
Quarterly safety report

April to June 2023

resourcesregulator.nsw.gov.au

About this report

This quarterly health and safety performance report has been prepared by the NSW Resources Regulator for mine and petroleum site operators in NSW. It contains industry and sector specific information, in addition to information regarding hazards. Wherever possible, trends and patterns have been identified.

The report references sector information about the number of 'active' mines. Active mines have the status: open, intermittent, mines under care and maintenance, open tourist mines, planned and small-scale titles that are current or pending.

The report also contains information on matters of concern to the Regulator including controls and actions that may be implemented to prevent or reduce the likelihood of future safety incidents.

Operators should use the sector specific information, emerging issues and good practice examples presented in this report to assist them in improving safety management systems and undertaking risk assessments at their sites. This report refers to the date the incident was notified rather than the date the incident took place.

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Executive summary

This report is prepared to assist mine and petroleum site operators meet their obligations under relevant work health and safety legislation, including the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*. It is also a way in which the NSW Resources Regulator monitors progress in implementing our risk-based compliance and enforcement strategy.

As a high-hazard regulator, we focus on compliance with legislative requirements associated with principal and other high-risk hazards, including mechanical and electrical energy and explosives. This report highlights dangerous and high potential incidents, in addition to incidents where a serious injury occurred. 'Roads or other vehicle operating areas' and 'fires or explosion' are principal hazard classifications that feature regularly in incident notifications to the Regulator.

As well as providing an overview of incidents across the mining industry, this report looks at the safety performance and regulatory activities of 6 sectors: coal, large (non-coal) mines and quarries, small mines and quarries (including gemstones), opal mines, petroleum and geothermal sites, and exploration sites.

This report also provides information on significant mining events in Australia and globally, and summarises safety incident notifications, compliance activities and outcomes for Quarter 4 (April to June) of FY2023. For selected measures, data is analysed over a 15-month period from April 2022 to June 2023.

There was one mining-related fatality in NSW during the quarter. A miner was found deceased at the base of an opal mine shaft.

In this quarter, there were a total of 569 incident notifications received – the most notified compared to the previous 4 quarters.

Incident notifications decreased for several principal hazards, including fire or explosion (66 to 61), roads or other vehicle operating areas (75 to 63), ground or strata failure (21 to 17), subsidence (5 to 2) and inundation or inrush of any substance (2 to 0).

Incident notifications increased for air quality or dust or other airborne contaminants (36 to 59) and spontaneous combustion (7 to 8) incidents. No change was seen in notifications related to the principal hazards of mine shafts and winding systems (1) and gas outburst (0).

Incident notifications decreased for electrical engineering control plan (31 to 28), electrical engineering and/or mechanical engineering control plan (60 to 45), and ventilation control plan (9 to 7) related incidents. Notifications related to other control plans increased - mechanical engineering (42 to 49) and explosives (19 to 21).

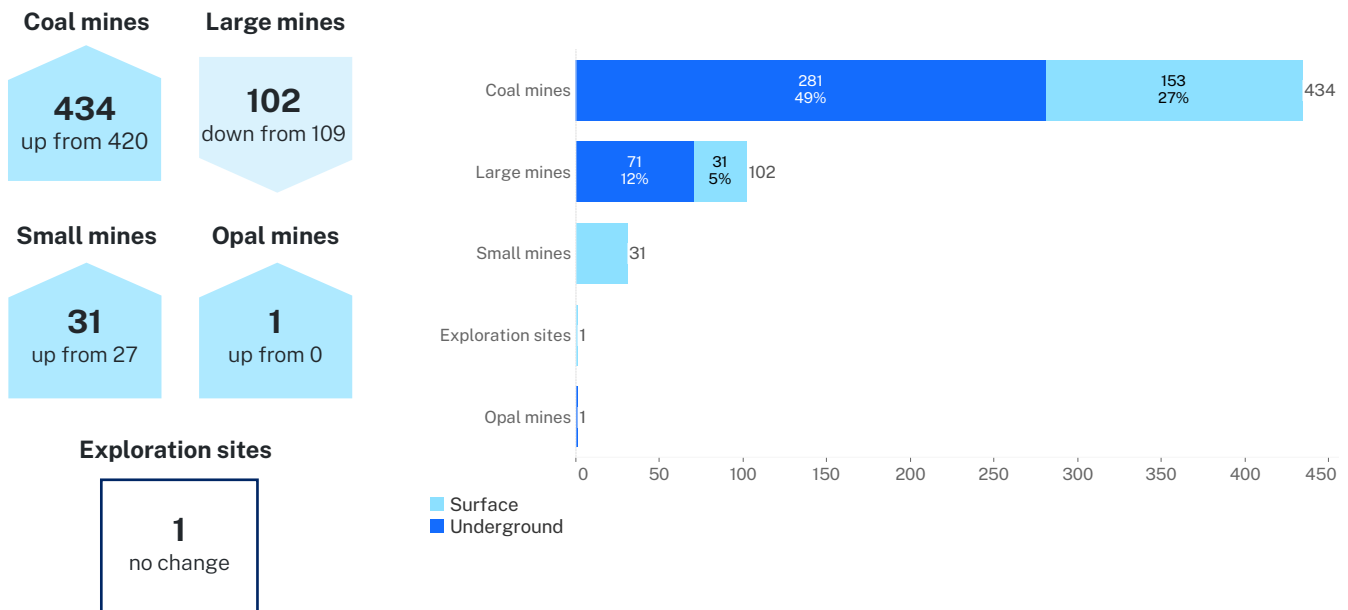


Quarterly snapshot

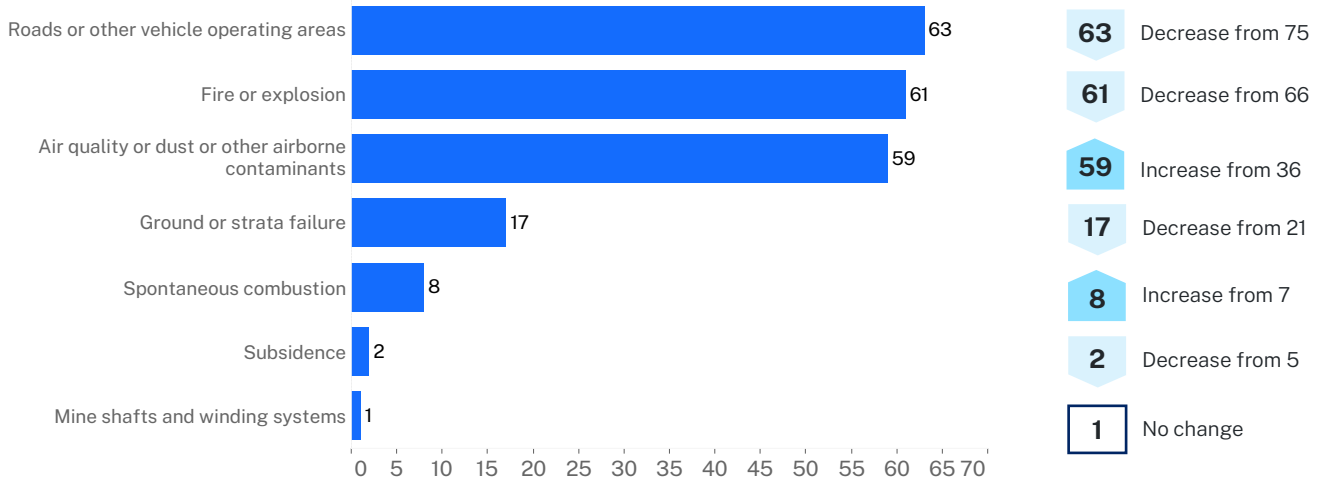
1 Work-related deaths	569 Incident notifications received	202 Other high potential incidents
29 Serious injuries or illnesses		42 Medical treatment injuries or illnesses
97 Dangerous incidents		110 Lost time/restricted duty injuries or illnesses
86 Potentially dangerous incidents		2 Explosives Reg incidents

*By requirement to report as notified by mines.
The actual number of incidents, injuries and illnesses recorded may differ from original incident notifications following assessment of the notified event.

Incident notifications received by sector and operation type

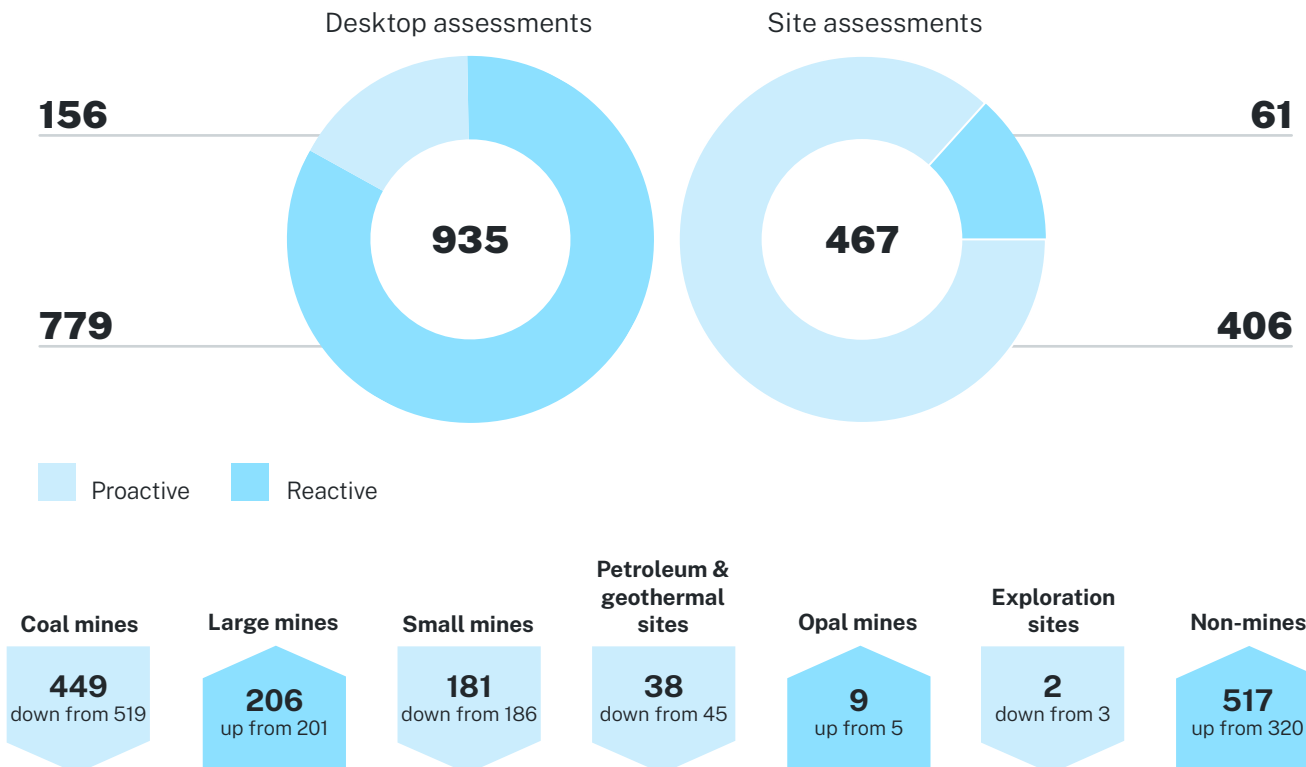


Incident notifications classified by principal hazard

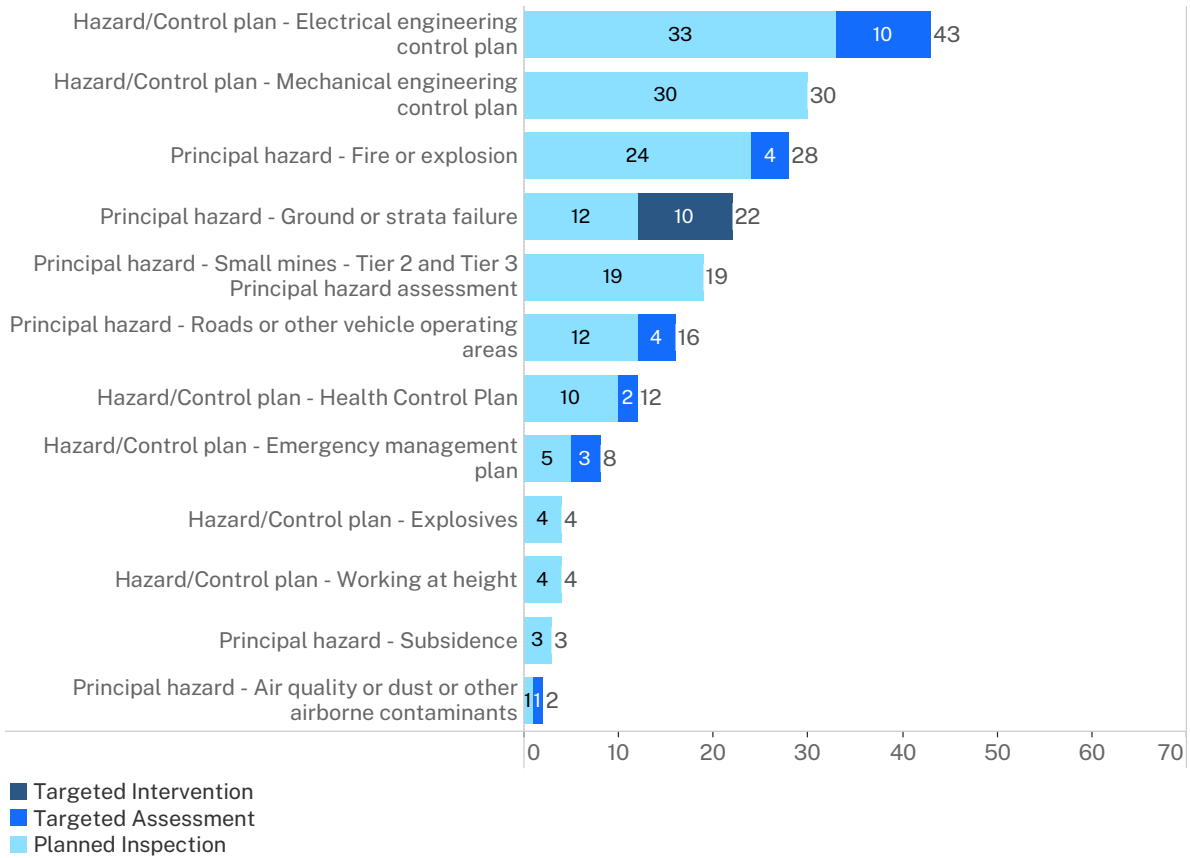


Note: Inundation or inrush of any substance decreased from 2 to 0.

1402 Assessments commenced



Programmed site assessments conducted



441 Notices issued



4

WHS(A) s198
non-disturbance notices



38

WHS(A) s195
prohibition notices



218

WHS(A) s191
improvement notices



181

WHS(MPS)A s23
notices of concern

National and international significant events

The Regulator is committed to sharing safety information about significant mining-related events and fatalities to increase industry awareness.

The following list includes safety alerts (including fatalities) and bulletins that occurred between 1 April and 30 June 2023.

The incidents selected were based on their relevance to equipment and processes commonly used across the NSW mining industry.

Fatal injuries

Australia

New South Wales

- On 28 April 2023 an opal miner was found deceased at the base of a 20-metre opal mine shaft. Refer to [Regulator investigation information release dated May 2023](#)

South Australia

- On 25 April 2023 a contract worker died as a result of an incident on a surface access road at Olympic Dam. Refer to [BHP statement dated 29 April 2023](#)

Western Australia

- On 12 June 2023 a fatality occurred at the Onslow Iron Project Ken's Bore site. Refer to [Mineral Resources Ltd announcement dated 13 June 2023](#)

Other Australian States and Territories

There were no other mine or quarry related fatalities reported in Australia this quarter.

International

United States of America

There were 10 mining or quarry related fatality alerts recorded (published) by United States of America's Mine Safety and Health Administration (MSHA) during the quarter:

- On 9 April 2023 a miner died while mounting off road truck tires on rims. The miner was in the process of mounting a tire on its rim when another tire's outer lock ring dislodged, became airborne and struck the victim in the head. Refer to [MSHA fatality alert dated 9 April 2023](#)
- On 11 April 2023 a miner died when a 12-foot by 4-foot by 5-foot rock slab slid out of the rib from the hanging wall and crushed him. The miner was installing a bolt in the rib of a slusher stope. Refer to [MSHA fatality alert dated 11 April 2023](#)
- On 20 April 2023 a contract labourer died while removing the side plate off a shaker screen. The unsupported side plate fell over and struck him. Refer to [MSHA fatality alert dated 20 April 2023](#)
- On 2 May 2023 a worker died when he was struck by a mobile radial stacker conveyor. Refer to [MSHA fatality alert dated 2 May 2023](#)
- On 16 May 2023 a worker was fatally injured when a spoil pile slid and engulfed the bulldozer he was operating. At the time of the accident, the bulldozer operator was repairing a ramp used to access water pumps in the pit. Refer to [MSHA fatality alert dated 16 May 2023](#)

- On 22 May 2023 a miner died when the haul truck he was operating overturned due to the edge of the bank at a dump point giving way. The haul truck landed on the roof of the cab. Refer to [MSHA fatality alert dated 22 May 2023](#)
- On 1 June 2023 a customer truck driver died when he was struck by a component of his truck's air bag height/ride suspension system while performing maintenance. Refer to [MSHA fatality alert dated 1 June 2023](#)
- On 8 June 2023 a miner died after climbing over the handrail onto a belt conveyor to gain access to a magnet belt that needed adjustment. The miner fell 16 feet to the ground after the magnet belt unexpectedly started. Refer to [MSHA fatality alert dated 8 June 2023](#)
- On 9 June 2023 a contract truck driver died when an excavator bucket struck him. A contractor crew was using the excavator to assist in unloading a fuel tank from a lowboy trailer when the excavator bucket suddenly moved. Refer to [MSHA fatality alert dated 9 June 2023](#)
- On 22 June 2023 a contractor employee died after the bulldozer he was operating backed over the edge of a highwall. Refer to [MSHA fatal alert dated 22 June 2023](#).

Cuba

Sherrit International regrets to announce the death of an employee at the Moa Joint Venture mine in Cuba who succumbed to injuries experienced during a fall from a ladder. Refer to [Sherrit International statement dated 17 May 2023](#)

Sherritt International Corporation has confirmed the death of an employee at the Moa Joint Venture mine due to a vehicle-related accident. Refer to [Sherrit International statement dated 24 April 2023](#).

Peru

On 6 May 2023, the Yanaquihua mining company confirmed the deaths of 27 of their workers, releasing a statement saying "It is with deep regret that we report a serious accident that occurred on May 6 at our mining unit. At midnight on May 5, a fire broke out, the causes of which are being investigated". Refer to [ABC News article dated 8 May 2023](#).

South Africa

Sibanye-Stillwater confirmed an incident that occurred on Thursday, 13 April 2023, at its Burnstone project, located near the town of Balfour where a newly constructed surface waste rock conveyor collapsed. The collapse occurred while 5 contractor employees were installing a head pulley of the conveyor infrastructure. Four persons were fatally injured. Refer to [Sibanye-Stillwater company statement dated 14 April 2023](#).

Venezuela

Flooding collapsed a gold mine in Southern Venezuela killing at least 12 miners according to local authorities. The Talavera mine located in El Callao in Venezuela's Bolivar state flooded due to heavy rain. Refer to [Reuters news article dated 5 June 2023](#).



Alerts, bulletins, fact sheets and incident information releases

New South Wales

Safety alerts and bulletins

- [SB23-03 Ignition risks from rare earth magnets](#)
- [SB23-04 Hose ball valves injure mine workers](#)
- [SB23-05 Contraband in underground coal mines](#)
- [SB23-06 Rockfall injuries to workers increase in underground mines](#)

Fact sheets

- [FAQ rehabilitation reforms implementation for small mines](#)
- [Fact sheet coal burst, rock burst, coal burst stage 1](#)

Reports

- [Consolidated report –Ground or strata failure –slope stability –tier 1 quarries and surface metalliferous mines](#)
- [Consolidated report –Roads or other vehicle operating areas -unplanned vehicle interaction underground –coal mines –stage 1](#)
- [Targeted intervention program –Lead exposure management at metalliferous mines](#)
- [Consolidated report –Emergency first response –coal mines above surface](#)
- [Consolidated report –Falling objects –lifting and crantage –surface and underground coal mines –stage 1](#)

Investigation information releases

- [IIR2023-02 LHD operator exposed to gas within unventilated section of underground roadway](#)
- [IIR2023-03 Worker suffers serious burns using an angle grinder](#)
- [IIR2023-04 Fatality in underground opal mine](#)
- [IIR2023-05 Frictional ignition of methane in underground coal mine](#)



Queensland

- **Unplanned detonation of explosives during rock breaking activity**

An unplanned detonation of misfired explosives occurred when an excavator fitted with a rock-breaker attachment impacted explosives. The operator was shaken but unharmed. An unbroken toe in the floor was identified more than a year after a shot was fired in the quarry. Several secondary blasts were fired to break oversize fragments in the same area. The unbroken toe was blasted along with another secondary blast for oversize rocks. Misfire in the toe was not identified and hence not marked for subsequent digging or rock breaking operations. Inadequate records of secondary blasting meant the operator did not know the ground being broken contained misfired explosives, and subsequently the rock breaker hit the booster/detonator. Refer to [RSHQ Explosives Inspectorate Alert No.111 V 1 – Unplanned detonation of explosives during rock breaking activity](#)

- **Rare earth magnets safety alert**

An original equipment manufacturer (OEM) advised of an incident where an underground coal mine worker reported seeing a spark generated when a drill steel came in contact with a rare earth magnet. As ferrite core magnets and rare earth magnets are used extensively, this Safety Alert is issued to alert industry to a potential safety hazard involving the use of rare earth magnets. These magnets are commonly found on equipment such as continuous miners, miner-bolters, multi-bolters and longwalls operating in hazardous environments. Refer to [RSHQ Coal Inspectorate Alert No.426 V 1 – Rare earth magnets](#)

- **Formation of Tetra-Amine Copper Nitrate**

During a routine inspection by the Explosives Inspectorate the formation of Tetra-Amine Copper Nitrate (TACN) was identified on a brass padlock and copper fittings located on an explosive Mobile Processing Unit (MPU). TACN is an impact sensitive explosive compound formed when reactive metals such as zinc, copper or its alloys (brass) are exposed to an aqueous solution of ammonium nitrate. The impact required to initiate TACN is reported to be equivalent to dropping a 2 kg weight from a height of approximately 20 cm. Persons working on equipment contaminated with TACN can be exposed to the potential for a small, localised explosion caused by impact or heat to the TACN affected areas. Refer to [RSHQ Explosives Inspectorate Alert No.112 V 1 – Formation of Tetra-Amine Copper Nitrate \(TACN\) on copper fittings located on Mobile Processing Unit \(MPU\)](#)

- **Aerosol fire ignites warning**

Businesses are being warned against using aerosols in enclosed areas after a worker suffered serious burns to his hands and face in an incident in Adelaide's northern suburbs last month. The experienced industry tradesperson was applying a protective aerosol spray to a heavy vehicle battery to prevent corrosion of the terminals on 24 February as part of regular pre-delivery maintenance tasks. As the worker reached over to access the battery area and lift the terminal cover, he bumped his hand and dropped the aerosol can. The can landed on the battery-positive terminal and touched the intercooler manifold pipe, piercing the can and releasing its contents, which ignited from electrical sparks. The worker was wearing Personal Protective Equipment (PPE) to protect his eyes, body, and chest but sustained severe burns to his face, hands and arms. Refer to [SafeWork SA Safety Alert dated 10 March 2023](#)

- **Circumferential failure of lockrings**

In recent years, tyres and rims have been involved in more mining fatalities in Queensland than any other single contributor. Various failure mechanisms have been studied over time. Version 1 of this Safety Bulletin was published in July 2017 after a circumferential lockring failure had been reported to the Queensland Mines Inspectorate (QMI). Another incident was reported in 2022. Following further investigation, this bulletin has been supplemented with details from the second incident. Refer to [RSHQ bulletin dated 22 June 2023 – Circumferential failure of lockrings](#)

Notifiable incidents relating to hazards

The Work Health and Safety (Mine and Petroleum Sites) Regulation 2022 (the Regulation) identifies principal hazards and principal control plans for special consideration.

Principal hazards have a reasonable potential to result in multiple deaths in a single incident or a series of recurring incidents.

Principal control plans cover risks to health and safety from hazards, work processes and plant that may result in incidents that are high potential, frequently occurring or of a certain complexity.

Summary of incident notifications received

The table below shows the number of incident notifications received for the past 5 quarters as classified against a principal hazard or principal control plan.





Overall, there were 569 incident notifications received in the quarter. Of these, 37% (211) related to principal hazards, 26% (150) related to principal control plans, with the remainder (37%) related to other incident types.

Table 1. Incident notifications received by principal hazard/principal control plan – April 2022 to June 2023

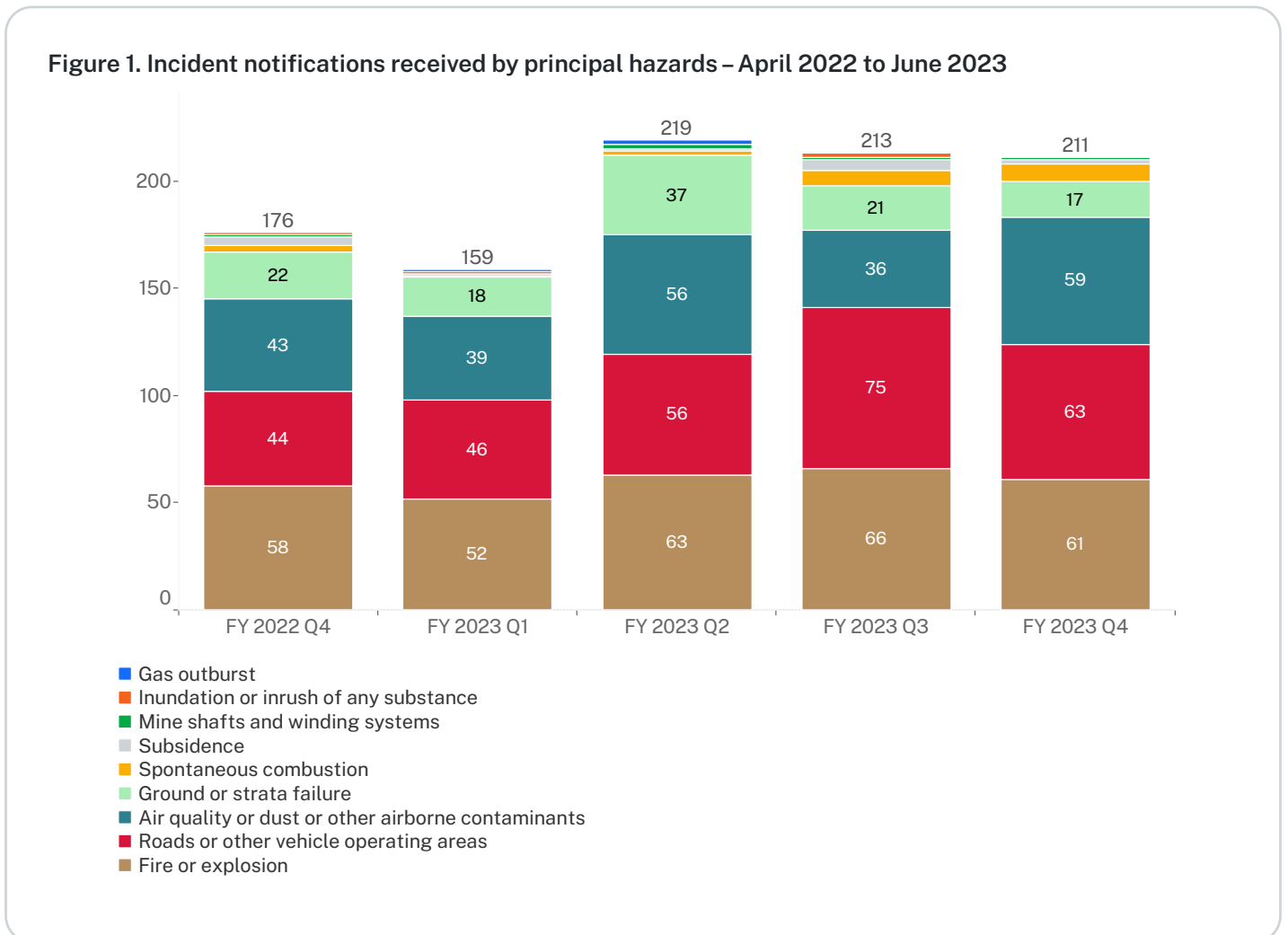
Hazard or Control plan (reporting)	Hazard/Control plan (reporting)	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4	Grand total
Hazard	Fire or explosion	58	52	63	66	61	300
	Roads or other vehicle operating are-as	44	46	56	75	63	284
	Air quality, dust or other airborne con-taminants	43	39	56	36	59	233
	Ground or strata failure	22	18	37	21	17	115
	Spontaneous combustion	3	1	2	7	8	21
	Subsidence	4	1	1	5	2	13
	Mine shafts and winding systems	1		2	1	1	5
	Inundation or inrush of any substance	1	1		2		4
	Gas outburst		1	2			3
	Total		176	159	219	213	211
Control plan	Electrical engineering control plan and/or mechanical engineering con-trol plan	37	46	39	60	45	227
	Mechanical engineering control plan	36	58	39	42	49	224
	Electrical engineering control plan	25	23	19	31	28	126
	Explosives control plan	13	17	21	19	21	91
	Ventilation control plan		2	11	9	7	29
	Total		111	146	129	161	150
Other	No related principal mining hazard or principal control plan	159	186	199	183	208	935
Grand total		446	491	547	557	569	2,610

Principal mining hazards

Note: while only one hazard/control plan per incident appears in the report, it is possible for more than one hazard or control plan to be applicable to the incident.

	GROUND OR STRATA FAILURE		FIRE OR EXPLOSION
	INUNDATION OR INRUSH OF ANY SUBSTANCE		GAS OUTBURSTS
	MINE SHAFTS AND WINDING SYSTEMS		SPONTANEOUS COMBUSTION
	ROADS OR OTHER VEHICLE OPERATING AREAS		SUBSIDENCE
	AIR QUALITY, DUST OR OTHER AIRBORNE CONTAMINANTS		(HAZARDS IDENTIFIED BY THE MINE OPERATOR) PROHIBITED ITEMS OR SUBSTANCES

The chart below presents a further breakdown of numbers of incident notifications received by quarter related to principal hazards as defined in section 4 of the Regulation.





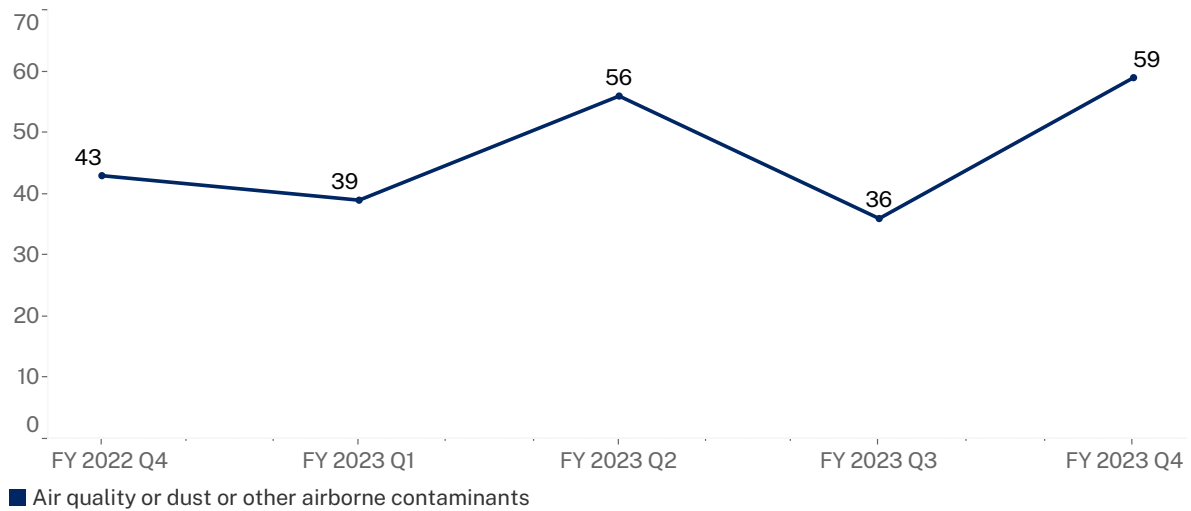
Air quality, dust or other airborne contaminants

↑ from 36 to 59

Airborne contaminants comprise a large and varied range of substances and forms. Coal and silica particles, along with methane and carbon monoxide, are regularly present in mining as dusts, fumes and vapours. These contaminants have exposure standards and can affect workers rapidly (CO or CO₂) or over several years (coal/silica dust).

There has been a 64% increase in airborne contaminant related incidents notified from Q3.

Figure 2. Incident notifications received related to the principal hazard air quality, dust or other airborne contaminants – April 2022 to June 2023



High potential incident | Workers exposed to airborne contaminants

Summary: An operator of several quarries notified multiple incidents when workers were exposed to respirable dust and crystalline silica that exceeded the specified limits. During the testing the following was observed:

- A worker was operating an excavator for 12 hours with the windows down as the air conditioning was not functioning
- A control room operator was exposed to double the time-adjusted limit. The worker had shovelled material for 2 hours and completed 2 plant inspections
- A worker exceeded the limit for respirable silica by 80%, duties for the day were operating the water cart and office duties
- A worker exceeded the limit for respirable silica by 80%, the worker spent the shift driving a loader.

Comments to industry: When controls are put in place to manage dust exposure they must be maintained. This includes controls such as sprays and curtains, door seals and air conditioner filtration.

Workers must comply with procedures in place to minimise exposure to dust. This may include windows-up policies, the use of PPE and using the correct cleaning methods to prevent stirring-up dust.

All workers must be considered when assessing the risk of exposure to airborne contaminants. Recent notifications have included control room operators, weigh-bridge attendants, and stores and warehouse workers.

[Refer to our website for more information and resources.](#)



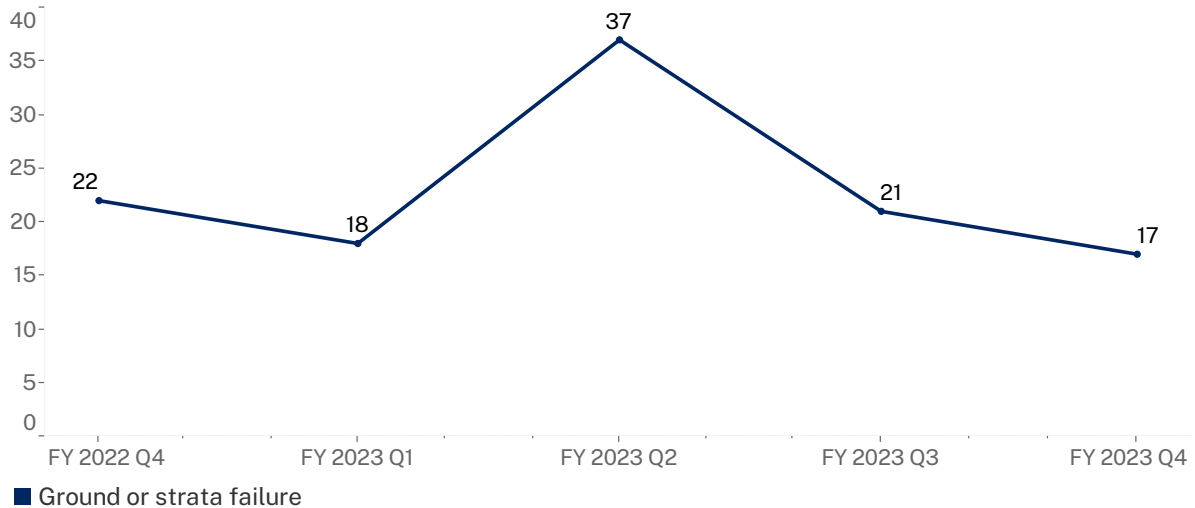
Ground or strata failure

↓ from 21 to 17

Ground or strata failure is an ever-present hazard in both surface and underground mining, with a significant risk posed to workers from unplanned movement of ground.

Incident notifications related to ground or strata failure have decreased by 19% this quarter to the lowest number observed in the past 5 quarters.

Figure 3. Incident notifications received related to the principal hazard ground or strata failure – April 2022 to June 2023



Dangerous incident | IncNot0044412 – Worker hit by falling stone

Summary: A Jumbo operator and an offsider were marking up a development face. A piece of stone fell from the face and struck the Jumbo operator on the back of the head and shoulder. The offsider helped get the Jumbo operator back from the face and rendered first aid. The injured worker was transported to hospital via ambulance where the laceration was stitched, and scans cleared the worker of any fractures.



Picture 1.
The piece of stone that struck the Jumbo operator

Comments to industry: Mine operators should review their risk assessments and principal hazard management plans for ground and strata to ensure that controls are identified and implemented to prevent rocks falling from development faces that could cause serious injury or kill mine workers. Controls should be focussed on the engineering level or higher. The use of engineering controls to manage the risks at a development face are widely used across the underground hard rock industry.

Dangerous incident | IncNot0044502 – Rib fall near maingate corner

Summary: A fall of rib occurred adjacent to a crusher. The fall was about 13 metres long, 2 metres high and a metre deep. The mine operator had recognised that changes were required to strata support requirements but failed to upgrade the support in this area before the longwall retreated.



Picture 2.
The scene following the incident

Comments to industry: When strata support designs change, mine operators should re-assess areas already supported to ensure the adequacy of existing strata support.

Dangerous incident | IncNot0044569 – Truck driven through a windrow

Summary: The driver of a haul truck was reversing up to dump a load and drove through the dump's windrow. The worker safely exited the truck, and the truck was secured.



Picture 3.
The scene following the incident

Comments to industry: Workers should always approach bunds with their truck square to the bund. Workers must not use bunds to stop trucks when reversing to dumps.

Dangerous incident | IncNot0044701 – Bench collapses onto excavator

Summary: An excavator was being used to dig out a sediment dam. The bench above the excavator let go, releasing about 20 tonnes of consolidated fines onto the excavator. The operator was able to tram the excavator clear of the material and was not injured. The task was being carried out under a generic procedure.



Picture 4.
The scene following the incident

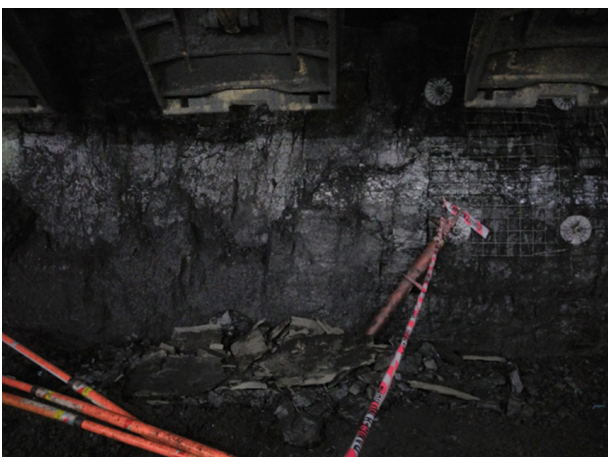


Picture 5.
Close up of the excavator covered in consolidated fines

Comments to industry: When working under benches and walls, a safe stand-off distance should be defined, communicated with workers and maintained throughout the task. Supervisors should increase the frequency of inspections when workers are conducting tasks near benches. Specific task risk assessments and procedures should be used and include assessment of the work environment.

Dangerous incident | IncNot0044734 – Mudstone falls from roof hitting operator

Summary: A night shift crew on a longwall had started installing roof and face bolts to set up for shearer maintenance. A worker on day shift was setting up to continue to support the face. As the worker was reaching out to recover an air leg left under unsupported ground bolter, a piece of mudstone fell from the roof. The falling mudstone delaminated and hit the operator on the head, shoulder and arm. The piece of mudstone was about 0.7 m x 0.4 m x 0.1 m. The worker suffered a graze on the wrist and shoulder, was sent for scans and cleared of any further injuries.



Picture 6.
The scene following the incident

Comments to industry: Workers must always be alert to the hazard of unsupported ground. When working near the edge of installed support, workers must remain vigilant of their position relative to the installed support. Equipment should not be left or stored under unsupported ground.

Dangerous incident | IncNot0044839 – Truck sinks when old workings collapse

Summary: After being loaded, a haul truck moved off from a dig face. The area being mined was directly over underground workings. As the truck drove over an underground intersection, the ground slumped underneath the rear left-hand side wheels. The truck came to rest with its front 2 wheels off the ground. The operator remained on the truck and was helped down with an elevated work platform.



Picture 7.
The scene following the incident

Comments to industry: When procedural checks are the only method used to verify a control, this should be documented and recorded. These records should be accessible to supervisors across shifts. Mine operators are reminded the NSW Emergency Management Plan, via the Mine Sub Plan, are required to notify NSW Police as soon as they become aware a rescue is required.

Dangerous incident | IncNot0044813 – Falling material hits drill

Summary: A dozer was working on a main ramp directly above a drill working below. The dozer dislodged some material that fell about 55 metres to the working level below. It is estimated that 100 kg of material fell. The material broke up and 2 of the rocks hit a blast hole drill rig working below. One rock landed on top of a car body of the machine and the other hit the rear window of the operator's cabin, smashing the glass. The worker was off the drill at the time of the impact and was standing about 30 metres away from the drill. Nobody was injured.



Picture 8.
The scene following the incident

Comments to industry: Catch bunds should be in place wherever possible. When work is being carried out above other work areas, no-go zones should be established considering the type of work, height between work areas and suitable stand-off distances. When working against high walls and faces, no work should occur directly above. Autonomous drill rigs remove the workers from the risk of falling objects when working near highwalls and faces.

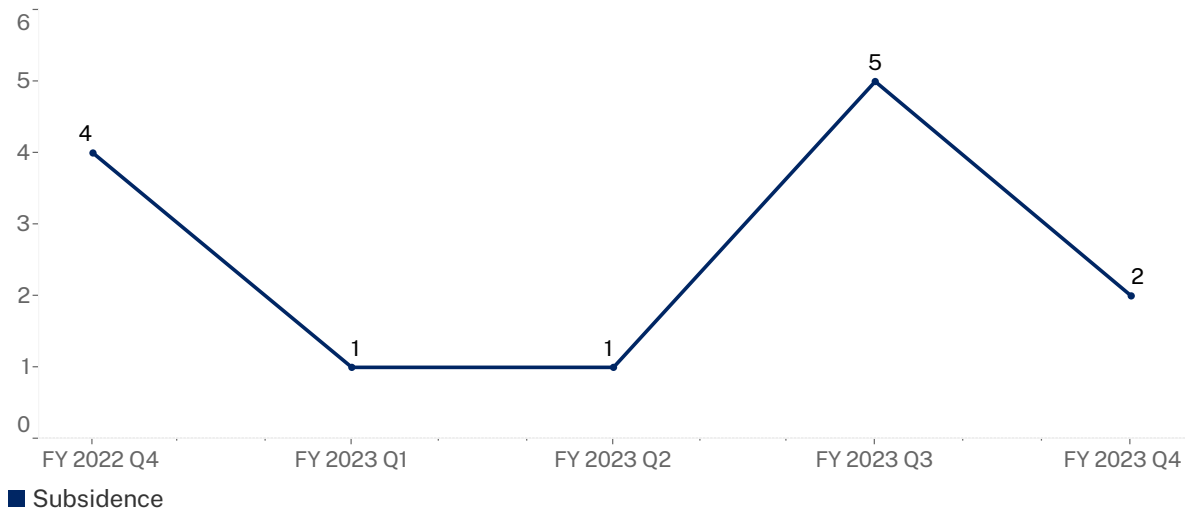


Subsidence

↓ from 5 to 2

Surface subsidence hazards may exist where there has been underground mining. The potential to cause significant damage (from deformation or sinkholes) to infrastructure (roads, dwellings etc.) and injure persons nearby, makes this a principal hazard in NSW.

Figure 4. Incident notifications received related to the principal hazard subsidence – April 2022 to June 2023

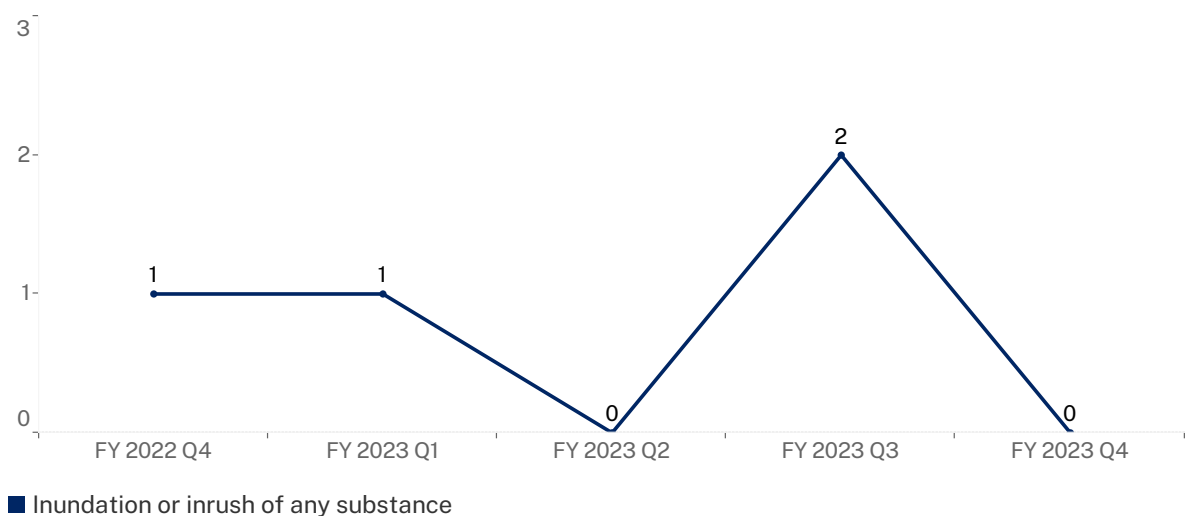


Inundation or inrush of any substance

↓ from 2 to 0

Inundation and inrush is a low frequency, high consequence hazard, particularly in underground mining. Incidents often involve inrushes of water or inundation by denser materials (sand or rock). The potential to cause multiple fatalities in a single event like at Gretley Colliery in 1996 make this a principal hazard in NSW.

Figure 5. Incident notifications received related to the principal hazard inundation or inrush – April 2022 to June 2023



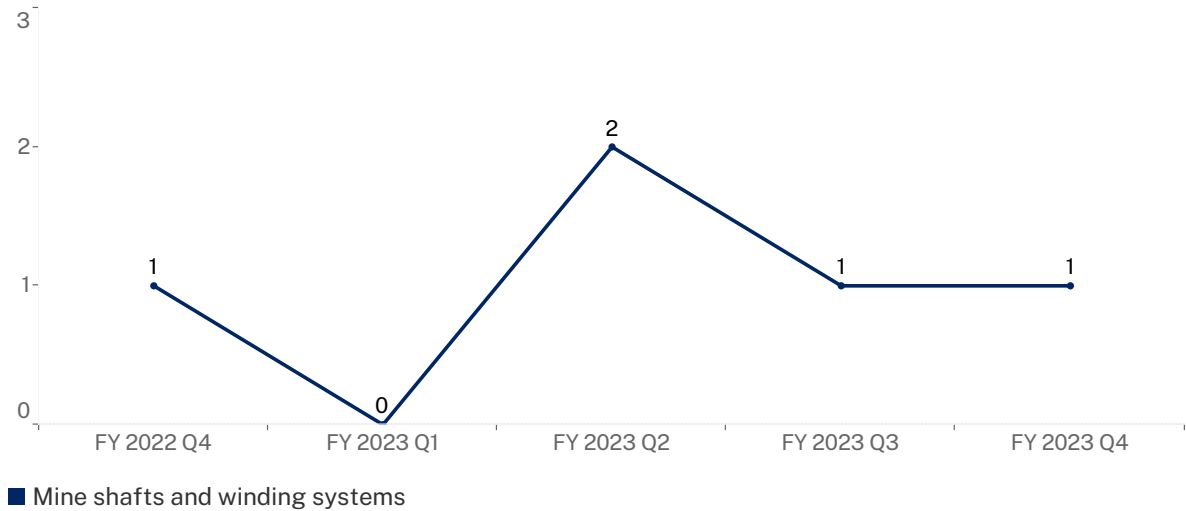


Mine shafts and winding systems

No change (1)

Mine shaft integrity and the operation of winding systems require specific focus. The safe movement of material and workers up and down mine shafts can be hazardous and has the potential to impact on the safety of multiple workers at a mine.

Figure 6. Incident notifications received related to the principal hazard mine shafts and winding systems – April 2022 to June 2023



Dangerous incident | IncNot0044421 – Loose pin on winder brake calliper

Summary: During a walk-around inspection of a man-riding shaft winder, it was noticed that an upper brake calliper pin had worked its way out about half the length of the pin. The split pin and retaining washer were missing. The opposite side calliper was still intact.



Picture 9.
The exposed upper brake calliper pin on a man-riding shaft winder

Comments to industry: Mines that operate winders should review maintenance inspection and testing schemes, including pre-use inspections, to ensure components related to safety-critical functions such as brakes are fit to operate.

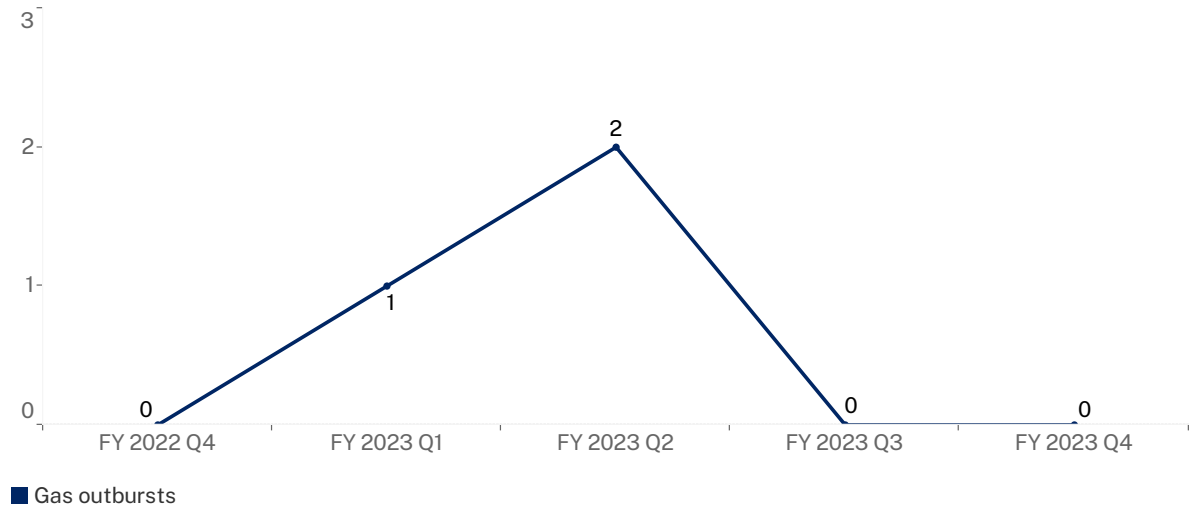


Gas outbursts

No change (0)

The implementation of appropriate risk controls ensure gas outbursts are not a high frequency hazard event, however their often sudden and violent nature has the potential to cause fatalities to workers. This hazard also includes the liberation of gases that can asphyxiate, lead to explosions or cause a fire. These circumstances make this a principal hazard in NSW.

Figure 7. Incident notifications received related to the principal hazard gas outburst – April 2022 to June 2023

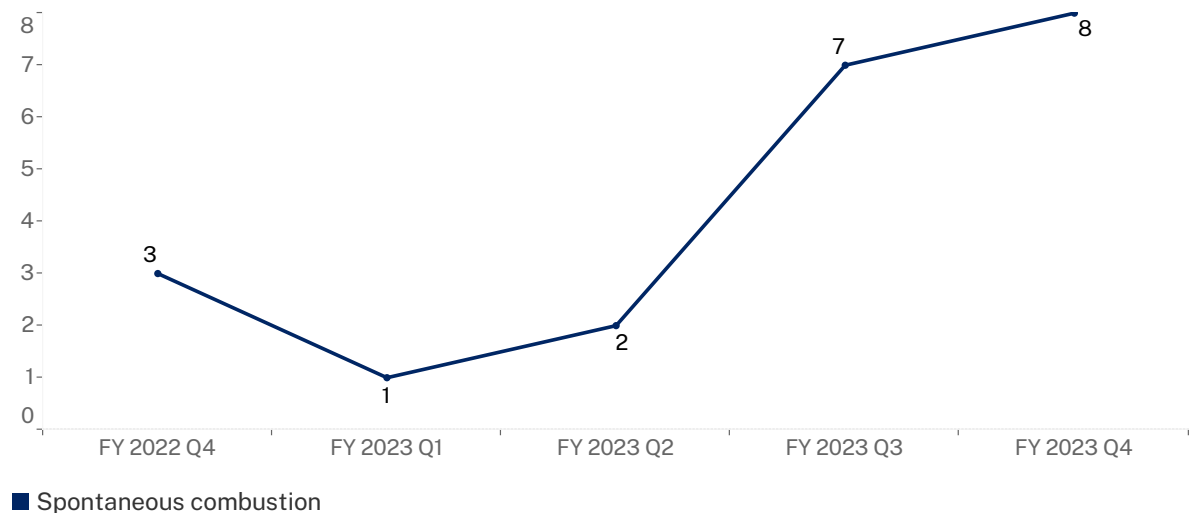


Spontaneous combustion

↑ from 7 to 8

While spontaneous combustion (of coal) is a hazard exclusive to the coal sector, in the underground parts of the mine the consequences have the potential to cause multiple fatalities. Figure 7 below includes spontaneous combustion incidents underground and on the surface of coal mines.

Figure 8. Incident notifications received related to the principal hazard spontaneous combustion – April 2022 to June 2023





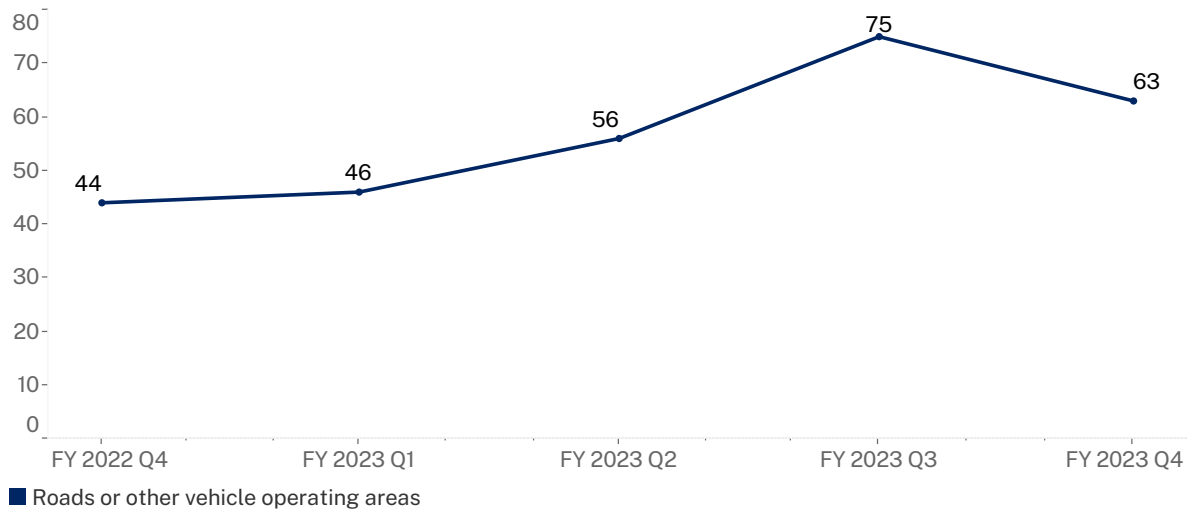
Roads or other vehicle operating areas

↓ from 75 to 63

Vehicle movements in and around mine sites require specific design considerations and controls to ensure that collisions and other vehicular accidents do not occur, and place workers lives at risk. The high volume of vehicular interactions on mine sites and the size of the mobile plant utilised classifies this as a principal hazard in NSW.

Incident notifications related to roads or other vehicle operating areas have decreased this quarter, following increases for the past 3 quarters.

Figure 9. Incident notifications received related to principal hazard roads or other vehicle operating areas – April 2022 to June 2023



Dangerous incident | IncNot0043703 – Dozer crushed light vehicle

Summary: A man was driving a light-rigid truck and parked in a car park in front of their private vehicle. The truck driver left the truck, which started to roll forward. The driver unsuccessfully tried to get back into the truck and as he tried to jump away, he slipped and the outside rear wheel ran over his ankle. The truck rolled forward hitting his own vehicle and stopped on a bund. He was cleared of any fractures and only suffered minor grazing.



Picture 10.
The scene following the incident



Picture 11.
The point of impact on the private vehicle

Comments to industry: The [Work Health and Safety Act 2011](#) Section 28 requires workers to take reasonable care of their own health and safety and not affect the health and safety of others at work. Workers must also comply with reasonable instructions and procedures of the workplace. Parking fundamentally stable before exiting a vehicle is a reasonable instruction or procedure.

Dangerous incident | IncNot0044759 – Haul truck reverses into dozer

Summary: A haul truck entered a dump and was in position to start tipping off. The dozer operator called the truck and instructed it to reposition. The truck driver called up stating where they were going to dump. No response was given. As the truck was reversing, the position 6 (right rear) tyre hit the ripper box of the dozer. There were no injuries or damage.

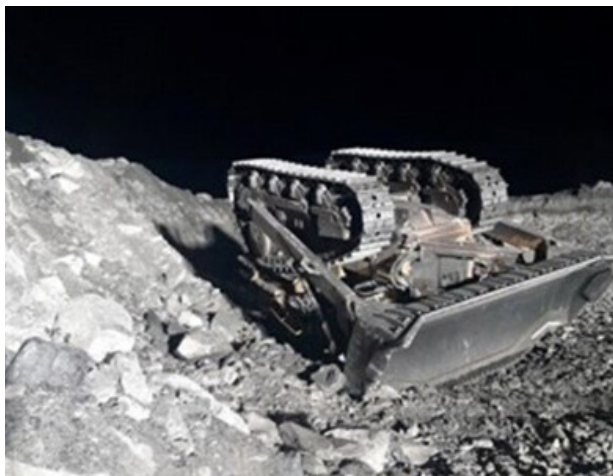


Picture 12.
The scene following the incident

Comments to industry: To achieve positive communication, a clear direct message must be given. Additionally, the person receiving the message must actively reply with a clear understanding of the message. Supervisors should be continually monitoring pos coms compliance during every radio call on their shift. Work Health and Safety Regulation 2017 clauses 35 & 36 requires higher order risk controls be implemented and administrative controls such as pos coms, only be used when no higher order controls can be implemented. Controls such as equipment segregation and proximity awareness systems should be implemented before pos coms are consider.

Dangerous incident | IncNot0044783 – Dozer rolls onto roof

Summary: A dozer operator was preparing coal on a shared workbench. The operator was aware of the edge of the bench as the dozer trammed forward. The operator felt a track slump. The operator then tried to reverse but the edge gave way, resulting in the dozer rolling onto its roof. The bench was about 4 metres high, and conditions were reported as dusty.



Picture 13.
The scene following the incident

Comments to industry: When dozers are working parallel to edges, the risk of the dozer inadvertently breaching the edge must be considered, and controls put in place such as windrows. When determining lighting requirements, secondary tasks in the area must be considered. The impact of lighting and shadowing on edges near work areas should be factored into work planning and lighting placement.

Dangerous incident | IncNot0044848 – Truck rolls into another truck

Summary: A haul truck was parked in a queue. A second haul truck approached and came to a stop. The truck then started moving forward and collided with the first truck (nose-to-tail collision). The worker in the second truck was uninjured but could not exit the truck due to damage to the ladder.



Picture 14.
The scene following the incident

Comments to industry: Workers have a duty to take reasonable care for themselves and others while in the workplace. This includes staying alert, being aware of their surroundings, and maintaining control of the plant and machinery they operate. Workers are also reminded that as part of their duty, they must comply with reasonable instructions and procedures of the workplace. Following parking procedures and fatigue management policies is considered reasonable. Fatigue policies require workers to arrive at work rested and ready for a full shift and reporting fatigue events as they occur.

Dangerous incident | IncNot0044847 – Runaway light vehicle blocks decline

Summary: A shotfirer was returning some leftover packaged explosives to an underground magazine. The vehicle had 27 plugs of 700 mm packaged explosives onboard. The worker parked outside the underground magazine and left the vehicle to open the gate. The vehicle started to roll backwards. The worker tried to get back in the vehicle but tripped and fell. The vehicle ended up travelling about 80 metres before hitting a wall and becoming wedged across the drive. The explosives were recovered and stored in the magazine and the scene was preserved.



Picture 15.
The vehicle wedged across the drive

Comments to industry: When implementing controls for safe parking, mine operators should follow the hierarchy of controls. Engineering controls such as fail-safe brakes and door interlocks should be considered before resorting to procedural controls. Regardless of the engineering controls fitted, workers should always park fundamentally stable. This may include parking on level ground or parked with the wheels turned into the mine wall. Mine operators and supervisors should routinely verify controls contained within their principal hazard management plans for road or other vehicle operating areas. Checks should confirm that controls are fit-for-purpose, suitable for the nature and duration of the work, and installed, set up, and used correctly. Under no circumstances should a worker ever attempt to re-enter a runaway vehicle.

Dangerous incident | IncNot0044878 – Truck slides down ramp through intersection

Summary: A haul truck operator was assigned to a different digger mid-shift. The operator went to travel down a ramp that had not been used since recent wet weather. As the truck was descending the ramp, the rear wheels started to slide. The operator was unable to stop the truck and continued to slide through an intersection. Beyond the intersection was a drill pattern and the operator was concerned this was loaded so steered into the centre bund, stopping the truck.



Picture 16.
The haul truck following the incident

Comments to industry: Mine operators should confirm roads are suitable for use before commencing operations after wet weather. When roads are closed, they should be clearly marked and communicated to workers.

Dangerous incident | IncNot0044859 – Light vehicle rolls

Summary: At the end of day shift, 3 workers were driving back to a muster area. The vehicle hit a soft spot in the haul road, causing the vehicle to slide. As the driver tried to correct the slide, the vehicle went from a wet section of the haul road to a dry section. The vehicle rolled. No workers were injured.



Picture 17.
The rolled vehicle following the incident

Comments to industry: When operating plant and equipment workers must remain situationally aware of the environment in which they are operating. Mine operators should assess and demarcate any areas on roads and vehicle operating areas where conditions may pose hazards to vehicle operations.

Dangerous incident | IncNot0044935 – Haul truck reverses into van

Summary: An empty haul truck approached a stop sign at a railway crossing. On the other side of the crossing, there was a loaded haul truck approaching. The empty haul truck saw the loaded truck and reversed to give way to the loaded truck and allow more room to cross the railway line. As the empty haul truck reversed, it hit a van that had stopped behind it. The right rear wheel of the empty haul truck hit the front passenger's side of the van. The driver of the van was uninjured.



Picture 18.
The vehicles following the incident

Comments to industry: Mine operators should design sites to separate light and heavy vehicles where possible. Operators should review the separation distances in place at the mine. Supervisors should conduct audits to validate that workers are correctly implementing the controls in the roads or other vehicle operating areas control plans. When reversing, workers must use all available aids such as mirrors, cameras and proximity detection systems to confirm that it is safe.

Dangerous incident | IncNot0044966 –Articulated truck tub rolls

Summary: An articulated truck was approaching a stockpile. As the operator started to turn the truck to line up with the stockpile, an alarm started to sound. The tub then rolled. The worker was uninjured.



Picture 19.
The scene following the incident

Comments to industry: When operating articulated equipment workers must drive at appropriate speeds, particularly when negotiating corners and turning the machine around.



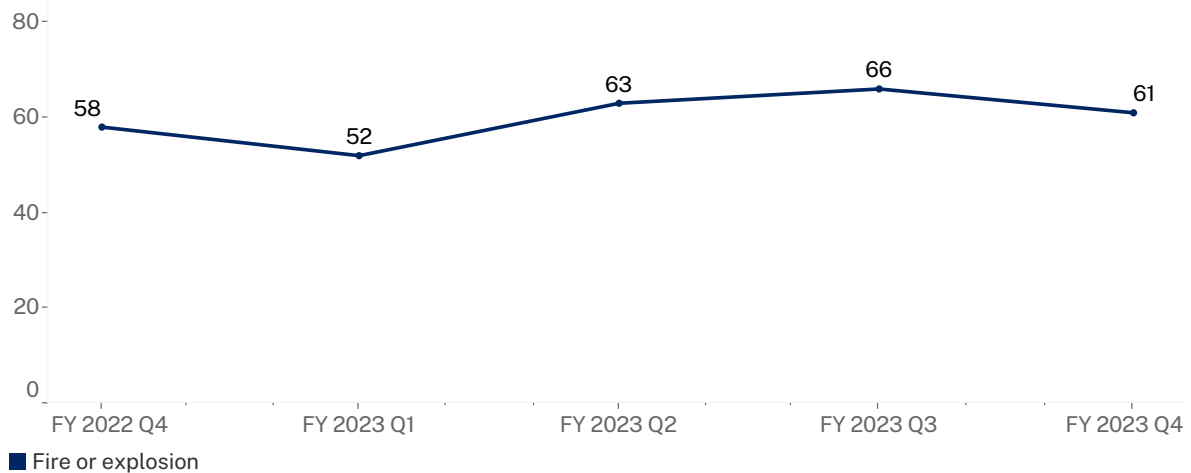


Fire or explosion

↓ from 66 to 61

This principal hazard includes risk associated with all sources of flammable, combustible and explosive substances and materials in the working environment. A common source of these incidents are fires on mobile plant. This principal hazard is distinct from the hazards covered in the explosives control plan.

Figure 10. Incident notifications received related to principal hazard fire or explosion – April 2022 to June 2023



Dangerous incident | IncNot0044422 – Worker suffers burns

Summary: A contractor was using a grinder to cut an empty 1000 litre plastic container. An ignition occurred that knocked the work back approximately 4 metres and ignited the workers' clothes. Another worker smothered his clothes to extinguish any flames. The worker cutting the container suffered serious burns to their arm and side. The worker who rendered assistance suffered minor burns as well.

Comments to industry: This incident is under investigation. Further information may be released in the future.

Dangerous incident | IncNot0044513 – Loader fire during refuelling

Summary: A loader was being refuelled at a surface fuel bay when a fire started. The worker immediately shut off the fuel. The automatic fire suppression system activated, and the worker used a hose to extinguish the fire. Inspectors identified a 50 kg fire extinguisher trolley that was overdue for inspection and a fire hydrant in the fuel bay inaccessible due to poor housekeeping. The mine is investigating the cause of the fire.



Picture 20.
The worker using a hose to extinguish the fire

Comments to industry: Mine operators should routinely audit fire-fighting equipment to ensure it is maintained in a fit-for-purpose state. This includes maintenance inspections being performed as scheduled and ensuring housekeeping around control devices will not hinder emergency responses. Mine operators should also audit the fire-fighting capabilities around refuelling areas to ensure they are adequate to manage any fire events that may occur.

Dangerous incident | IncNot0044568 – Worker fails to activate fire suppression system

Summary: A haul truck was being operated on a ramp when the engine failed. The operator saw smoke and flames coming from the engine bay and immediately stopped the truck. The operator could not manually activate the fire suppression system because the operator couldn't remove the retaining pin. The operator exited the truck. The fire suppression system automatically activated. Water carts and the emergency rescue teams attended the incident and extinguished the fire.



Picture 21.
The fire suppression system manual activation button

Comments to industry: Mine operators should include in their maintenance inspections of fire systems, where clips and ties are installed (to prevent accidentally deploying the system), that they can be easily removed. Workers must be trained to activate the fire suppression systems including removing any ties or clips.

Refer to [Safety Alert SA22-06 Operator unable to activate fire suppression system during emergency](#)

Dangerous incident | IncNot0044551 – Methane ignition while bolting

Summary: Workers on a continuous miner were installing roof bolts. There was a small roof cavity across the face area. When a red-hot blocked drill steel was withdrawn from the hole, methane ignited and a flame spread across the face area to the opposite rib above the heads of the workers on the continuous miner. An inspector attended the mine and identified good ventilation, Venturi pumps in place and monitoring devices present. However, the bolt was being installed in a cavity about 0.4 metres deep. The investigation identified that the drill steel was broken, which caused the drill tip to heat when using the auto feed function on the drill rig.



Picture 22.
The scene following the incident

Comments to industry: Ensure that gas measurements are conducted in roof cavities so there is no accumulation of methane gas. Ensure the gas monitor/detector has time to accurately detect the gas in the cavity. Workers must remain aware that in boggy strata, manual feed may be more appropriate to prevent drill steel blockages. Mine operators should review their frictional ignition plans to include a similar scenario.

Dangerous incident | IncNot0044684 – Conveyor fire

Summary: A crew was driving into a mine and noticed smoke while passing a transfer. Smouldering coal was found behind the guard of the boot end. The crew stopped the belt, removed the guard and started hosing down. The conveyor was restarted to wash out additional material. The conveyor was stopped and the area cooled and the scene was preserved. A fire watch was put in place.



Picture 23.
The scene following the incident

Comments to industry: Mine operators should review transfers and boot ends for areas where coal fines and spillage could accumulate. Guards should be designed for ease of inspection and cleaning.

Dangerous incident | IncNot0044730 – Unintended initiation of booster

Summary: A Jumbo operator was drilling a lifter hole in a development drive. The drill steel was 2 m into the face when a previously drilled hole was intersected. The drill steel impacted a booster, which initiated. The operator heard a bang, but no fly rock or fume was noticed. When the drill steel was removed remnants of the explosives were found on the drill bit.



Picture 24.
The drill bit following the incident

Comments to industry: Mine operators should have a process where drill holes are checked, and any misfires cleared, before the next pattern is marked and drilled.

Dangerous incident | IncNot0044771 – Worker burnt with hot coolant

Summary: A worker was driving a load haul dump (LHD) that overheated on the main travelling road. The operator removed the header tank cap and was sprayed with hot coolant. The worker was taken to the surface and then to hospital where he was transferred to a specialist burns unit. The worker was treated for superficial burns to the arm, chest and thigh.



Picture 25.
The header tank of the load haul dump

Comments to industry: Workers must not remove caps on coolant systems without first relieving the stored pressures. If there is any residual pressure at all in the cooling system, it may cause the coolant to vigorously boil when the system is open to atmospheric pressure. Mine operators should inspect all coolant systems to ensure warnings are in place and a means is available to dissipate the stored pressure to protect workers from exposure to hot coolant. Each radiator filler and radiator cap should be arranged or interlocked so that coolant pressure is safely released prior to the cap being able to be removed.

Dangerous incident | IncNot0044758 – Frictional ignition ignites methane

Summary: A continuous miner was cutting in a place change panel. A frictional ignition occurred as the miner sumped into the left-hand side of the face and intersected a borehole. The ignition started at the cutter head with a loud pop. Orange flames then travelled over the miner to the rear of the miner body. The flames were extinguished after about 30 seconds. Workers at the crib room felt a pressure change and their ears popped. No workers were injured.

Comments to industry: An investigation has commenced and further information may be released in future.

Dangerous incident | IncNot0044923 – Worker suffers burns while refuelling with petrol

Summary: A contractor was using a petrol-powered pressure cleaner in a coal handling preparation plant. Midway through the day, the worker attempted to refuel the unit. A fire erupted. The worker was seen rolling on the ground before getting up and removing their jacket. The worker was treated on site before being transferred to hospital.



Picture 26.
The scene following the incident

Comments to industry: Alternate power sources such as diesel or battery power must be considered before using petrol is considered. Where it is determined petrol powered equipment cannot be substituted, mine operators must assess the risk of using petrol on site. Controls must be implemented to manage the risk of refuelling. As a minimum, engines must be stopped and allowed to cool before petrol refuelling commences.

Dangerous incident | IncNot0044974 –Incorrect tyre rubs starting fire

Summary: A watercart was fitted with 3 new rims and was sent for a short drive before retorquing the wheels. After a while, the operator noticed a strange smell that became worse. The operator saw smoke coming from the rear of the truck. The operator saw another water cart and called to ask the operator to look at the rear of the truck. At the same time, the operator noticed spots of flames in a line on the haul road behind the truck. The second water cart operator saw flames about one metre high on the inside of position 4 wheel. They used the cannon to extinguish the fire. An emergency was called, and the watercart continued to cool the tyres.



Picture 27.
The inside of position 4 wheel following the incident

Comments to industry: When changing to a different component supplier or to a different model component, a change management process must be undertaken. This must include checks to confirm compatibility with the equipment that is being fitted and for suitability for the task and duty.



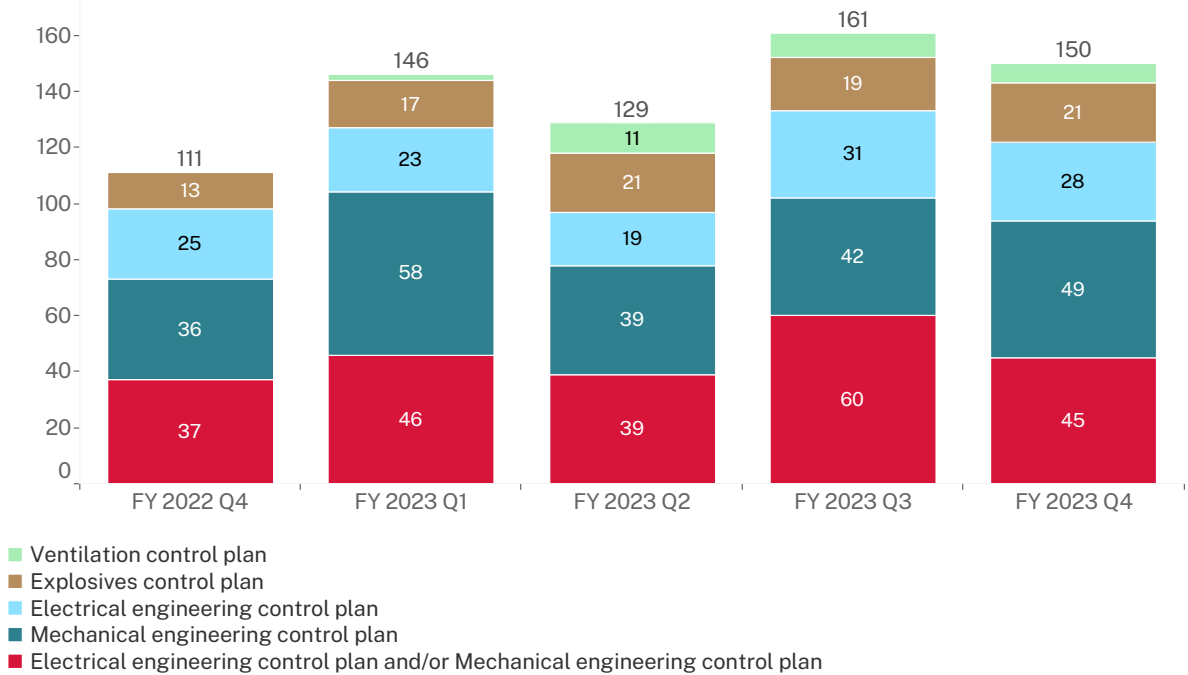
Principal control plans

The Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 specifies principal control plans for managing certain risks associated with hazards at mine and petroleum sites.

There are 5 principal control plans specified in the Regulation.

The figure below presents a further breakdown of numbers of incident notifications received related to principal control plans as defined in section 19 and Schedule 2 of the Regulation. Note: no incidents were notified in relation to health control plans or well integrity control plans.

Figure 11. Incident notifications received by principal control plans – April 2022 to June 2023



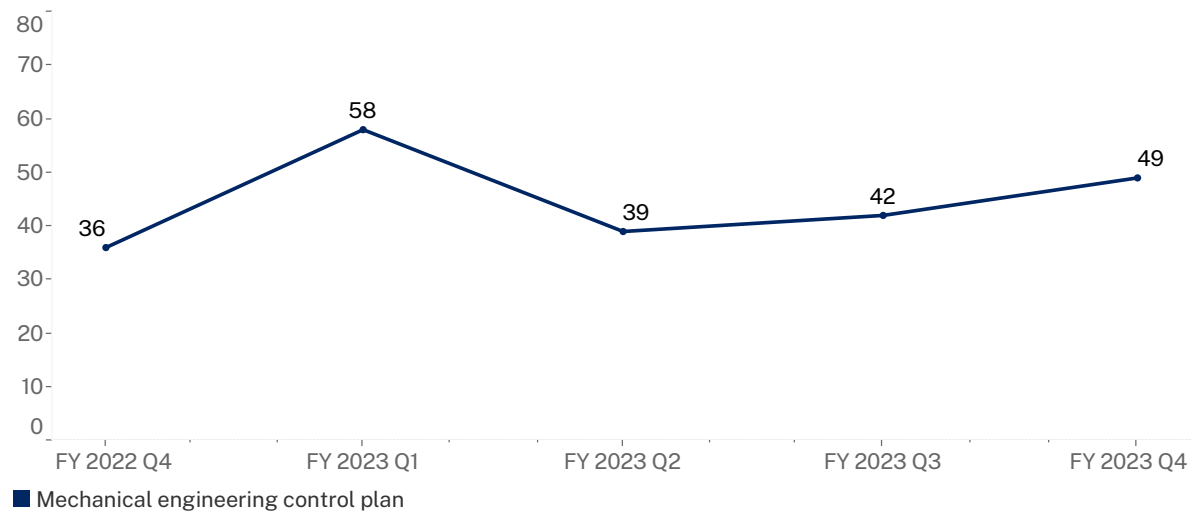


Mechanical engineering control plans

↑ from 42 to 49

The mechanical engineering control plan covers 'lifecycle' risks associated with mechanical hazards (vehicles, plant and mechanical systems and structures) that workers may be exposed to. This includes risks associated with pressurised fluids.

Figure 12. Incident notifications received related to mechanical engineering control plans – April 2022 to June 2023



Dangerous incident | IncNot0044657 – Feeder breaker runs away

Summary: A feeder breaker was being trammed up a grade in a development panel by a trainee operator and trainer. The feeder breaker rode up onto a rock on the ground that started to crack and break. The trainee operator stopped trammimg. When the trainee started trammimg again, the breaker feeder moved down the hill towards the workers. The feeder breaker rolled about 4 metres before it stopped. The trainee dropped the pendant. The cable was caught under the tracks and the power tripped.



Picture 28.
The scene following the incident

Comments to industry: The operating limits of machines such as grade and speed, and position of workers must be considered when planning tasks such as flits. Trainees must have a clear understanding about the operating parameters and characteristics such as braking performance. Pendants and remote controls must have functions and their operating direction clearly marked. Pre-use inspections should include checking that these markings are legible.

Dangerous incident | IncNot0044814 – Hub assembly falls hitting worker

Summary: Workers were changing out a front wheel hub assembly on a haul truck in a workshop. While removing the hub from the taper, the assembly unexpectedly moved. The assembly was fixed to a frame that was sitting on the tynes of a telehandler. The tynes dropped when the load moved. A worker in close proximity was hit in the face. The worker suffered minor grazing.



Picture 29.
The scene following the incident

Comments to industry: When removing components that may release instantaneously (such as those on a taper), controls must be in place to protect workers from the sudden release of energy. This may include using a boss and retaining bolts, timber packing, restraining slings or stops. If forklifts and telehandlers are used, the impact of pneumatic tyres and boom extension should be considered when assessing movement of the load.



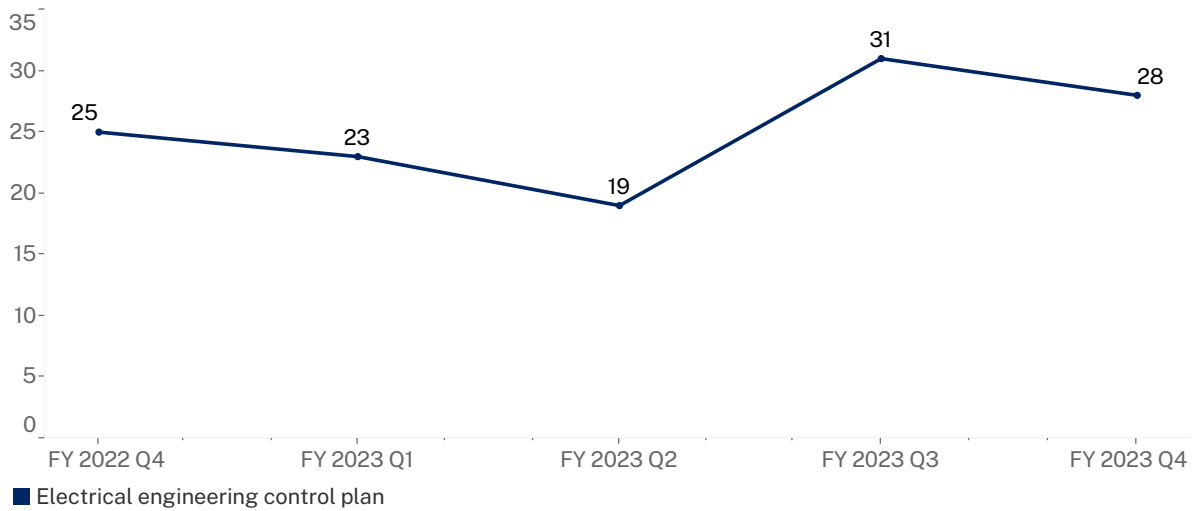


Electrical engineering control plans

↓ from 31 to 28

The electrical engineering control plan covers 'lifecycle' risks associated with electrical hazards (supply, vehicles, plant or infrastructure) that workers may be exposed to.

Figure 13. Incident notifications received related to electrical engineering control plans – April 2022 to June 2023

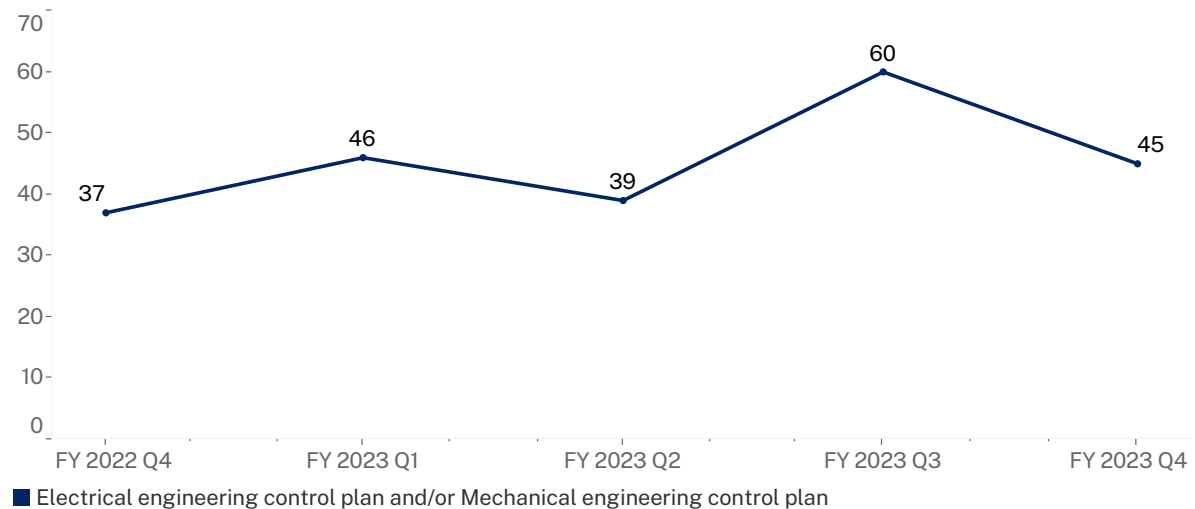


Electrical and/or Mechanical engineering control plans

↓ from 61 to 45

Notified incidents may relate to either electrical and mechanical engineering control plans or both.

Figure 14. Incident notifications received related to electrical and/or mechanical engineering control plans – April 2022 to June 2023



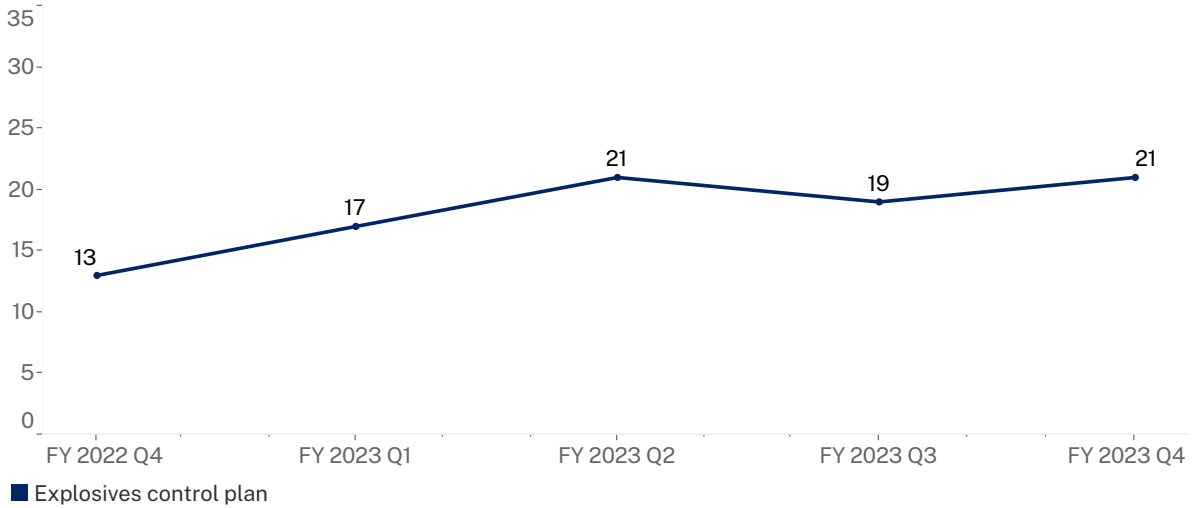


Explosives control plans

↑ from 19 to 21

The explosives control plan covers risks associated with the use and management of explosives hazards workers may be exposed to. This includes incidents involving 'flyrock' and misfire events.

Figure 15. Incident notifications received related to explosives control plans – April 2022 to June 2023

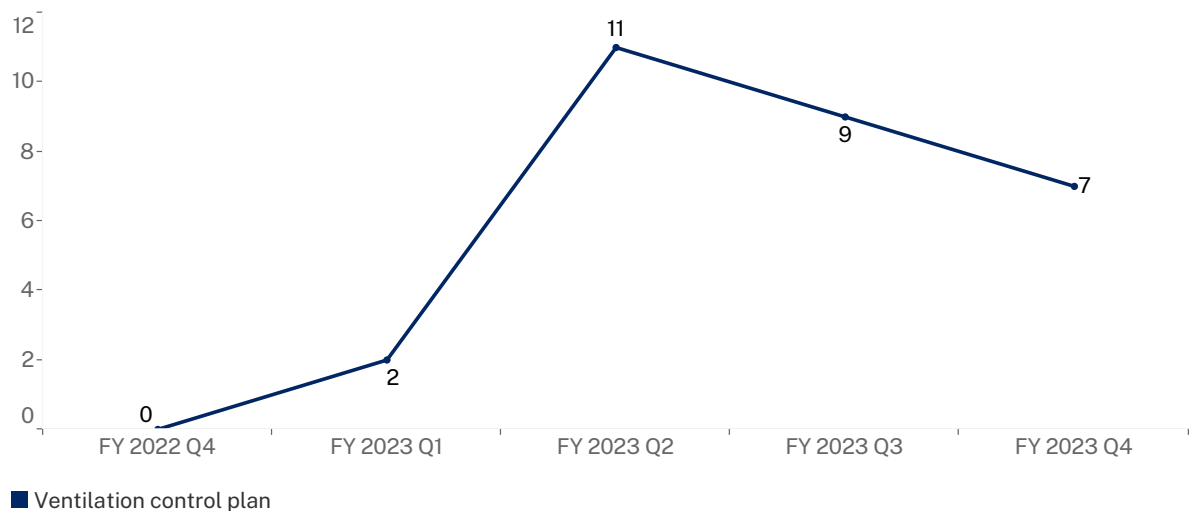


Ventilation control plans

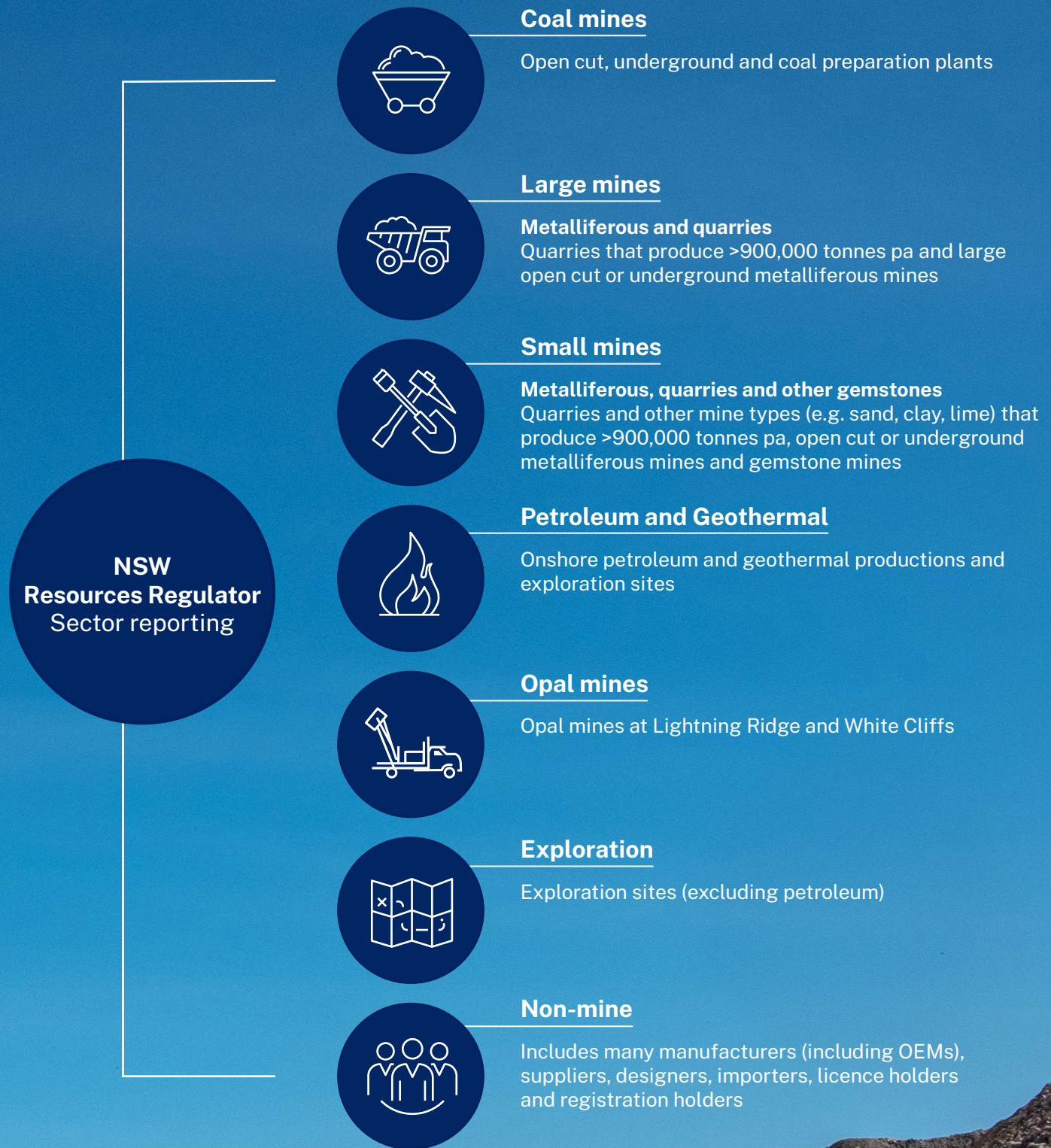
↓ from 9 to 7

A ventilation control plan covers risks associated with ventilation in underground mines. This includes incidents involving failed atmospheric conditions and where trigger action response plans may have been activated.

Figure 16. Incident notification received related to ventilation control plans – April 2022 to June 2023



Sector profiles



Coal sector

Incident notifications

Under work health and safety legislation, mine operators must notify the regulator about the occurrence of certain types of safety incidents. Incident notification data (by active mine) provides insights into sector-specific reporting trends.

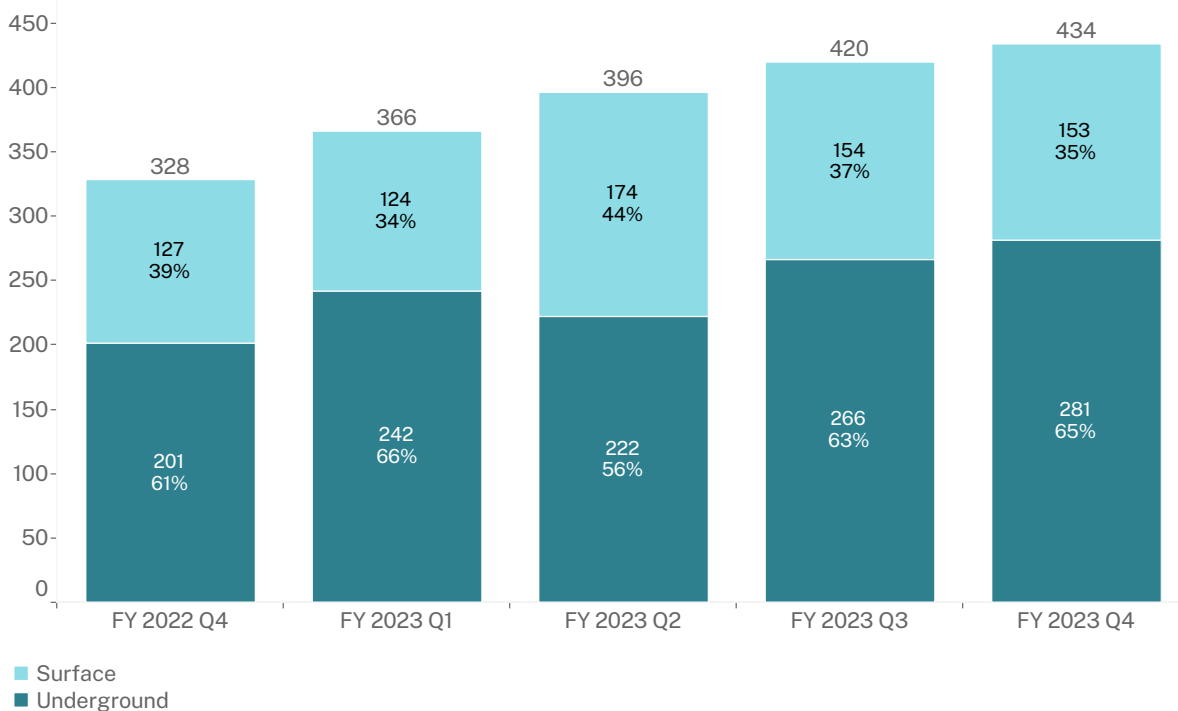
Table 2. Coal sector incident notification rates – April 2022 to June 2023

Measure	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4
Incidents	328	366	396	420	434
Active mines	120	103	102	101	101
Incident rate per active mine	2.73	3.55	3.88	4.16	4.30
Mines that notified incidents	48	50	57	51	49
% of mines notifying an incident	40%	49%	56%	50%	49%
Incident rate per notifying mine	6.83	7.32	6.95	8.24	8.86

* The change in active mine numbers represents recategorisation within Resources Regulator's systems

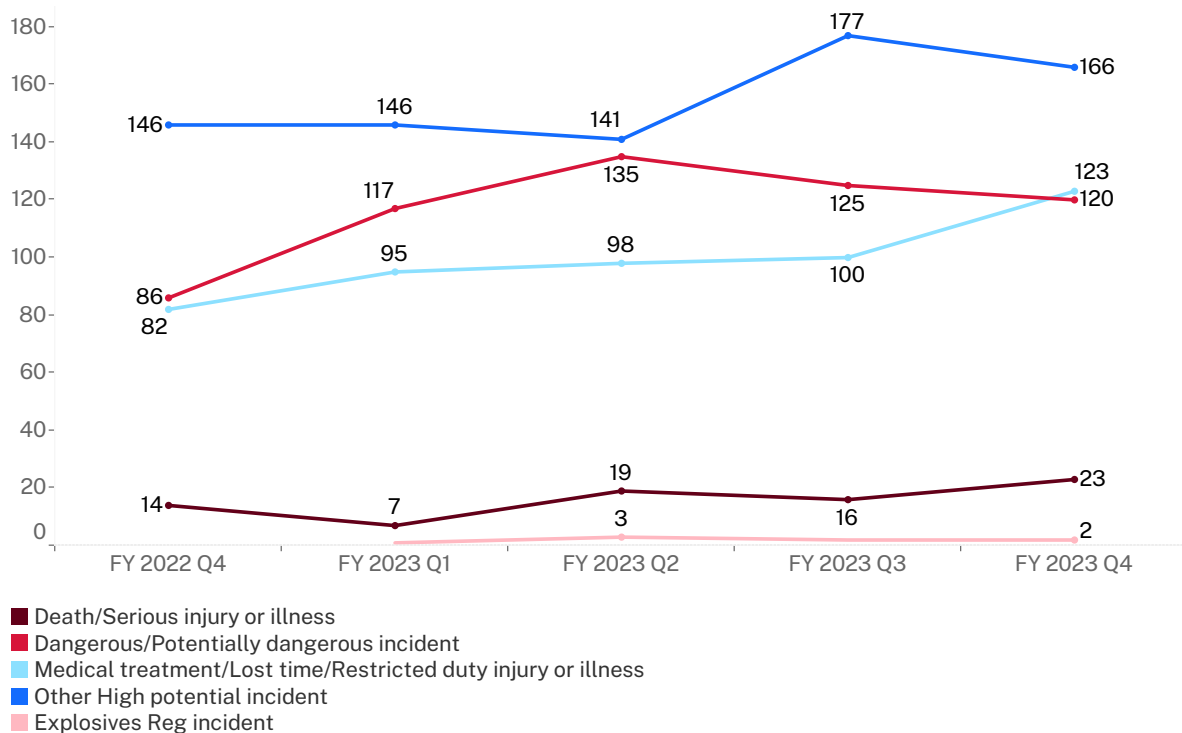
The following graph shows the proportion of safety incident notifications received from surface and underground coal operations. This quarter there was an increase in the number of incidents notified by underground coal operations.

Figure 17. Coal sector incident notifications received by operation type – April 2022 to June 2023



The graph below presents a breakdown of safety incidents notified to the Regulator by the coal sector by the requirement to report. While this quarter saw a reduction of notifications of dangerous/potentially dangerous incidents and other high potential incidents, increases were observed in medical treatment/lost time/restricted duty injury or illness and death/serious injury/illness and death/serious injury/illness.

Figure 18. Coal sector incident notifications received by requirement to report – April 2022 to June 2023

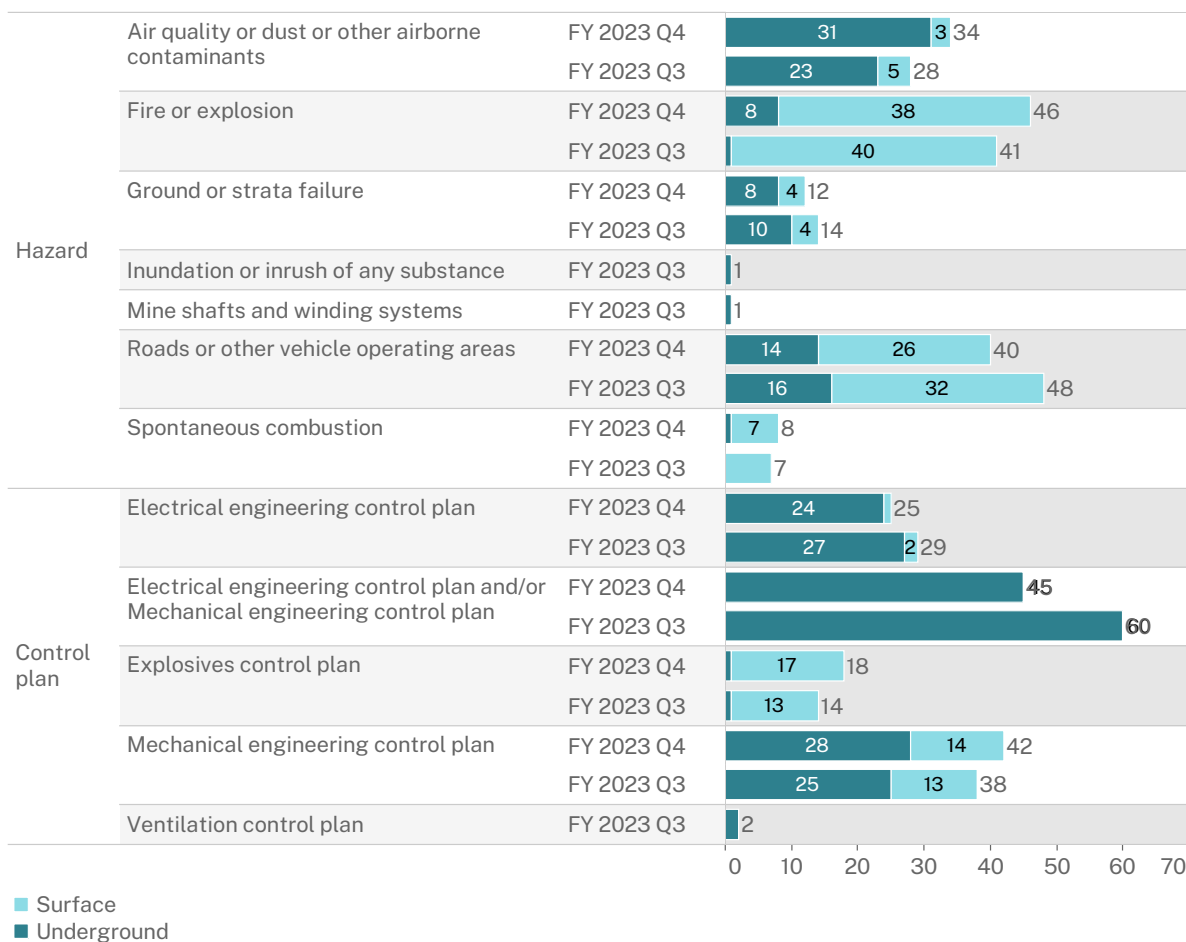


Incident notifications by principal hazard

The figure below shows the number of incident notifications received from the coal sector during the past 2 quarters, as classified against related principal hazards and principal control plans. The findings highlight hazards where mine operators need to ensure their risk management controls remain fully effective – this includes ensuring the effectiveness of electrical/mechanical engineering control plans in underground operations and controls for managing fire or explosion hazards in surface operations.

In this quarter, notable increases were observed in notified incidents in underground coal mines relating to air quality or dust or other airborne contaminants and fire or explosion.

Figure 19. Coal mine incident notifications received by principal hazard and by operation type – to June 2023



Large mines sector

Incident notifications

Under work health and safety legislation, mine operators must notify the regulator about the occurrence of certain types of safety incidents. Incident notification data (by active mine) provides insights into sector specific reporting trends.

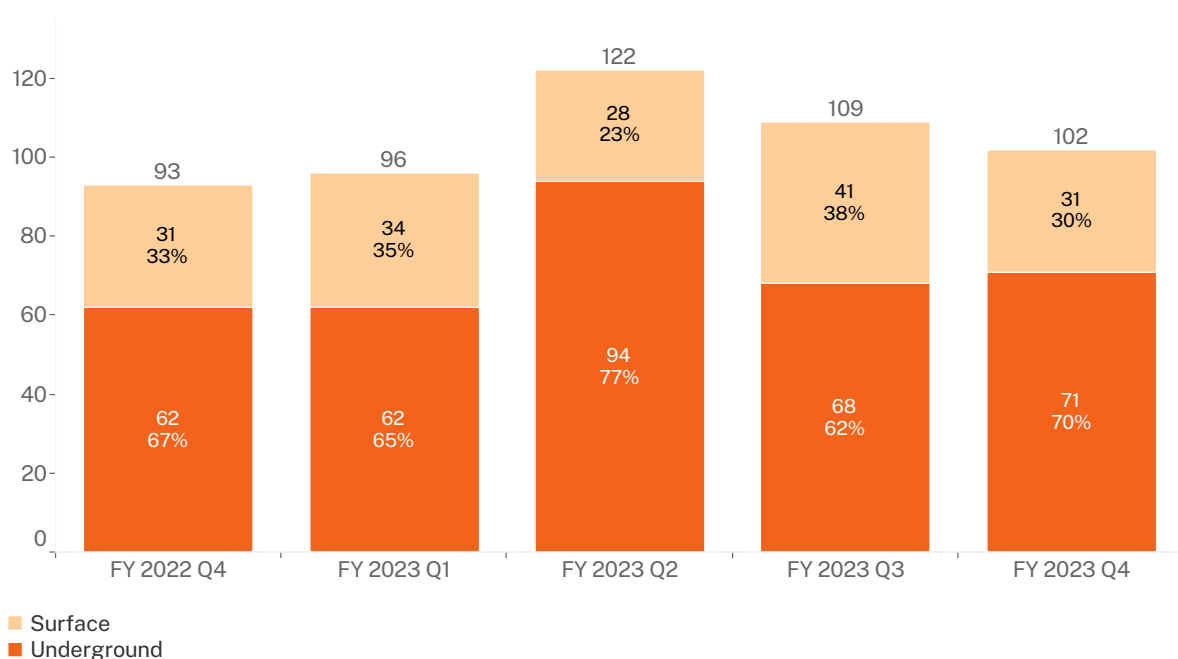
Table 3. Large mines and quarries incident notifications received rates – April 2022 to June 2023

Measure	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4
Incidents	93	96	122	109	102
Active mines	58	57	57	57	57
Incident rate per active mine	1.60	1.68	2.14	1.91	1.79
Mines that notified incidents	29	27	27	34	27
% of mines notifying an incident	50%	47%	47%	60%	47%
Incident rate per notifying mine	3.21	3.56	4.52	3.21	3.78

* The change in active mine numbers represents recategorisation within Resources Regulator's systems

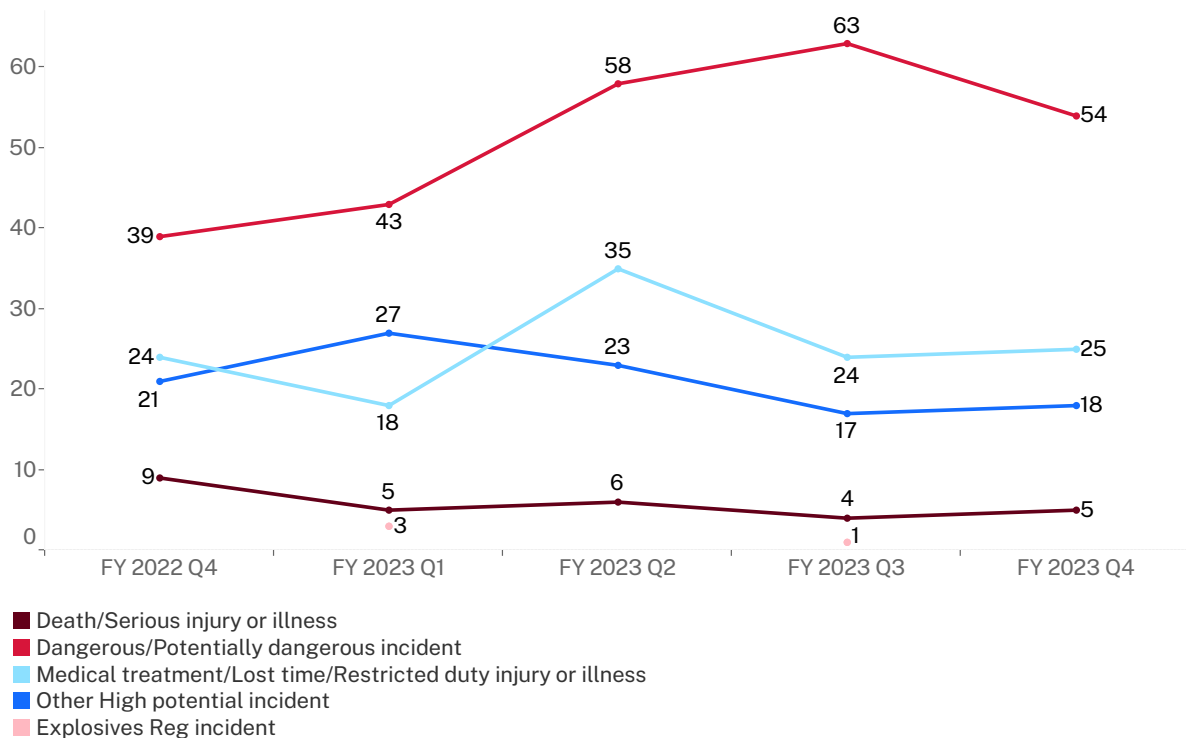
The following graph shows the proportion of safety incident notifications received from large mines and quarries by operation type.

Figure 20. Large mines and quarries incident notifications received by operation type – April 2022 to June 2023



The following graph presents a breakdown of safety incidents notified to the Regulator by the large mines and quarries sector based on the requirement to report under the safety legislation. A decrease in dangerous / potentially dangerous incidents is noted for this quarter.

Figure 21. Large mines and quarries incident notifications received by requirement to report – April 2022 to June 2023

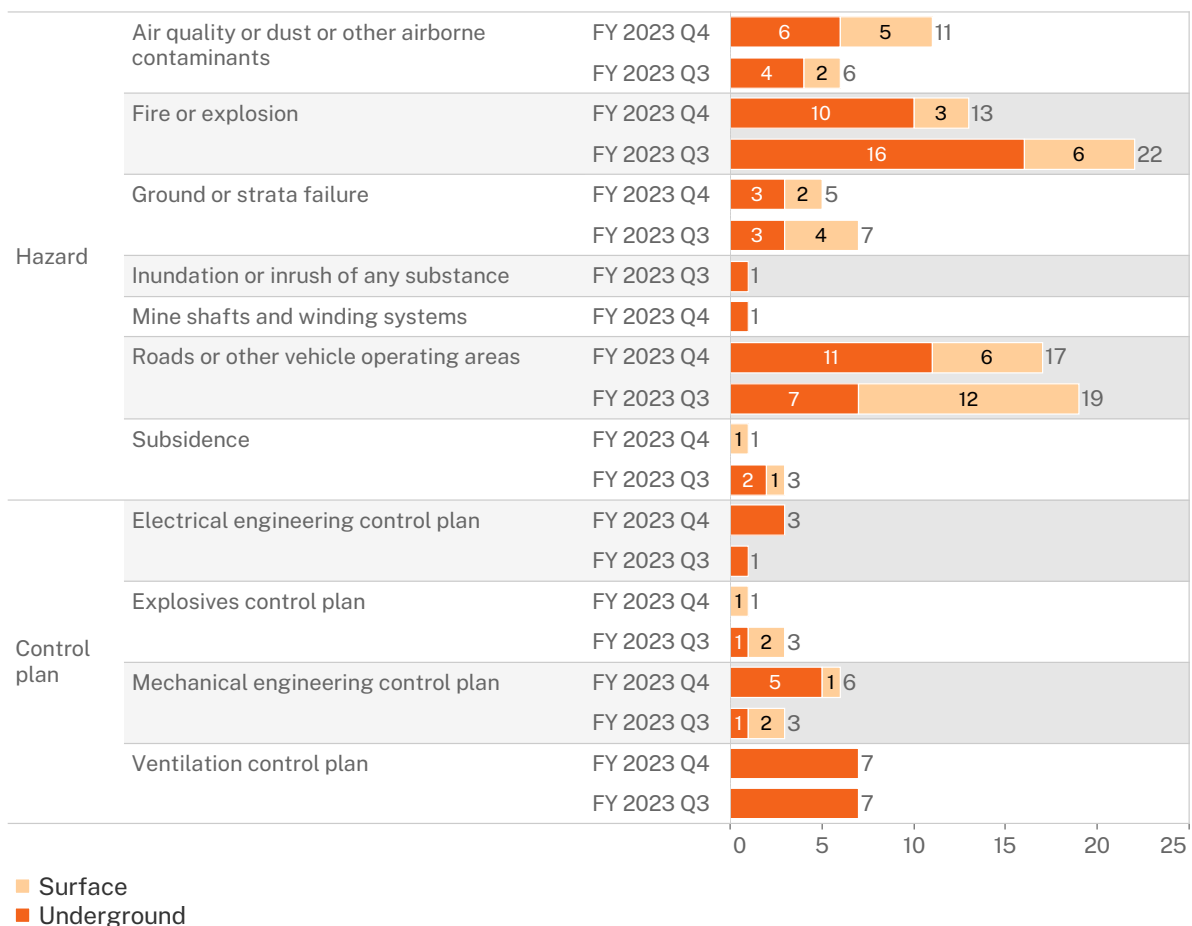


Incident notifications by principal hazard

The figure below shows the number of incident notifications received from the large mines and quarries sector during the past 2 quarters as classified against related principal hazards and principal control plans. The findings highlight hazards where mine operators need to ensure their risk management controls remain fully effective. This includes controls for managing hazards associated with fire or explosion and roads or other vehicle operating areas.

In this quarter, increases were observed in notified incidents relating to air quality or dust or other airborne contaminants, electrical engineering control plans and mechanical engineering control plans.

Figure 22. Large mines and quarries incident notifications received by principal hazard and operation type – to June 2023



Small mines sector

Incident notifications

Under work health and safety legislation, mine operators must notify the regulator about the occurrence of certain types of safety incidents. Incident notification data (by active mine) provides insights into sector specific reporting trends.

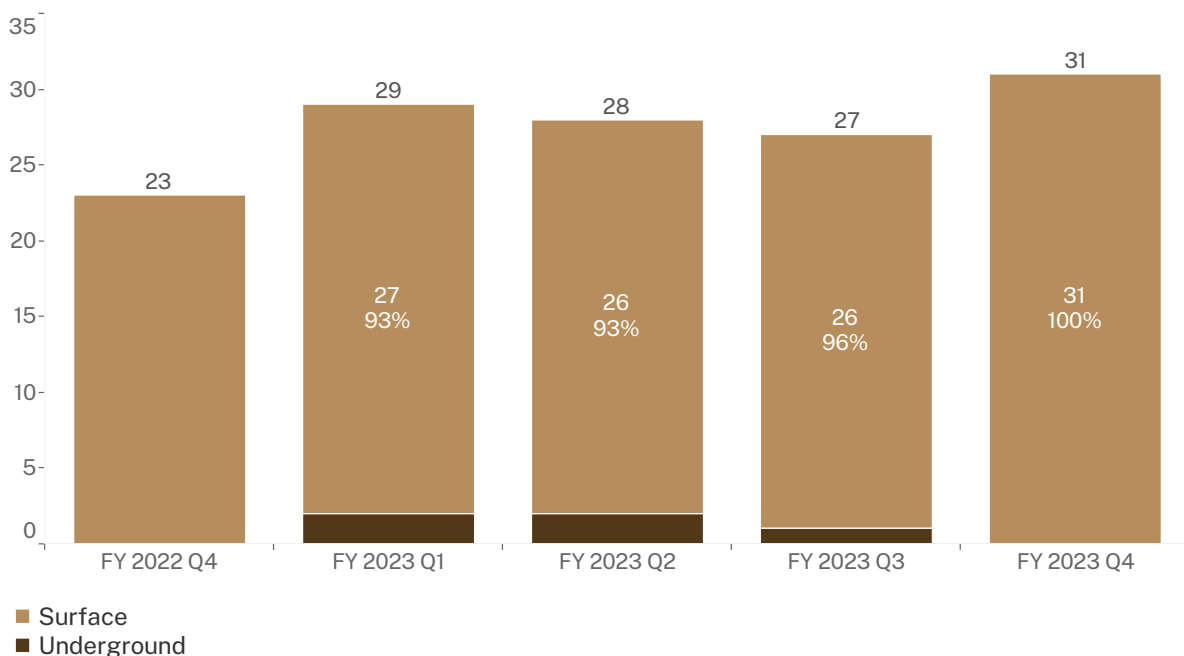
Table 4. Small mines and quarries incident notifications received rates – April 2022 to June 2023

Measure	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4
Incidents	23	29	28	27	31
Active mines	2589	2542	2534	2527	2536
Incident rate per active mine	0.01	0.01	0.01	0.01	0.01
Mines that notified incidents	20	25	25	22	22
% of mines notifying an incident	0.77%	0.98%	0.99%	0.87%	0.87%
Incident rate per notifying mine	1.15	1.16	1.12	1.23	1.41

* The change in active mine numbers represents recategorisation within Resources Regulator's systems

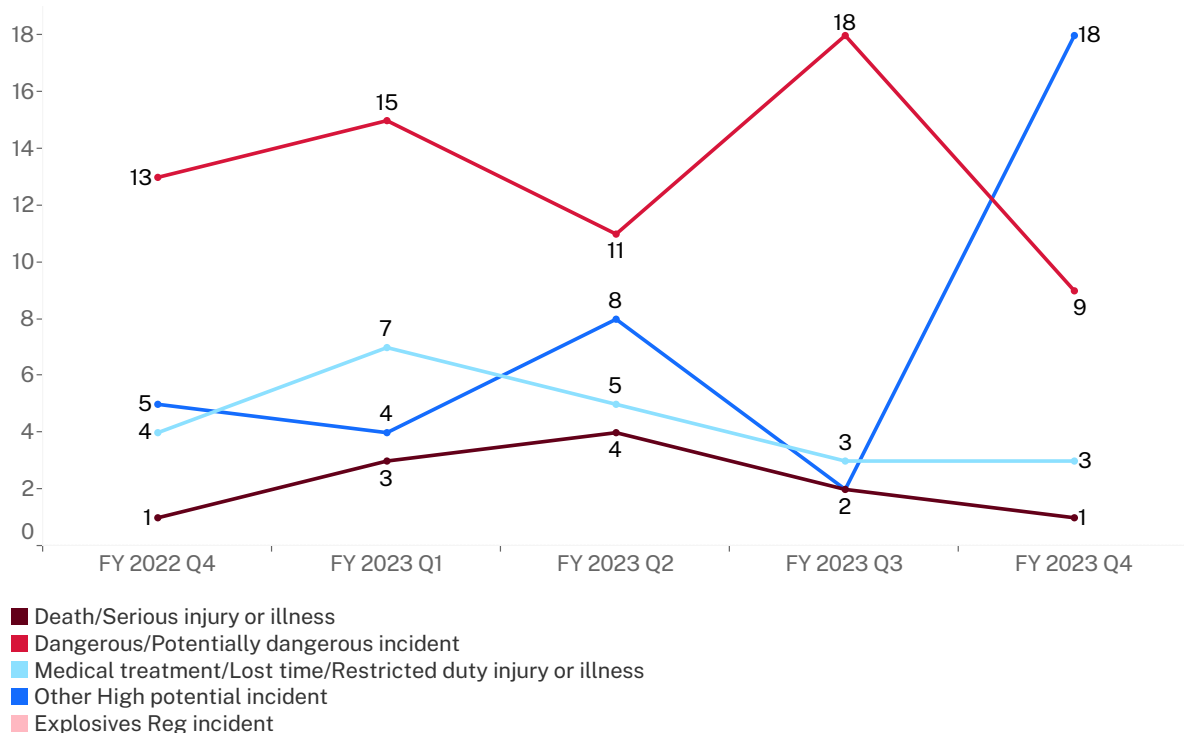
The graph below shows the proportion of safety incident notifications received from small mines and quarries.

Figure 23. Small mines and quarries incident notifications received by operation type – April 2022 to June 2023



The graph below presents a breakdown of safety incidents notified to the Regulator by the small mines and quarries sector by the requirement to report. This quarter saw a marked increase in other high potential incidents (from 2 to 18), and a decrease in dangerous/potentially dangerous incidents (from 18 to 9).

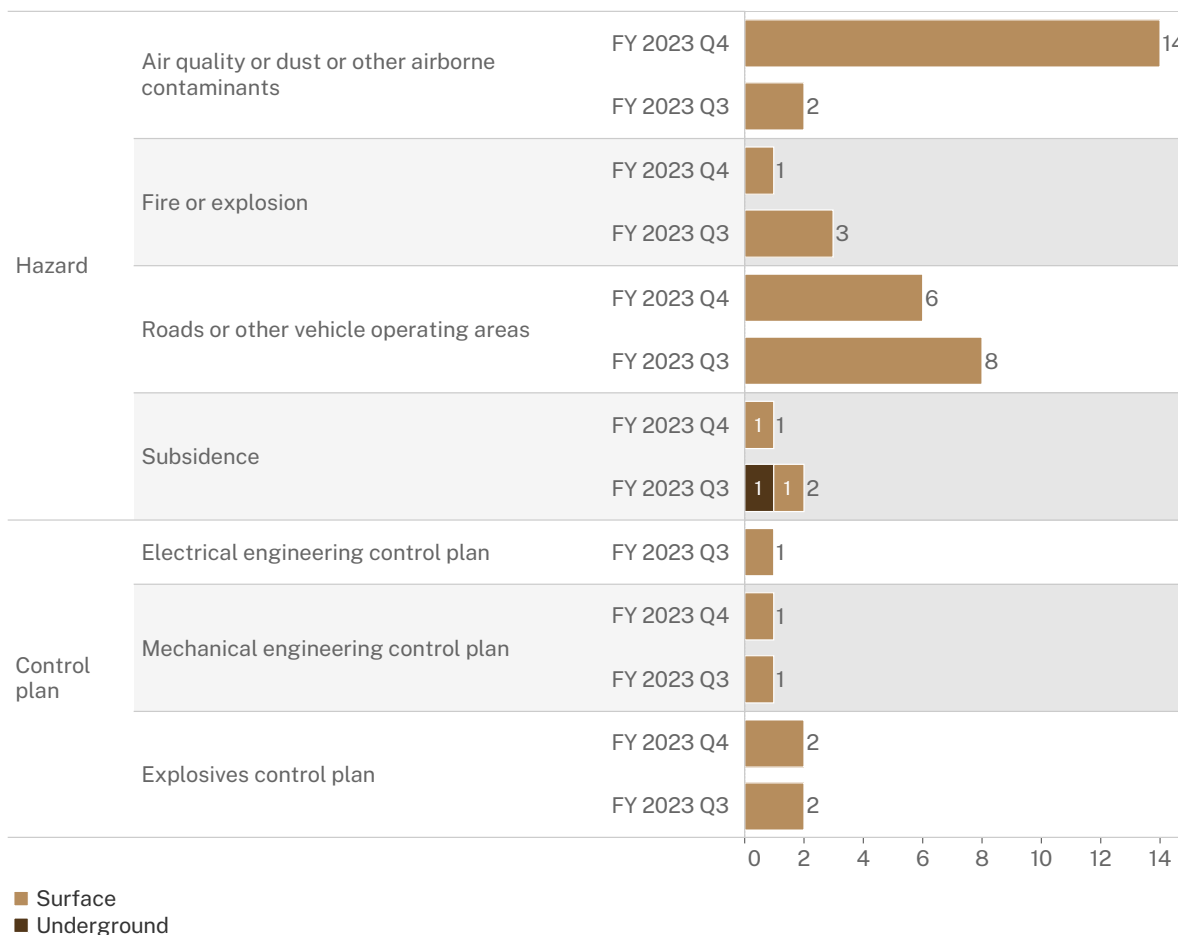
Figure 24. Small mines and quarries incident notifications received by requirement to report – April 2022 to June 2023



Incident notifications by principal hazard

The figure below shows the number of incident notifications received from the small mines and quarries sector during the past 2 quarters as classified against related principal hazards and principal control plans. The findings highlight hazards where small mine and quarry operators need to ensure their risk management controls remain fully effective – this includes controls for managing hazards associated with airborne contaminants /dust and roads or other vehicle operating areas.

Figure 25. Small mines and quarries incident notifications received by principal hazard and operation type – to June 2023



Other mines sector profiles

Incident notifications

Under work health and safety legislation, mine operators must notify the regulator about the occurrence of certain types of safety incidents.

This section relates to petroleum and geothermal sites, opal mines and exploration sites. The tables below show the number and types of incident notification received by requirement to report and by principal hazard.

Table 5. Petroleum and geothermal sites, opal mines and exploration sites incident notifications received – April 2022 to June 2023

Sector	Measure	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4
Petroleum & geothermal sites*	Incidents	0	0	0	0	0
Opal mines	Incidents	2	0	1	0	1
Exploration sites**	Incidents	1	0	0	1	1

* includes exploration

** excludes petroleum and geothermal

Table 6. Opal mines and exploration sites incident notifications received by requirement to report – April 2022 to June 2023

Sector	Requirement to report measure	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4
Opal mines	Death/Serious injury or illness	0	0	0	0	1
	Dangerous/Potentially dangerous incident	2	0	0	0	0
	Other high potential incident	0	0	1	0	0
	Total	2	0	1	0	1
Exploration sites	Medical treatment/Lost time/ Restricted duty injury or illness	0	0	0	1	1
	Total	0	0	0	1	1

Table 7. Opal mines and exploration sites incident notifications received by principal hazard – April 2022 to June 2023

Sector	Incident notification PH/PCP classification	FY 2022 Q4	FY 2023 Q1	FY 2023 Q2	FY 2023 Q3	FY 2023 Q4
Opal mines	Ground or strata failure	0	0	1	0	0
	Inundation or inrush of any substance	1	0	0	0	0
	Roads or other vehicle operating areas	1	0	0	0	0
	Not classified	0	0	0	0	1
	Total	2	0	1	0	1
Exploration sites	No related principal mining hazard or principal control plan	0	0	0	1	1
	Total	0	0	0	1	1

Compliance and enforcement

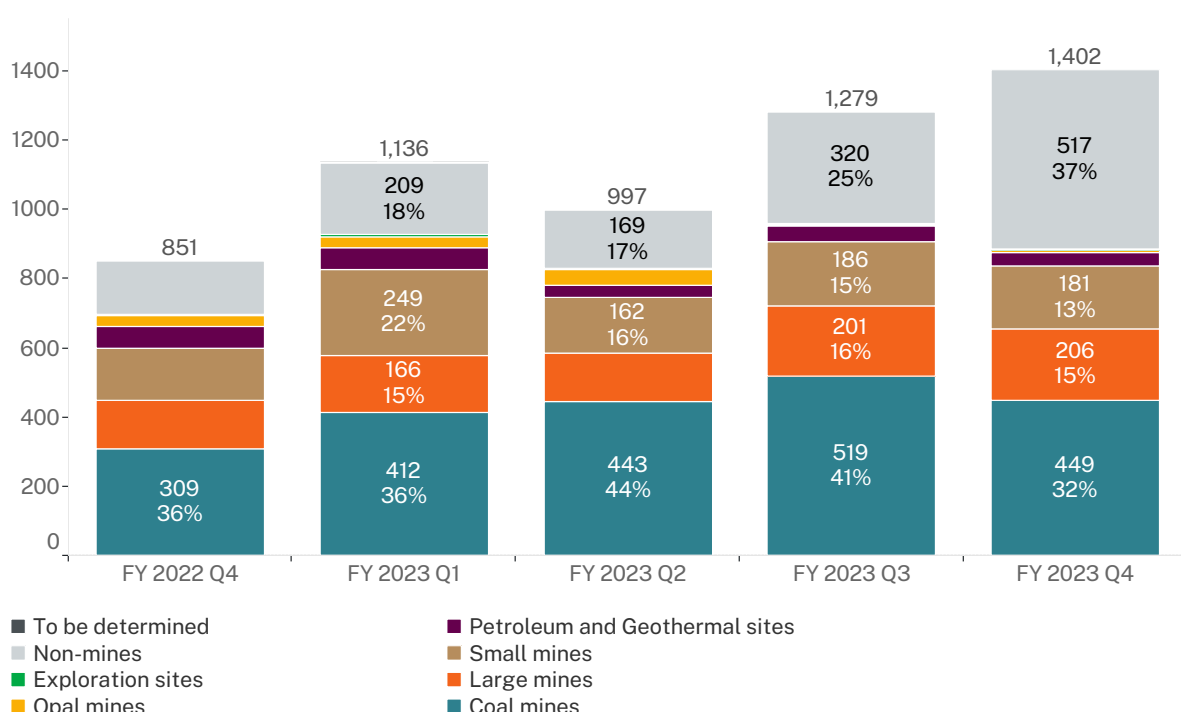
The Regulator uses a range of tools to promote and secure compliance in mines and petroleum sites in relation to work health and safety legislation. These include desktop assessments, site inspections, investigations and enforcement actions, such as issuing notices and commencing prosecutions.

Detailed information regarding compliance activities, priorities, outcomes and reports are published on our [website](#) and in our [business activity reports](#).

Safety assessments by sector

This quarter saw an increase in the number of assessments with the highest figure of the previous 5 quarters. Non-mines assessments predominantly relate to licensing and practising certificate applications and renewals.

Figure 26. Safety assessments by sector – April 2022 to June 2023

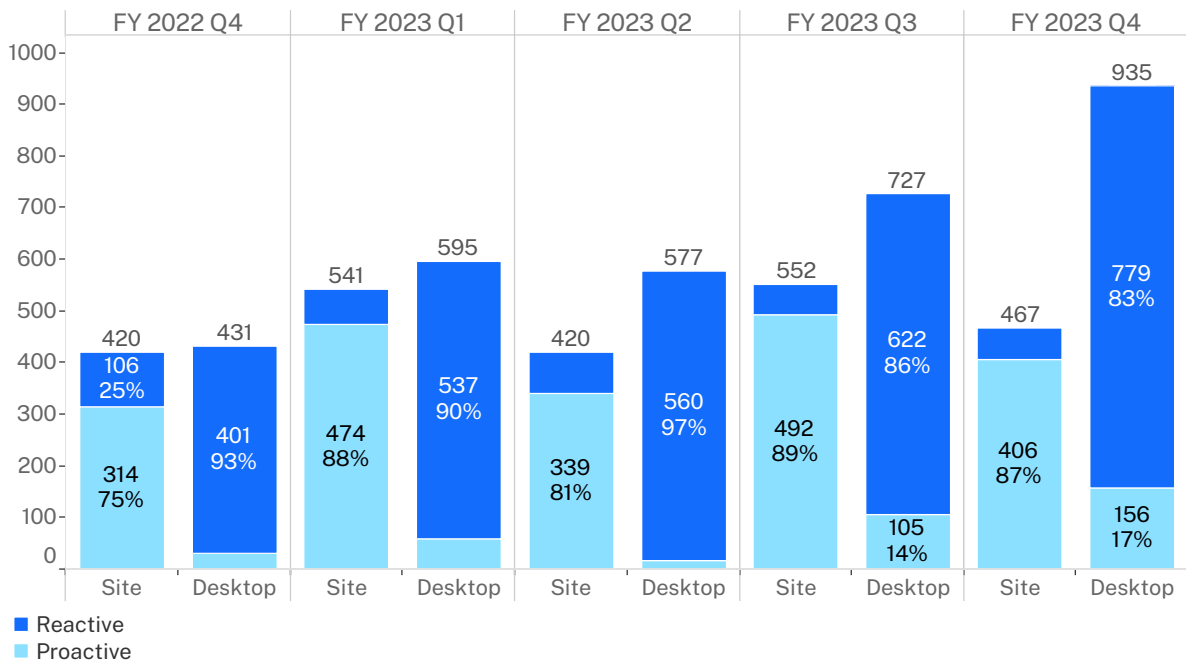


Safety assessments by category and nature

Site-based (visiting mine sites) and desktop activities are both important regulatory tools. While the main focus of our on-site compliance activity is on preventing incidents through planned risk-based proactive assessments, our desktop activities are mainly reactive.

Site-based proactive assessments focus on establishing whether critical controls have been effectively implemented. Meanwhile desktop assessment activities include reviews of control measures following an incident, review of personal dust monitoring reports submitted by coal mine operators, assessment of high-risk activity notifications, applications for exemptions from work health and safety laws, subsidence management plans and preparation for site work.

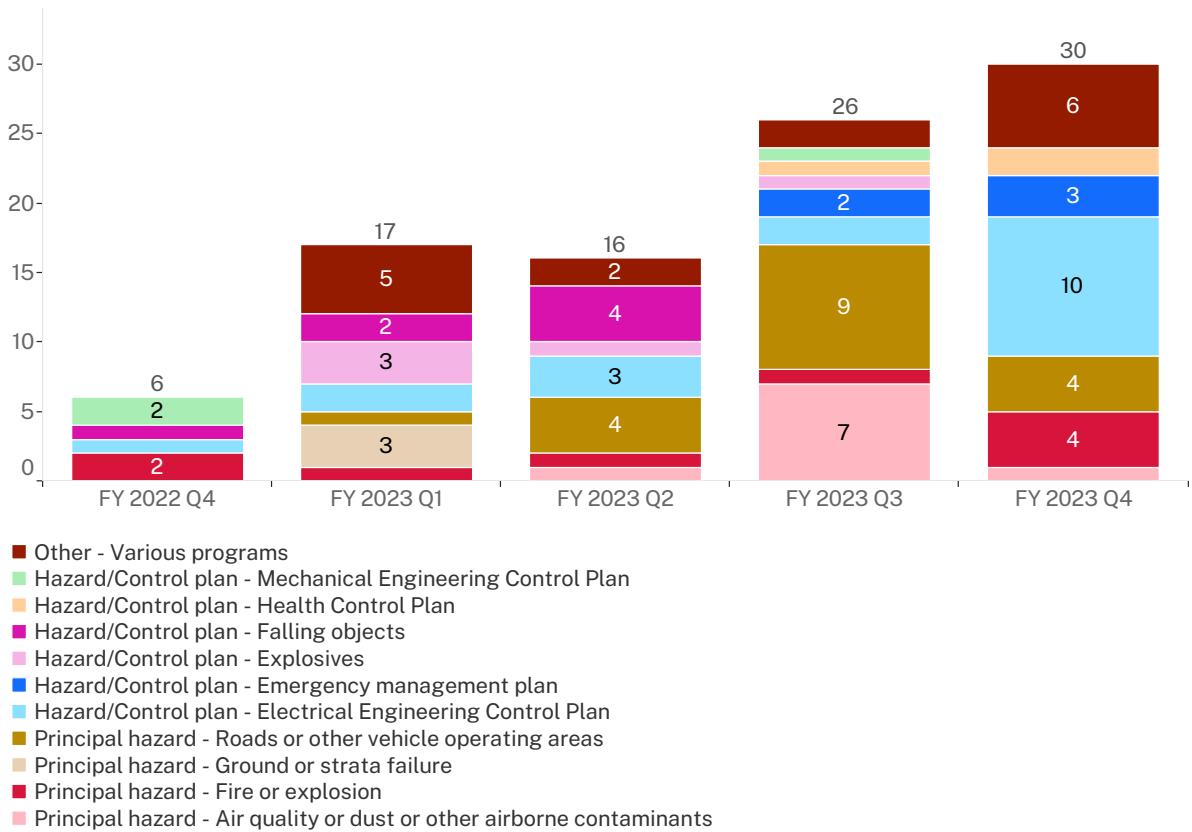
Figure 27. Safety assessments by category and nature – April 2022 to June 2023



Programmed site assessments

Our targeted assessment program establishes a risk-based and proactive approach for assessing the extent to which critical controls for managing principal mining hazards have been identified, implemented and are being monitored.

Figure 28. Targeted assessments by hazard – April 2022 to June 2023

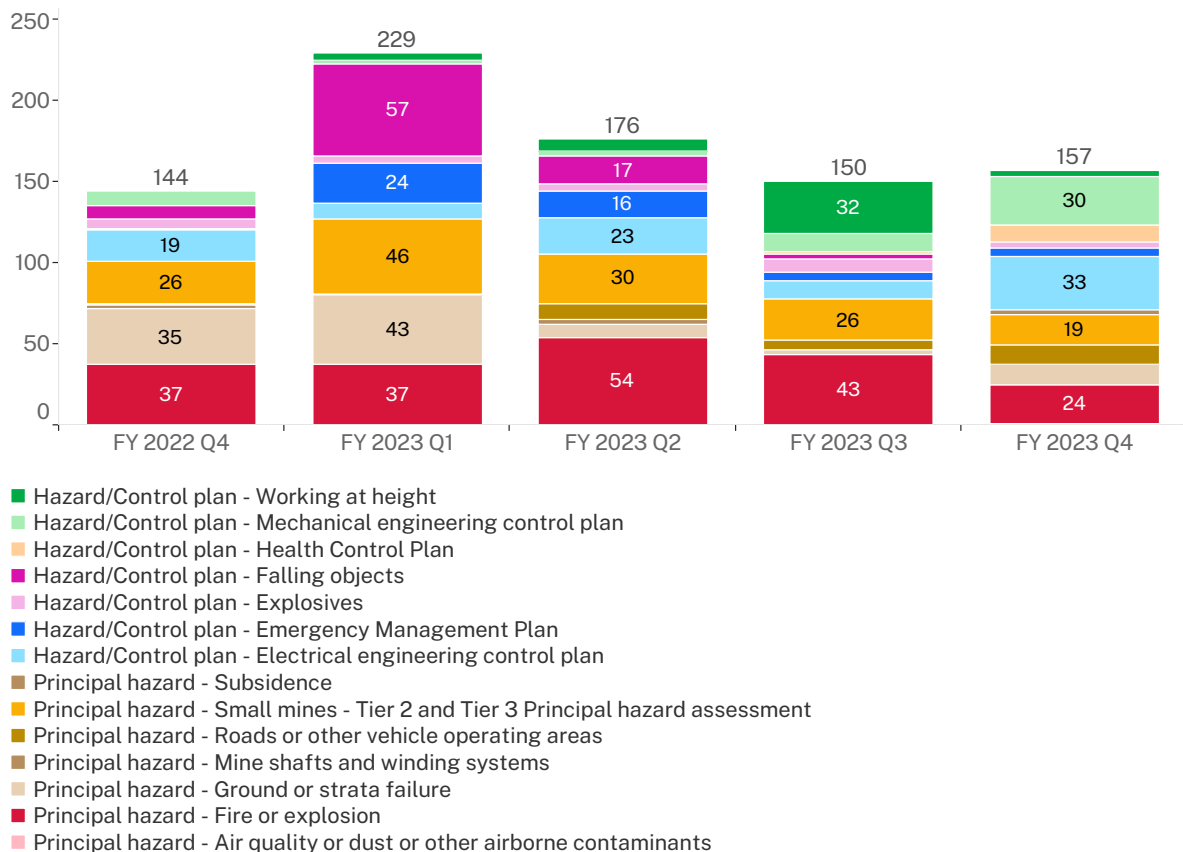


Planned inspections

Planned inspections assist in identifying compliance weaknesses which could lead to an incident or injury. These assessments focus on the physical implementation of critical controls in the operating areas of a mine.

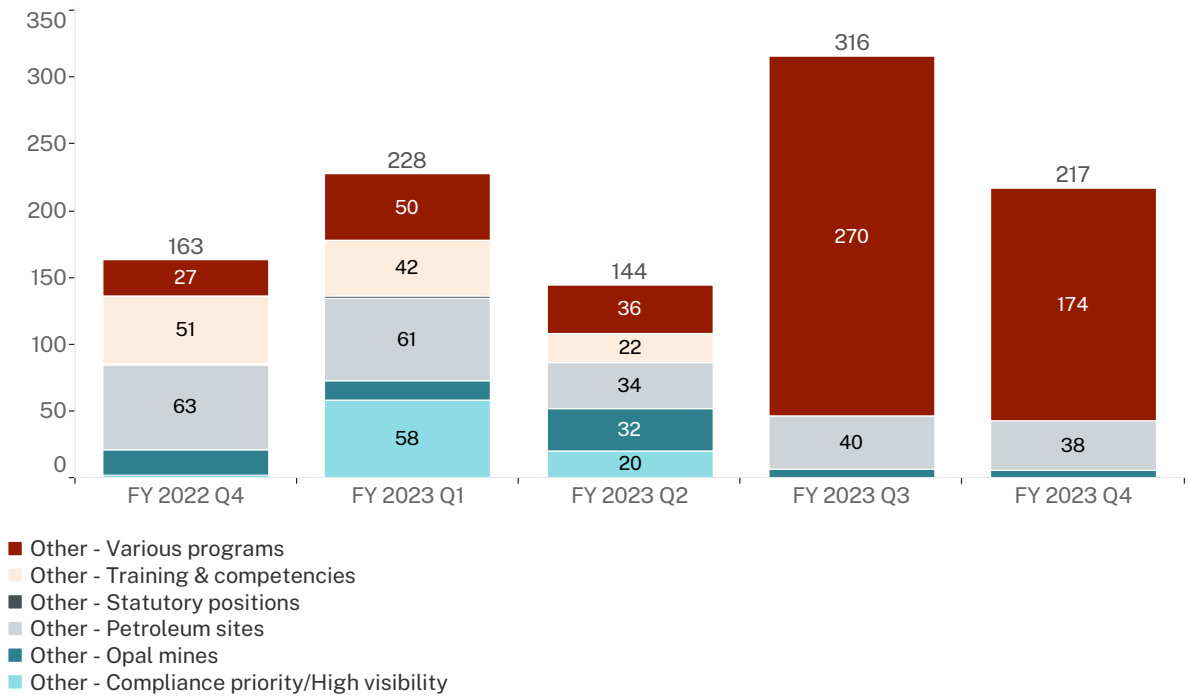
Planned site inspections were commenced on the principal hazards shown in the graph below.

Figure 29. Planned inspections by principal hazard – April 2022 to June 2023



The graph below shows planned site inspections commenced for 'other' hazards.

Figure 30. Planned inspections by 'other' hazard – April 2022 to June 2023

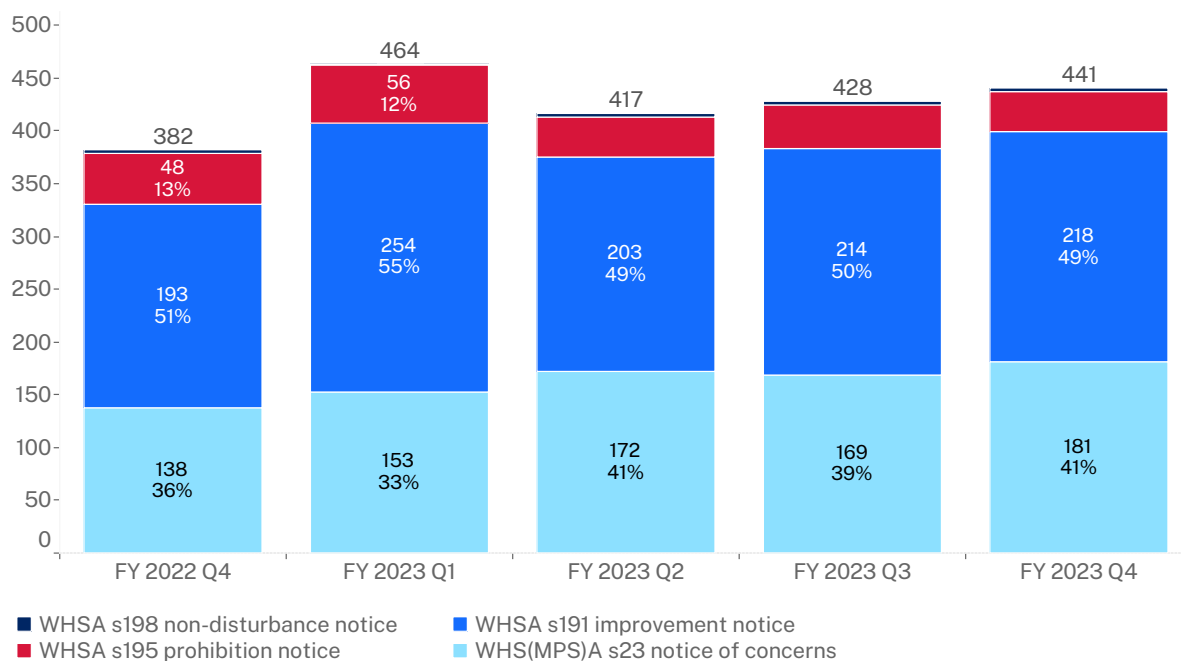


Safety notices issued

We issue risk-based safety notices including prohibition and improvement notices, notices of concern (written notice of matters) and non-disturbance notices.

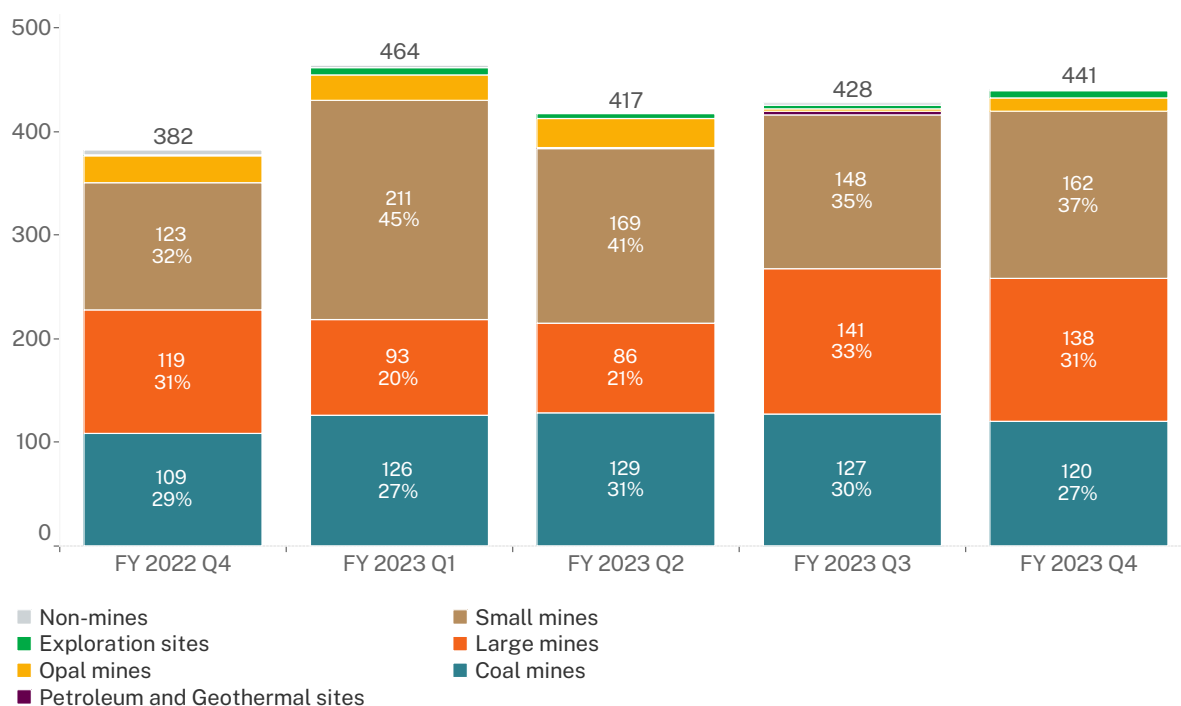
The graph below shows the number and type of safety notices issued during each of the 5 quarters since April 2022. This quarter saw a slight increase in the number of notices issued which continues the trend seen over the last 2 quarters.

Figure 31. Safety notices issued by notice type – April 2022 to June 2023



The proportion of safety notices issued to the coal mines and large mines have decreased this quarter, with increases observed in the small mines, opal mines and exploration sectors.

Figure 32. Safety notices issued by sector – April 22 to June 2023



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