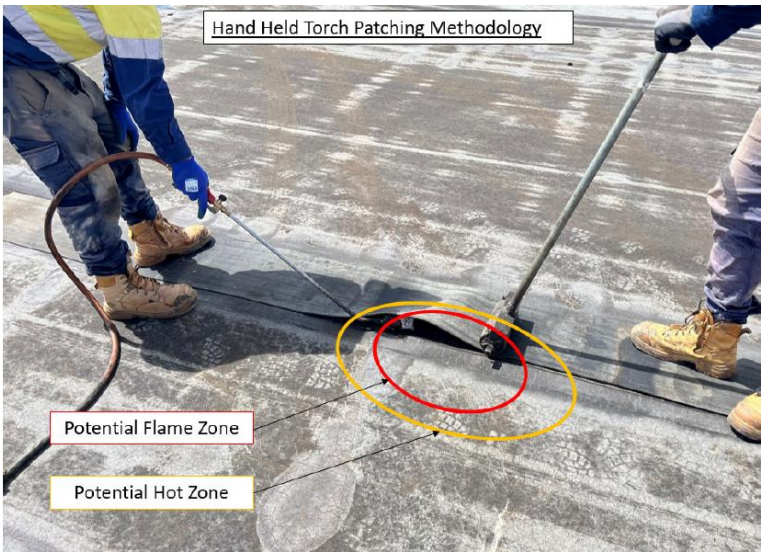
Safety & Health Management System (SHMS)
The SHMS did not include the requirement for specific PPE to be worn during liner 'patching' and 'seaming' activities.

Engineering
The equipment used for the patching works did not provide adequate segregation of the worker from the flame/hot zone.

Procedures
The 'Job Risk Assessment' did not adequately identify the work activity of liner 'patching', which uses different equipment and processes to 'seaming'. There was no designated person assigned as 'spotter/fire watcher'

Key takeaways

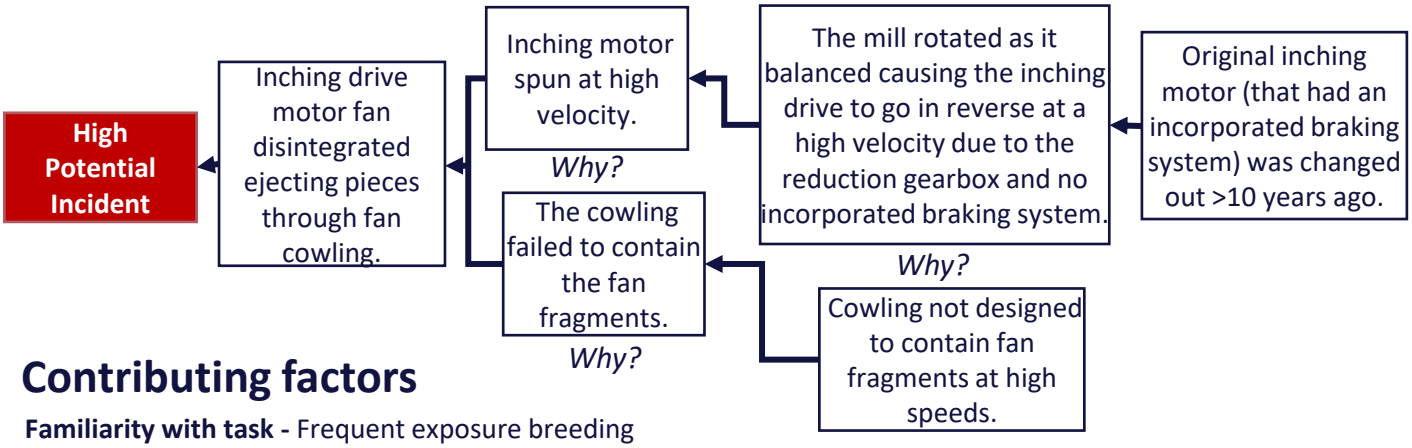
Never access a danger area during hot works.
The use of a 'spotter/fire watch' should be used during hazardous activities.
Always use fit for purpose equipment and PPE for the task.
Ensure that workers are competent for the task that they are preforming.



Incident Focus

Inching drive motor fan disintegrated

During a mill inching task to reposition mill and balancing mill charge, the motor fan of the inching drive disintegrated, ejecting fragments of the fan into the immediate area.



Contributing factors

Familiarity with task - Frequent exposure breeding familiarity with the task resulting in a failure to recognise potential hazards.

Reliance on undocumented knowledge - There is no risk-based documented standard work process or instruction to inform workers of the safest method of performing the task or to identify potential energy sources

Hazard identification - "nothing bad has happened before during the tasks" resulting in a failure to identify and control the dormant hazard.

Change management - initial management of change when motor was first changed out failed to identify and introduce compatible equipment

Key takeaways

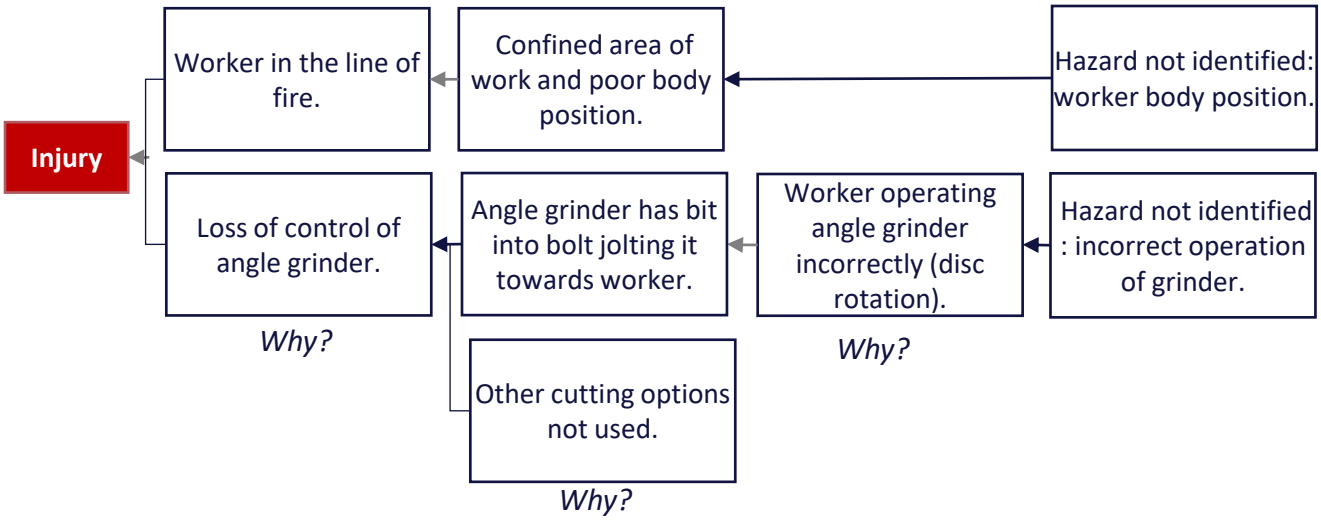
This hazard has been present for a period, thought to be longer than a decade. Engineering a solution that removes the excessive energy being directed through the inching drive motor and ensuring effective change management will prevent such future incidents.

To assist hazard perception and recognition we need to challenge the status quo and acknowledge we are all influenced by our biases - what are the potential hidden hazards and what could go wrong?

Photos showing fan fragment ejection damage

20cm Laceration to abdomen from 5” angle grinder

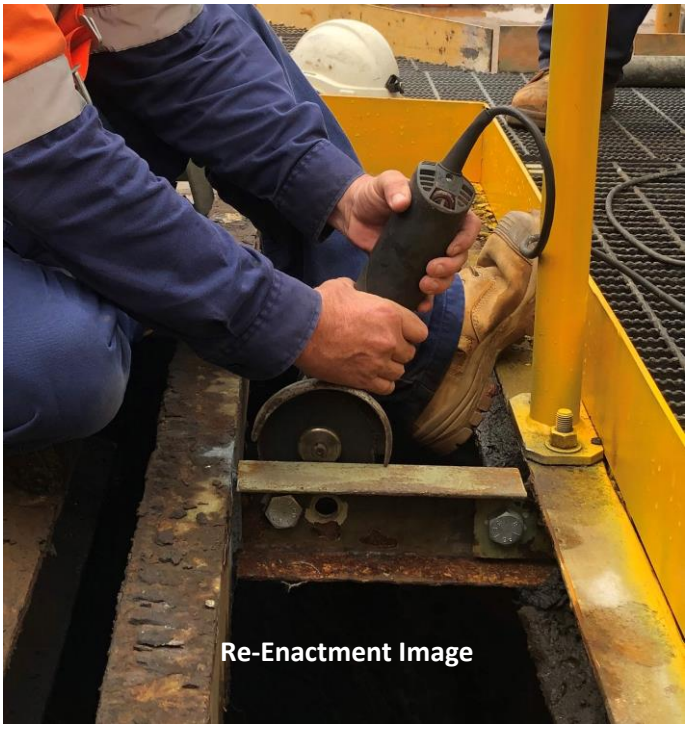
A worker was using a 5” angle grinder to cut off bolts from a platform. The angle grinder has ‘bit into’ the bolt being cut, then kicked back into the workers abdomen causing a 20cm laceration.



Contributing factors

Safety & Health Management System (SHMS)

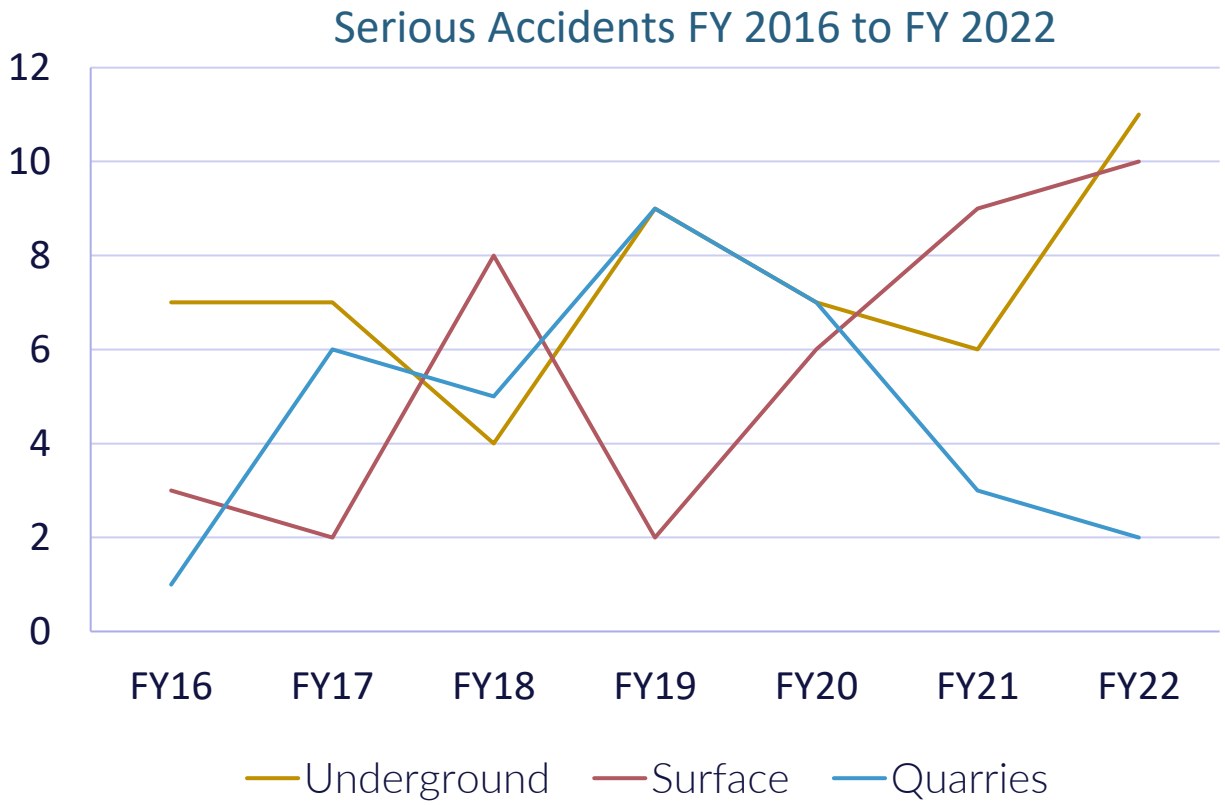
- The SHMS didn’t include procedures for outlining the requirements for small powered hand tools.
- The Standard Work Instruction (SWI) did not identify correct body position or safe operation requirements for the grinder.
- Training records management for the worker did not include training in the relevant SWI.
- The worker did not identify hazards associated with their body position or incorrect operation of the angle grinder.

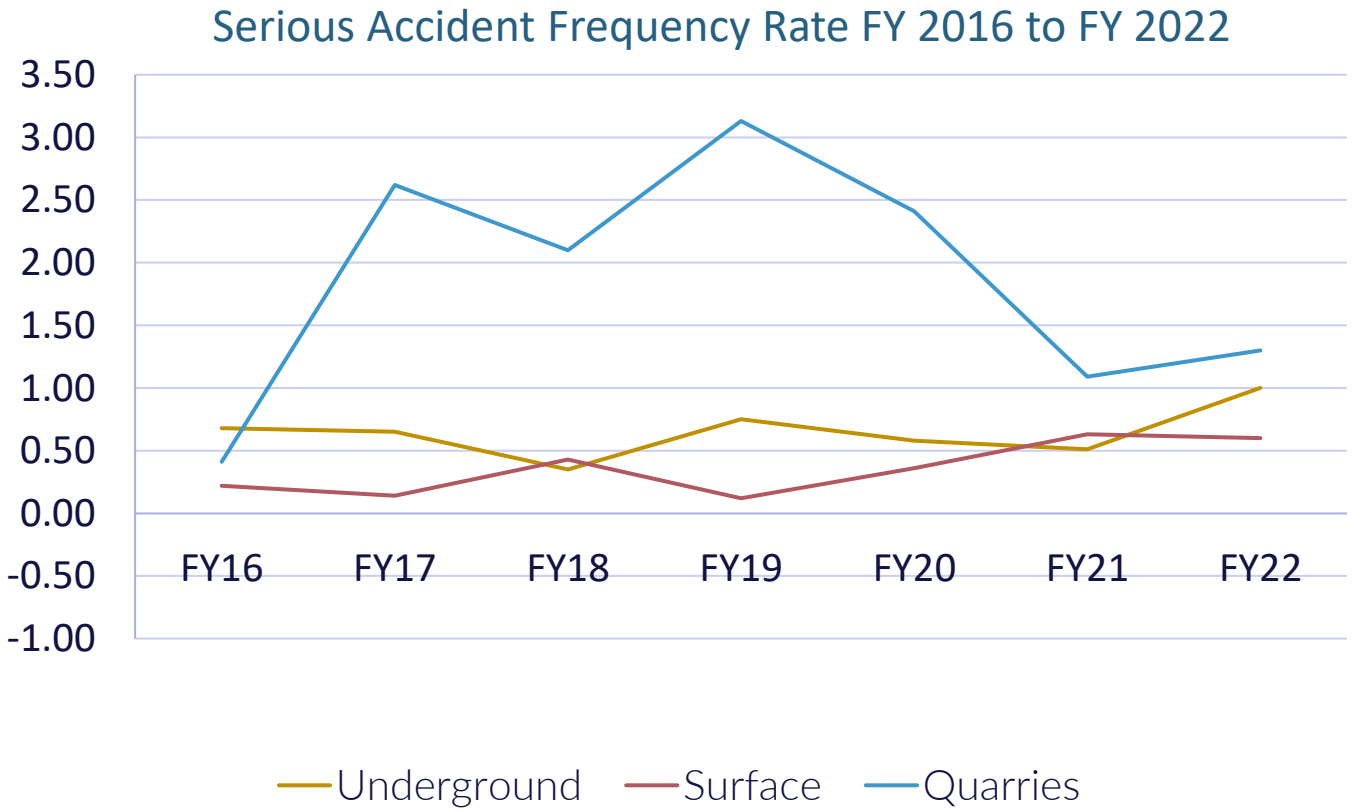

Re-Enactment Image

Key takeaways

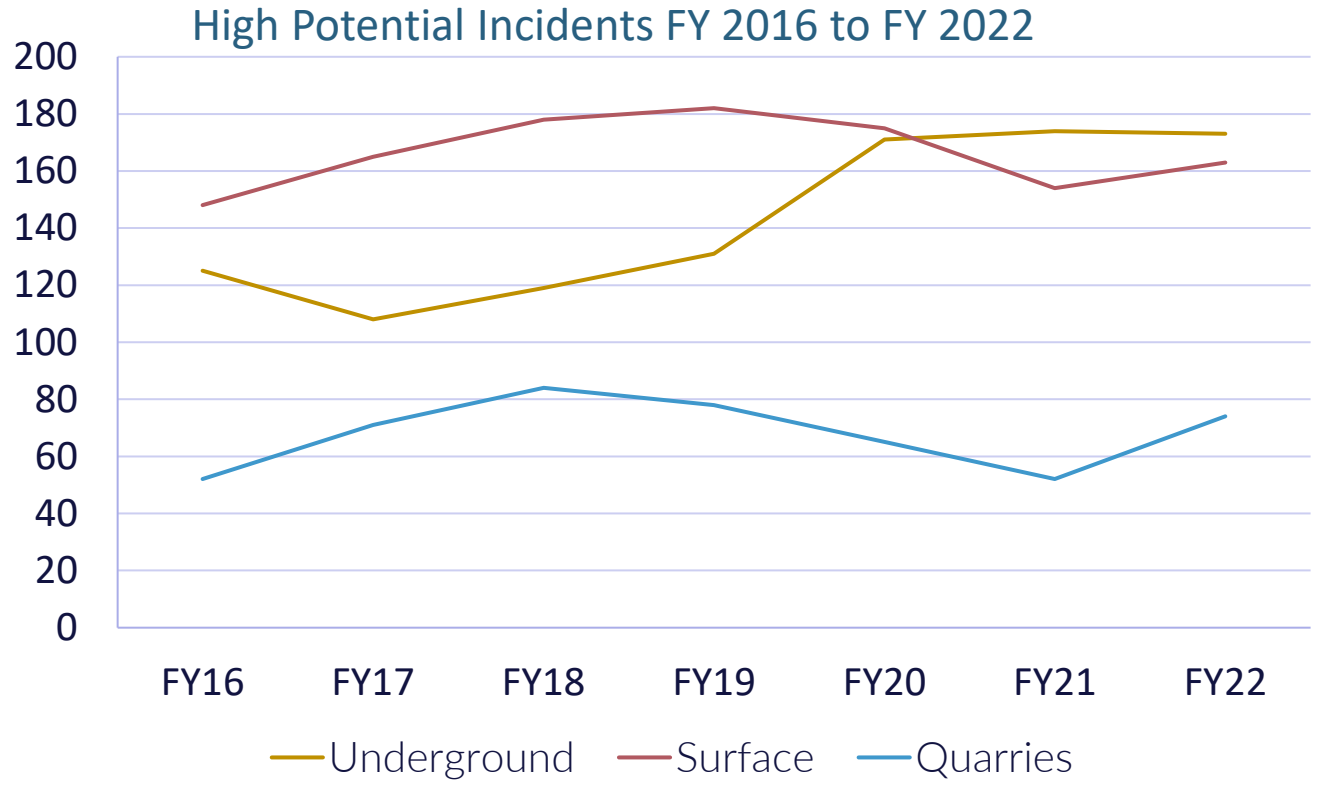
- Workers must not be positioned in a hazards ‘line of fire’.
- Angle grinders should be fitted with dead-man switches, guards and handles (OEM).
- Ensure that workers are trained and assessed as competent to perform tasks.
- Procedures should be sufficiently detailed to manage all hazards associated with the task.

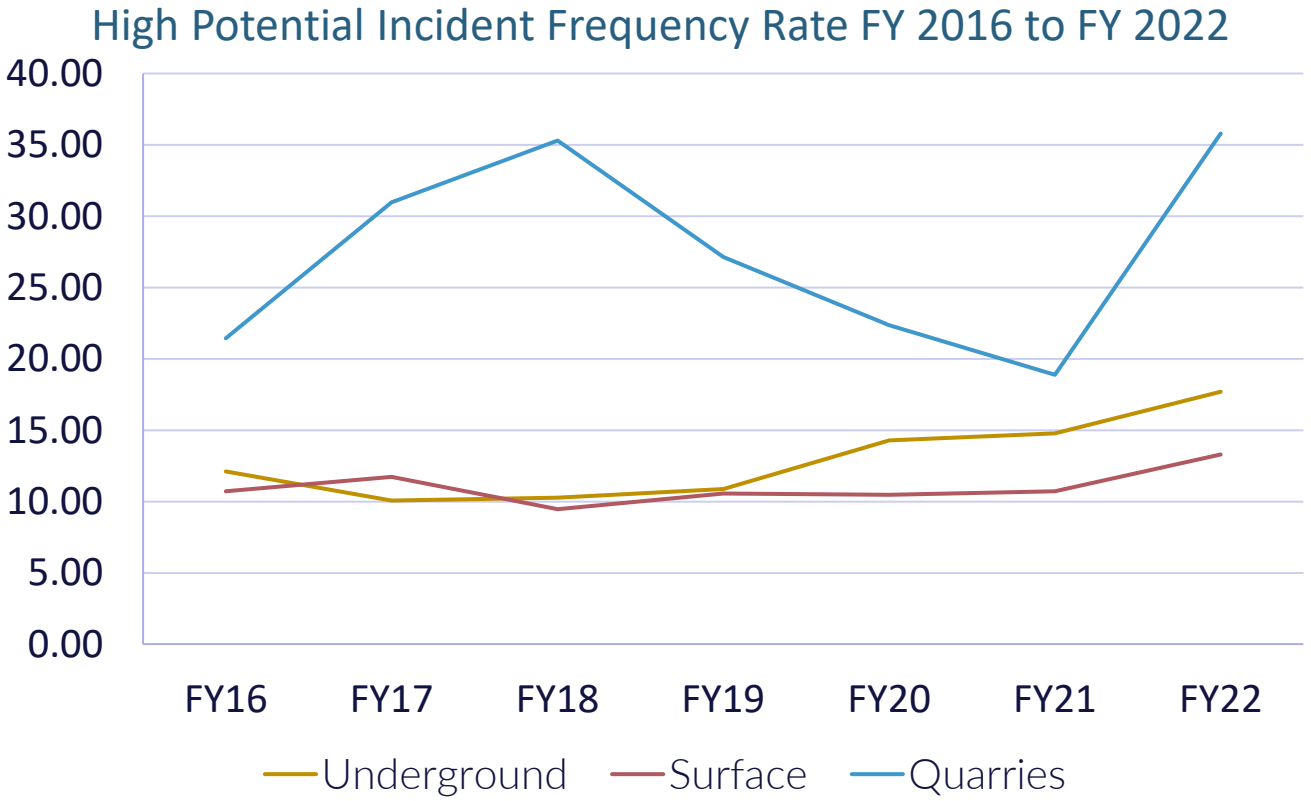
Trends


Serious Accidents FY 2016 to FY 2022
12
10
8
6
4
2
0
FY16
FY17
FY18
FY19
FY20
FY21
FY22
Underground
Surface
Quarries


Serious Accident Frequency Rate FY 2016 to FY 2022
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
FY16
FY17
FY18
FY19
FY20
FY21
FY22
Underground
Surface
Quarries

Trends


High Potential Incidents FY 2016 to FY 2022
200
180
160
140
120
100
80
60
40
20
0
FY16
FY17
FY18
FY19
FY20
FY21
FY22
Underground
Surface
Quarries


High Potential Incident Frequency Rate FY 2016 to FY 2022
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
FY16
FY17
FY18
FY19
FY20
FY21
FY22
Underground
Surface
Quarries

Interstate and around the world

Location	What has been happening
	NSW Safety Alert - On 19 August 2021 workers were accessing the upper section of the building to conduct structural integrity work. One worker was ascending a scaffold access ladder between two elevated scaffold platforms, when he fell from the ladder to the scaffold platform below. A second worker, who was located on the lower platform, was struck by the falling worker, causing him to be knocked from his feet. The worker who fell from the ladder suffered a loss of consciousness and a laceration to the top of his head, which required stitches. NSW Safety Alert
	NSW Safety Bulletin- A 25 tonne Franna crane was being used to relocate a belt winder that weighed approximately seven tonnes. During the relocation, the crane was articulated and slowly rolled onto its side. The operator was uninjured and was able to exit the crane. Further information
	In February 2021, a damaged recoil spring assembly for an excavator had been removed from the track arrangement and stored outside a heavy mobile plant workshop. The following morning, a fragment of the spring separated while under compression and travelled approximately 28 metres across the yard and through a workshop wall, coming to rest in a walkway beside a workbench. The fragment, weighing 9 kilograms, penetrated the shed wall at approximately 6.5 metres above floor level. No one was injured. - MSH_SIR_289
	A maintenance fitter in a light vehicle (LV) arrived at the v-drain area to conduct maintenance activities on a haul truck. Two dump trucks were parked on the v-drain for lunch break, with one of the drivers taking their crib break in the cab of the machine. The fitter parked the LV in front of both trucks. While he was working in the cabin of one truck, the operator of the second truck finished their break, started up the truck and proceeded to drive in a forward direction driving over the rear tray of the LV. There were no injuries sustained in the incident
	Safe Quarry UK: During recent high winds, a section of the cover over the main aggregate conveyor managed to become unattached from one of the plants and fell to the ground. Fortunately there were no personnel in the area where the canopy landed. The consequences could have been fatal if the canopy had fallen on anyone. Further information
	MSHA United States: On March 22, 2022, a 44 year-old heavy equipment operator drowned after the floating pump station he was standing on capsized. At the time of the accident, the miner was assisting a co-worker in connecting a water discharge line. Further information

Health topics: Sleep

Scientists don't fully understand why humans need so much sleep, but it's believed to help restore the body physically, as well as organise the brain. In short, you need sleep so your body and mind can function properly. Sleep is also thought to help keep the immune system strong and the heart and blood vessels healthy. It allows for growth and healing and helps control appetite and weight. Sleep promotes attention, memory and learning.

4 out of 10 Australians don't get enough quality sleep

Adequate sleep is vital for your health, but can be hard to achieve when life is busy. Sleeping problems are common, with up to 4 in 10 Australian adults not getting enough good-quality sleep. Fortunately, there are many things you can do to improve your sleep.

Good Sleep Habits

- About 8 Hours
- Stick to regular patterns
- Right amount of time in bed – not too much or too little
- Use your bed for sleep, not screens
- Relax before bed
- Avoid alcohol, caffeine and cigarettes
- Don't watch the clock
- Ask for help if you need it

Shift Work

- Make time for adequate sleep
- Don't fill up your day with social activities then go to work at night.
- Ensure people you live with know your routine.
- If possible, sleep before work so you can establish the routine of getting up and going to work.
- Try to go to bed at the same time every day, where possible.
- Make your bedroom cool and quiet.
- Remove phones and lights, use ear plugs, a fan or a 'white noise' machine to drown out noise.
- Avoid caffeine, sleeping pills, alcohol or nicotine before going to bed.

Sleep - stages, tips, disorders, apnoea | healthdirect

Key engagement & activities

KEY ENGAGEMENTS

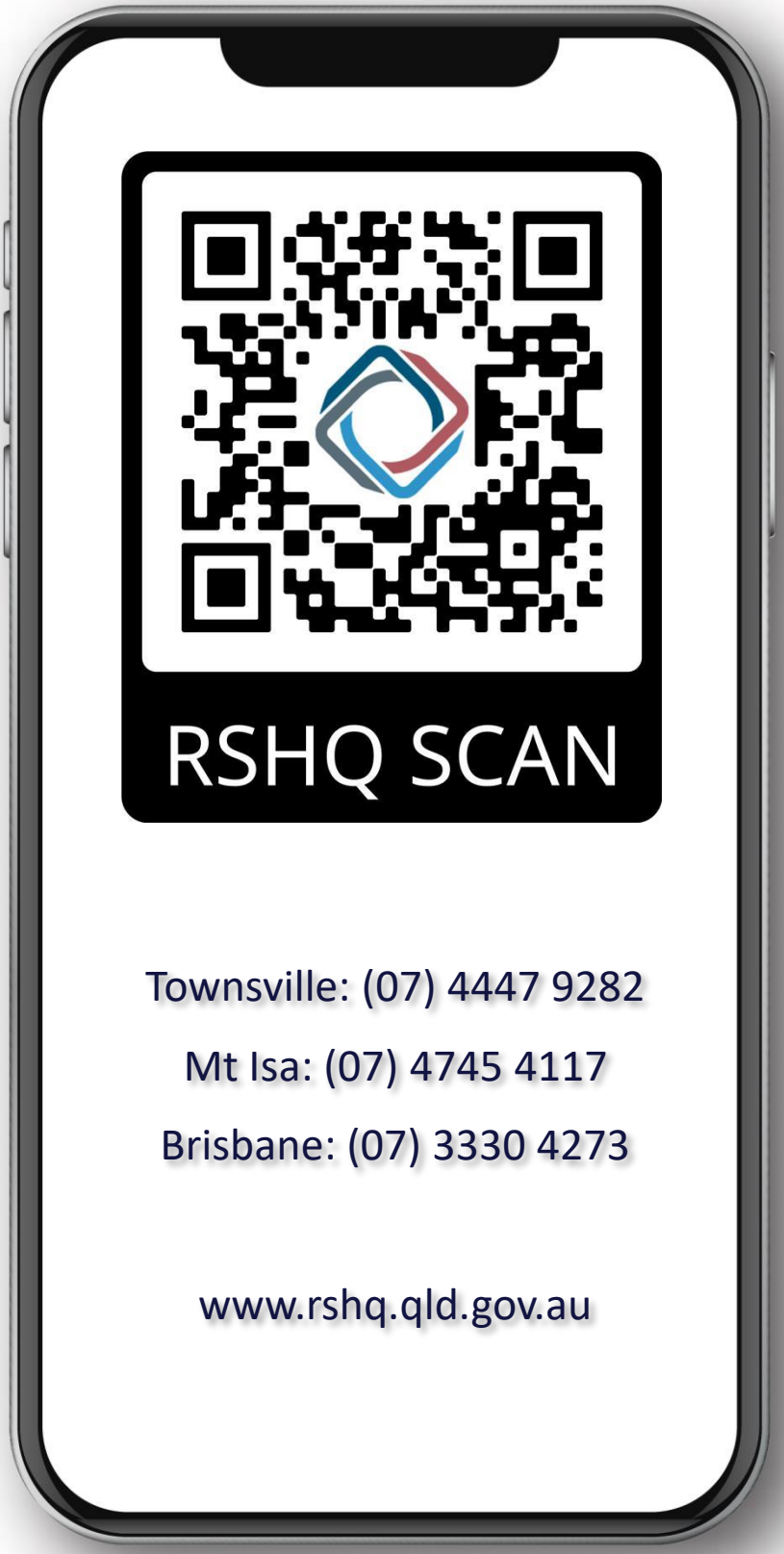
- Electrical Safety Conference 06-08 June in Brisbane
- Quarry and Mining S&H Conference 10 June in Brisbane
- Nth Qld Quarry and Mining S&H Conference 17 June in Townsville
- Underground Mine Managers Forum 14 July in Townsville
- SSE Forum 15 July in Townsville

KEY TRAINING - BOE

	LOCATION	DAY	TIME
May	Dysart	Friday 20th	9:00AM
	Mackay	Wednesday 18th	9:00AM
	Moranbah	Thursday 19th	9:00AM
	Rockhampton	Thursday 5th	9:00AM
June	Brisbane	Monday 6th	9:00AM
	Dysart	Friday 17th	9:00AM
	Mackay	Wednesday 15th	9:00AM
	Moranbah	Thursday 23th	9:00AM
	Rockhampton	Thursday 2nd	9:00AM
July	Brisbane	Monday 4th	9:00AM
	Dysart	Friday 15th	9:00AM
	Mackay	Wednesday 20th	9:00AM
	Moranbah	Thursday 14th	9:00AM
	Rockhampton	Thursday 7th	9:00AM

Bookings must be received at least one week prior to the session date.
BOESecretary@rshq.qld.gov.au

Contact



Use the camera on your smart phone to scan and connect to the Mines Inspectorate where you can report an incident, locate an office or talk to an inspector.