**Resources Regulator**
Department of Regional NSW

# Quarterly safety report

July to September 2023

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NSW GOVERNMENT

## 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, 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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# Contents

# 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 'fire or explosion' are principal mining 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 1 (July to September) of financial year (FY) 2024. For selected measures, data is analysed over a 15-month period from July 2022 to September 2023.

In this quarter, there were a total of 531 incident notifications received – an 8% increase from the same period in FY 2022 and a 7% decrease from the previous quarter.

Incident notifications for the large mines sector increased by 25% from the previous quarter. Incident notifications for air quality or dust or other airborne contaminants increased (36 to 59), with decreases in incident notifications of roads or other vehicle operating areas (75 to 63), ground or strata failure (21 to 17), and fire or explosion (66 to 61).

Assessments commenced in this quarter decreased by 26% from the previous quarter, however proactive assessments remained consistent (41% of all assessments) across both periods.

# Quarterly snapshot

**0** Work-related deaths

**29** Serious injuries or illnesses

**96** Dangerous incidents

**95** Potentially dangerous incidents

**177** Other high potential incidents

**531**
**Incident notifications** received*

**23** Medical treatment injuries or illnesses

**103** Lost time/restricted duty injuries or illnesses

**7** Explosives Reg incidents

**1** Event at a mine rescue station

* 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

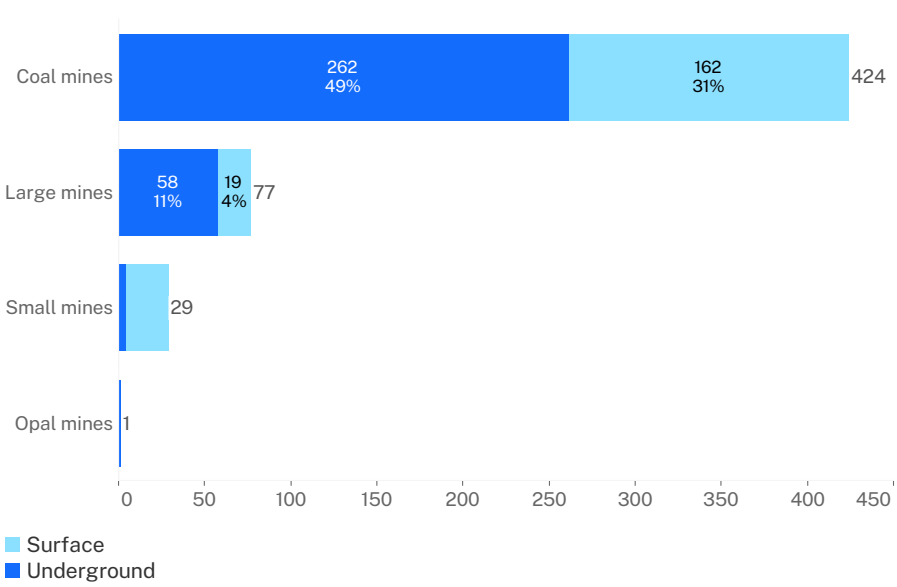
**Coal mines**
**424**
down from 434

**Large mines**
**77**
down from 102

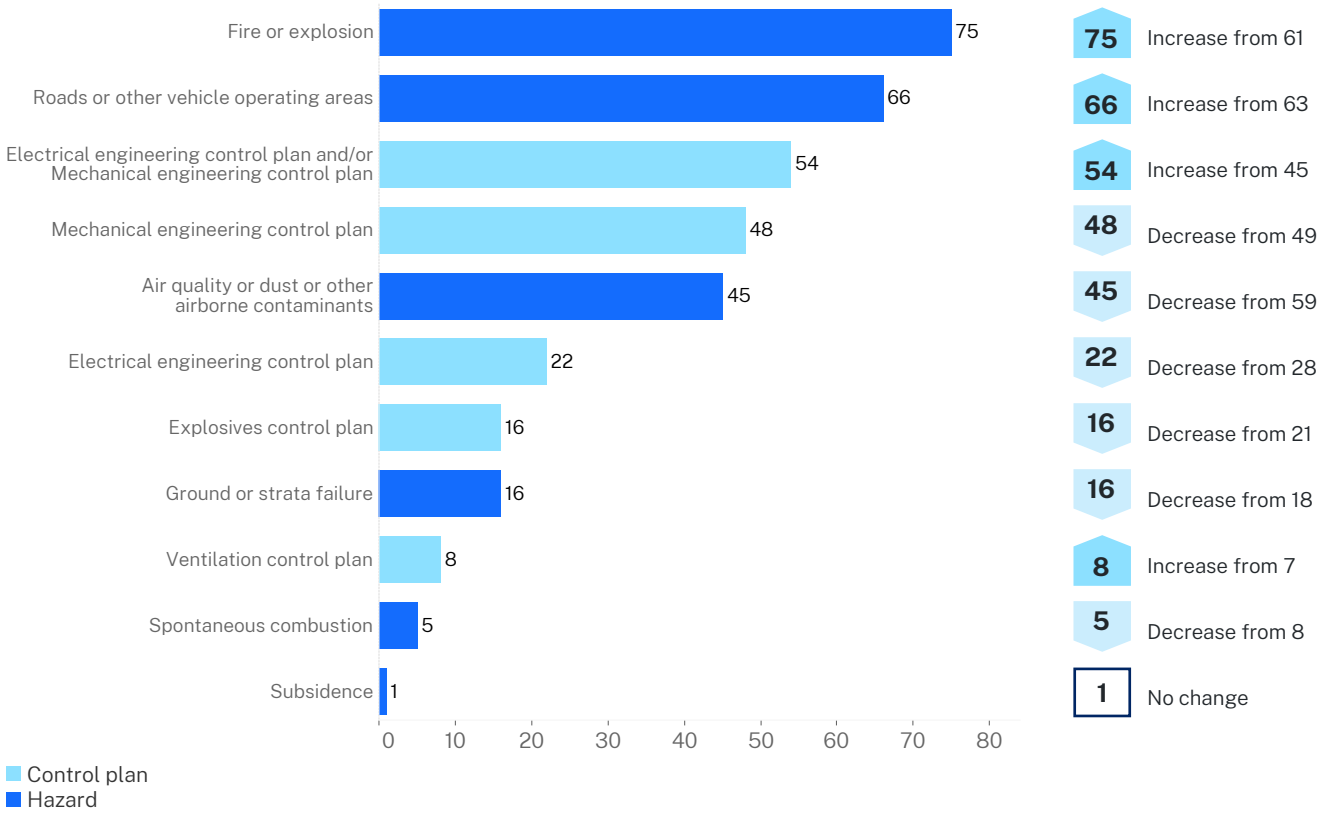
**Small mines**
**29**
down from 31

**Opal mines**
**1**
(no change)

**Exploration sites**
**0**
down from 1

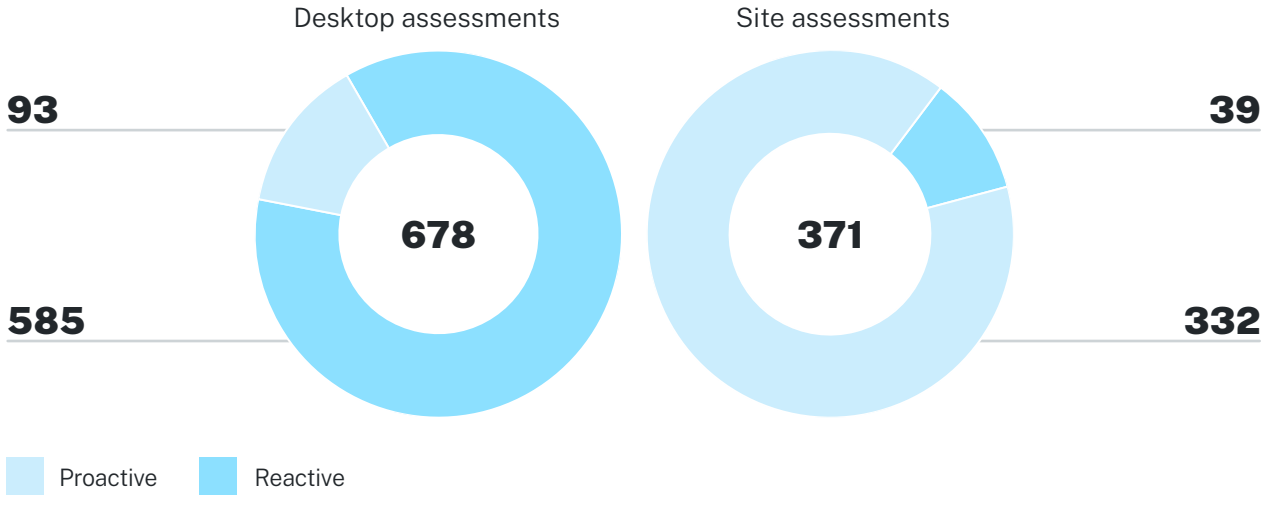


## Incident notifications classified by principal mining hazard or principal control plan



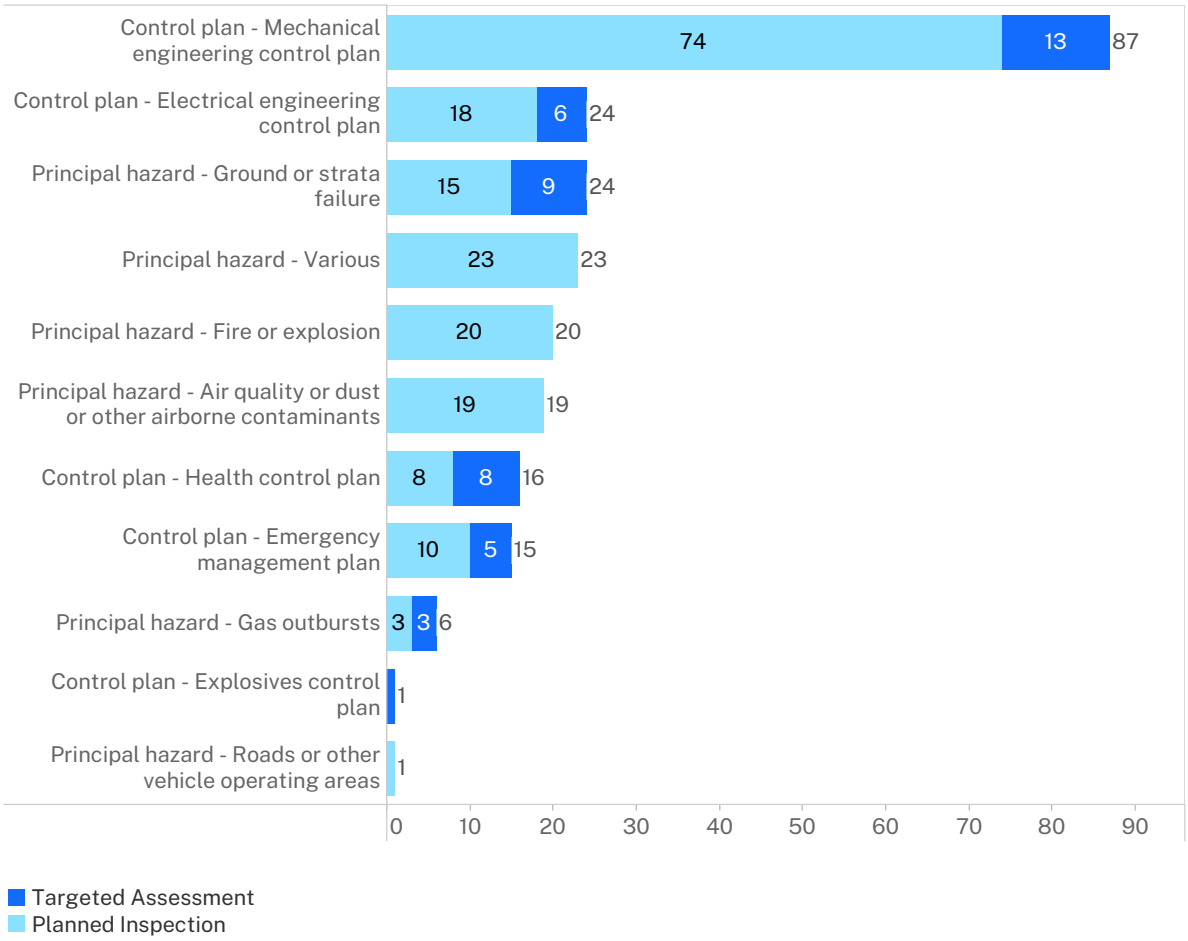

Note: Mine shafts and winding systems decreased from 1 to 0.

## 1,049 Assessments commenced




| Coal mines | Large mines | Small mines | Petroleum & geothermal sites | Opal mines | Exploration sites | Non-mines |
|---|---|---|---|---|---|---|
| 369 down from 448 | 109 down from 206 | 135 down from 182 | 39 down from 53 | 7 down from 9 | 0 down from 2 | 390 down from 521 |

## Programmed site assessments conducted




## **389** Notices issued

**1**
WHSA s198
non-disturbance notices

**35**
WHSA s195
prohibition notices

**201**
WHSA s191
improvement notices

**152**
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 July and 30 September 2023.

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

## Fatal injuries

### Australia

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

### International

#### United States of America

There were 6 mining or quarry related fatality alerts recorded (published) by United States of America's Mine Safety and Health Administration (MSHA) during the quarter:

- On 17 July 2023, a miner died while performing repairs on a gyratory crusher. When a component was being suspended by a crane, a lifting eye welded to the component broke free striking the miner. Refer to MSHA fatality alert dated 17 July 2023.
- On 5 August 2023, a miner died and another miner was seriously injured when a piece of granite fell and struck both workers. Refer to MSHA fatality alert dated 5 August 2023.
- On 5 August 2023, a customer truck driver fell from a large container mounted on the trailer of his truck. After opening the container lid, the driver slipped while descending the container. The driver died from his injuries on 7 August 2023. Refer to MSHA fatality alert dated 5 August 2023.
- On 21 August 2023, a crusher lid that was being moved into place struck a miner when the rigging broke. The miner died from his injuries on 23 August 2023. Refer to MSHA fatality alert dated 21 August 2023.
- On 24 August 2023, a miner died while preparing a wash plant for relocation. In the process of lowering the feed box into the travel position, the miner was pinned between the feed box and the handrail. Refer to MSHA fatality alert dated 24 August 2023.
- On 30 August 2023, a belt foreman died when a belt conveyor take-up unit component broke and struck him. Refer to MSHA fatality alert dated 30 August 2023.

#### Bolivia

Santacruz Silver Mining reported that an employee was fatally injured at its Porco mine located 50 km southwest of Potosí City in Antonio Quijarro province, Bolivia. The incident occurred on 5 July 2023, after an underground rockfall occurred while timber supports were being replaced. Refer to Santacruz Silver Mining statement dated 10 July 2023.

#### Zimbabwe

Caledonia Mining Corporation Plc reported that an accident took place on 7 August 2023 at the Blanket Mine in Zimbabwe, as a result of which one employee of GMG –a company contracted to Blanket Mine –succumbed to his injuries in hospital. The accident related to the maintenance of trackless equipment. Refer to Caledonia company statement dated 8 August 2023.

# Alerts, bulletins, fact sheets and incident information releases

## New South Wales

### Safety alerts and bulletins

- **Serious injury of a jumbo offsider during drilling work**

  A Jumbo drill rig was being used to conduct drilling, bolting, and meshing for the installation of ground support in a heading of an underground metalliferous mine on 19 June 2023. One of the drilling offsider's tasks was changing various drilling consumables on the booms of the Jumbo as the ground support work progressed. Immobiliser switches that were used to isolate the booms' movements were on the left and right sides of the Jumbo. The drilling offsider approached the front of the Jumbo to load a drill rod on the right-hand boom when his left arm became entangled. This resulted in the traumatic amputation of his left arm below the elbow. This incident was also subject of an investigation information release on 4 July 2023 and is outlined below. Refer to alert dated 21 August 2023 SA23-02 Serious injury of a Jumbo offsider during drilling work.

- **Fitness for work – fatigue**

  The NSW Resources Regulator recently received 2 incident notifications in which fatigue was an influencing factor. In both incidents, roster patterns involved long periods without days off (fatigue breaks). In the first incident, the worker had a fatigue event on their 20th consecutive 12-hour shift. The second incident identified an electrician who was on his 10th consecutive 12.5-hour night shift. Incidents are continuing to be reported when workers operating vehicles are affected by fatigue. In addition, targeted assessments on fatigue have identified that control measures such as fatigue risk assessments were not being undertaken for workers who had a combined work and travel time in exceedance of the mine's fatigue management plan. Refer to bulletin dated 10 August 2023 SB23-07 Fitness for work –fatigue.

### Fact sheets

- **Coal roads or other vehicle operating areas**

  The principal mining hazard of roads or other vehicle operating areas can contribute to incidents through various mechanisms at surface coal mining operations and potentially place workers at risk if not controlled effectively. Managing roads or other vehicle operating areas is a key mechanism within this process and should be assessed both individually and cumulatively with other hazards. The Resources Regulator is commencing a program of planned inspections and targeted assessments at surface coal mines focussing on the critical controls associated with roads or other vehicle operating areas. Stage 2 of the roads or other vehicle operating areas assessment will concentrate on non-production areas. Refer to fact sheet dated 8 August 2023 fact sheet –coal roads or other vehicle operating areas.

- **Audiometric testing**

  From 1 January 2024, persons conducting a business or undertaking (PCBUs) will be required to provide audiometric testing to workers who are required to frequently wear hearing protection at work. Consecutive exemptions were granted under the Work Health and Safety Regulations 2017 requiring PCBUs to conduct audiometric testing in accordance with clause 58. The latest of these exemptions (No. 021/21) commenced on 1 January 2023 and remains in effect until 31 December 2023. But from 1 January 2024, the exemption will end. Refer to fact sheet dated 4 September 2023 fact sheet –audiometric testing.

## Reports

- **Consolidated report – Fire or explosion mechanical**

  The Regulator has developed a bowtie hazard management framework and standardised assessment checklist for each program plan. Under each program plan, the effectiveness of the safety management system at each mine site is assessed against a standard set of control supports and critical controls. Fire and explosion mechanical hazards at metalliferous surface and underground mines (METEX) and extractives surface mines was one of the hazards identified in the mechanical engineering control plan (MECP) bow tie. These types of hazards can occur within various mining environments and have the potential to cause serious and/or fatal injuries to workers if not controlled effectively. An inspection program was developed to assess how mines are prepared to manage that risk. Refer to report dated 22 September 2023 Consolidated report – Fire or explosion mechanical – metalliferous and extractives.

- **Review of the NSW Health Surveillance Scheme for Coal Mine Workers**

  The NSW health surveillance scheme for coal mine workers is designed to support secondary prevention of coal mine dust lung disease (CMDLD) by identifying early abnormalities on screening tests. Coal mine dust lung disease was re-identified in Australia beginning in 2015, in Queensland. As of March 2021, when this review was proposed, 10 cases of CMDLD had been reported to the NSW Resources Regulator, as specified in Schedule 1 of the *Workers' Compensation (Dust Diseases) Act 1942*. The review team was tasked with determining whether the health assessment performed under the Coal Services Health (CS Health) surveillance scheme for coal workers is adequately designed and implemented to most effectively detect health conditions among NSW coal workers, with a particular focus on occupational dust lung disease. Refer to document dated 1 September 2023 Review of the NSW Surveillance Scheme for Coal Mine Workers.

- **Targeted intervention program – Void management**

  This program was initiated in response to significant void management incidents which were reported to the Regulator in NSW and double fatalities in the Queensland underground metalliferous sector. This report summarises the assessment findings from the targeted intervention program which targeted mine operator awareness and implementation of the amended legislation between March 2023 and May 2023 at 13 underground NSW metalliferous mines. During the assessment program 26 work health and safety compliance notices were issued to 10 mines. Refer to report dated 18 July 2023 Targeted intervention program – Void management – metalliferous and underground mines.

## Investigation information releases

- **Serious injury of a jumbo offsider during drilling work**

  A Jumbo operator and an offsider were developing an underground drive in the mine at 4670 decline, 301 east heading at 8:55 pm on 19 June 2023. A Jumbo drill rig was being used to conduct drilling, bolting, and meshing for installing ground support in the heading. One of the offsider's tasks was changing various components on the booms of the Jumbo as the ground support work progressed. Immobiliser switches used to isolate power to the booms are positioned on the front left and right sides of the Jumbo. The offsider approached the front of the Jumbo to change a component on the right-hand boom, which was angled back towards the left side of the Jumbo. The worker inserted a 3.7 metre drill steel into the coupling of the right-hand boom as the coupling rotated. The offsider's left arm became entangled on the rotating drill steel, resulting in traumatic amputation to his left arm below the elbow. An emergency response was activated resulting in the offsider being transported to the surface and then airlifted to hospital for treatment. This incident was also subject of an alert on 21 August 2023 and is outlined above. Refer to investigation information release dated 4 July 2023 IIR2023-06 Serious injury to Jumbo drill rig offsider.

## Queensland

- **Dragline collision with cable tractor**

  At a surface coal mine on Sunday 23 July 2023, a dragline house collided with a cable tractor that was stationary in the operational swing boundary of the dragline house. The coal mine worker in the cable tractor was uninjured in the collision and immediately moved the cable tractor outside the swing boundary after the incident. Refer to RSHQ Coal Inspectorate Alert No.431 V 1 – Dragline collision with cable tractor.

- **Light truck travels through safety bund**

  On 5 July 2023, a light truck carrying 3 drilling contractors between exploration drilling rigs at a mine site failed to negotiate a bend on a mine road. The truck contacted the bund, travelling over it and landing in the adjacent creek bed below. The 3 workers on board the truck suffered injuries and were taken to hospital for treatment. Refer to Mineral Mines & Quarries Coal Inspectorate Alert No.432 V 1 – Light truck travels through safety bund.

- **Pick and carry cranes**

  Pick and carry cranes (commonly referred to as Franna cranes) are widely used in coal mines, however they have been involved in several concerning incidents involving rollovers, loads falling, mechanical failures as well as uncontrolled movements and collisions. Further incidents in July 2023 have been added below.

  – On 31 July 2023, an articulated mobile crane and 3 workers were despatched to turn a pump protection cover over. During the lift, the load moved unexpectedly and struck one of the coal mine workers below the right knee. The skin was cut and lacerated to the bone and possible fracture to the leg. The coal mine worker was transferred to the hospital, and the injuries identified included a broken tibia and fibula.

  – On 16 July 2023, an event occurred at a CHPP train loadout facility, whereby a 25 tonne articulating mobile crane was in the process of unloading a temporary building off a transport truck. During this process, the crane rolled onto its side. The crane operator was transferred to the hospital, and the injuries identified included significant bruising.

  Refer to RSHQ Coal Inspectorate Bulletin No 199 V2 – Pick and Carry Cranes.

- **Dozer rollovers**

  Resources Safety and Health Queensland is cracking down on Queensland coal mines that are failing to protect workers from dozer rollover incidents. The industry's independent safety regulator will be targeting mines and suspending operations when the risk is not at an acceptable level, after noticing an increase in bulldozer rollovers. There have been 19 dozer rollover incidents from January 2022 to August 2023.

  – Incident 1: On 7 August 2023, a Coal Mine Worker (CMW) in Blackwater was required to push high waste material down using a CAT D11T Dozer to allow for the safe excavation of material using a large hydraulic excavator. Prior to executing the task, the work area inspections had not identified the hazards present which included an over-steepened excavated face on the high wall, the substandard berms in place, and the steps required to safely complete the task.

  – Incident 2: On 8 August 2023, a CMW in Isaac Plains was in the process of marking out the dig limits for an excavator double benching in the area with a CAT D10T dozer. The coal mine worker identified the area had no edge protection berms in place and did not manage the risk associated with this hazard. While reversing towards the edge, without the edge protection berm, the dozer has breached the open edge and rolled approximately 110 metres to the bottom of the slope.

  Refer to RSHQ Coal Inspectorate Bulletin No 213 V1 – Dozer Rollovers.

- **Rear dump truck rollover**

  A haul truck rollover incident occurred at a surface coal mine. On Friday 8 September 2023, a Caterpillar 793C rear dump truck was travelling loaded approaching a slight right-hand bend. The operator failed to negotiate the corner and the truck mounted the high-risk bund on the left side of the road. The truck continued up the bund rolling onto the right-hand side of the truck coming to rest on the running surface of the haul road.

  - The high risk bunding was installed to protect a crib hut that was positioned adjacent to the haul road.
  - The final position of the truck was 68m from the crib hut.
  - The time of incident was 5:23 am.
  - Watering of the haul road did not contribute to the incident.
  - The truck was not fitted with a driver safety system such as ADS or DSS.

  Refer to RSHQ Coal Inspectorate Alert No 434 V1 – Rear dump truck rollover.

- **Counterfeit items (bearings and components)**

  The Mines Inspectorate has been made aware of allegedly counterfeit, potentially dangerous, heavy-duty bearings and components that may be installed in equipment and plant at a Queensland mine. An organisation contracted to install bearings and components at a mine contacted a reputable bearing manufacturer. The supplied bearings were inspected by the bearing manufacturer's expert, who determined that the products were counterfeit, i.e., not produced by the company, and illegally marked by the company's trademark. Installation of counterfeit components or components with unknown technical design and manufacturing specifications could pose a risk to plant and mine worker safety should they fail prematurely or catastrophically. Refer to Mines Inspectorate Bulletin No.215 V1 – Counterfeit items.

## Victoria

- **Lithium-ion battery fires**

  Lithium-ion batteries are found in many products. These products may be used, stored or charged in a workplace or an area under the management and control of an organisation. When overheated, lithium-ion batteries of all sizes can catch fire. The fire is often hard to put out and the smoke from the fire can be toxic. Larger battery packs can pose a significant risk if the lithium-ion battery overheats and catches fire. Some sprinkler systems may not be capable of suppressing or controlling a large lithium-ion battery fire. Refer to Worksafe Victoria Safety Alert – Lithium-ion battery fires.

# Notifiable incidents relating to hazards

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

Principal mining 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 mining hazard or principal control plan.

Overall, there were 531 incident notifications received in the quarter. Of these, 39% (208) related to principal mining hazards, 28% (148) related to principal control plans, with the remainder (33%) related to other incident types.

**Table 1. Incident notifications classified by principal mining hazard/principal control plan – July 2022 to September 2023**

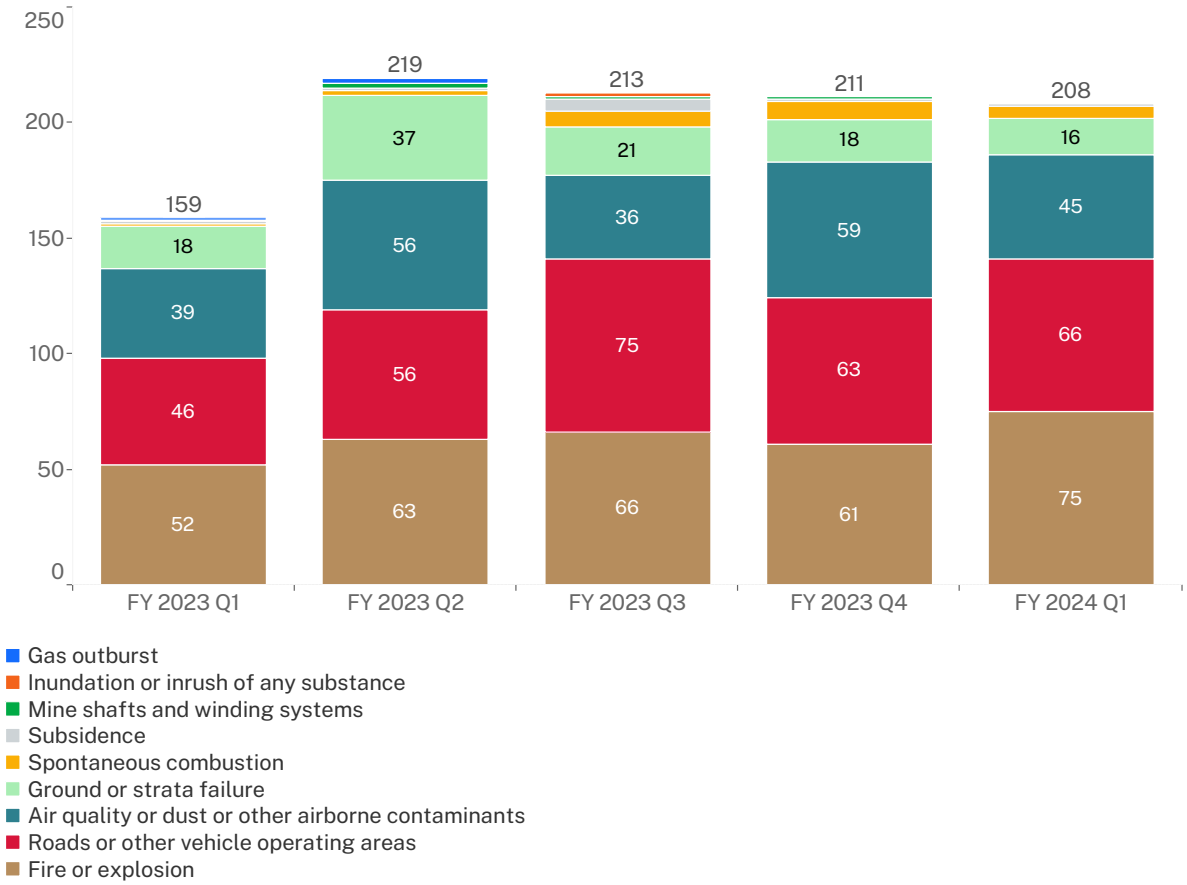
| Hazard or Control plan | Hazard/Control plan | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2024 Q1 | Grand total |
|---|---|---|---|---|---|---|---|
| **Hazard** | Fire or explosion | 52 | 63 | 66 | 61 | 75 | 317 |
| | Roads or other vehicle operating areas | 46 | 56 | 75 | 63 | 66 | 306 |
| | Air quality or dust or other airborne contaminants | 39 | 56 | 36 | 59 | 45 | 235 |
| | Ground or strata failure | 18 | 37 | 21 | 18 | 16 | 110 |
| | Spontaneous combustion | 1 | 2 | 7 | 8 | 5 | 23 |
| | Subsidence | 1 | 1 | 5 | 1 | 1 | 9 |
| | Mine shafts and winding systems | | 2 | 1 | 1 | | 4 |
| | Gas outburst | 1 | 2 | | | | 3 |
| | Inundation or inrush of any substance | 1 | | 2 | | | 3 |
| | **Total** | **159** | **219** | **213** | **211** | **208** | **1,010** |
| **Control plan** | Electrical engineering control plan and/or Mechanical engineering control plan | 46 | 39 | 60 | 45 | 54 | 244 |
| | Mechanical engineering control plan | 58 | 39 | 42 | 49 | 48 | 236 |
| | Electrical engineering control plan | 23 | 19 | 31 | 28 | 22 | 123 |
| | Explosives control plan | 17 | 21 | 19 | 21 | 16 | 94 |
| | Ventilation control plan | 2 | 11 | 9 | 7 | 8 | 37 |
| | **Total** | **146** | **129** | **161** | **150** | **148** | **734** |
| **Other** | No related principal mining hazard or principal control plan | 186 | 199 | 183 | 208 | 175 | 949 |
| **Grand total** | | **491** | **547** | **557** | **569** | **531** | **2,695** |

# 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.


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

**Figure 1. Incident notifications received by principal mining hazards – July 2022 to September 2023**



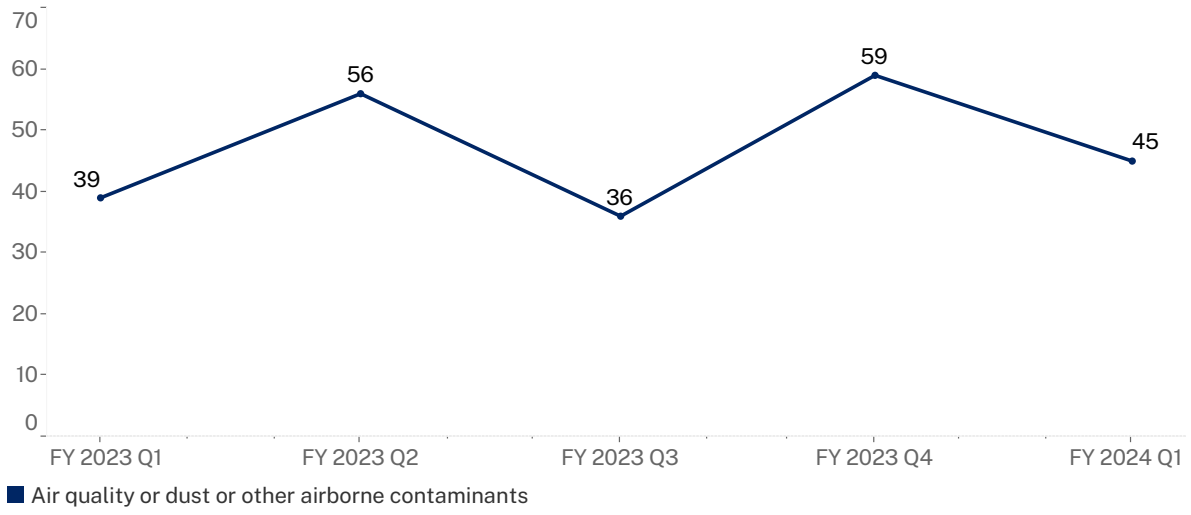
## Air quality, dust or other airborne contaminants

**Decrease from 59 to 45**

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 $CO_2$) or over several years (coal/silica dust).

There has been a 24% decrease in airborne contaminant related incidents notified from FY 2023 Q4.

**Figure 2. Incident notifications received related to the principal mining hazard air quality, dust or other airborne contaminants – July 2022 to September 2023**




**Dangerous incident | IncNot0044903 – Respirable quartz exposure exceedance**

**Summary:** A worker was using a mine dozer while cutting in a sump underground. During the shift, the dozer was used for 5 hours cutting the hard stone floor. During the shift, the worker was wearing a dust monitor. The worker was exposed to respirable quartz that exceeded the workplace exposure standard.

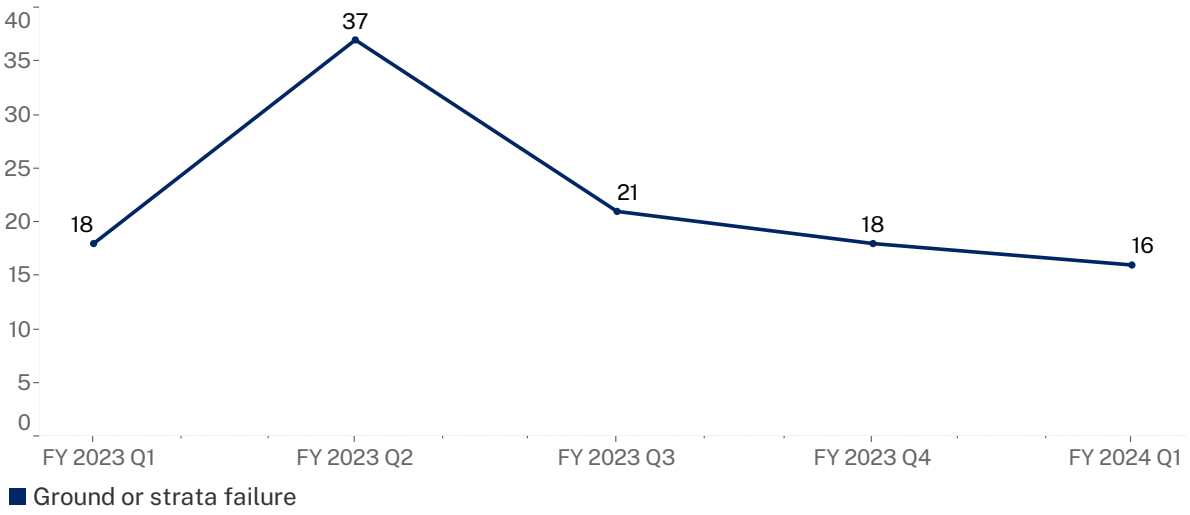
**Comments to industry:** During task planning, the risk of exposure to airborne contaminants must be considered. When it is identified that stone is going to be cut such as sumps and overdrives, the hierarchy of controls should be followed. Controls such as worker segregation, ventilation, sprays, scrubbers and curtains should be implemented before personal protective equipment is considered.

## Ground or strata failure

**Decrease from 18 to 16**

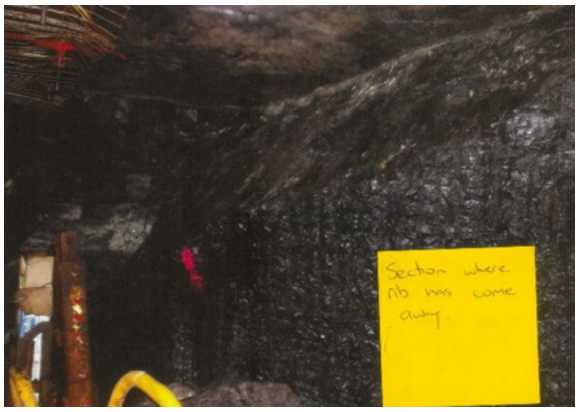
Ground or strata failure is an ever-present hazard in both surface and underground mining, with a significant risk posed to workers from unplanned movement of ground.

**Figure 3. Incident notifications received related to the principal mining hazard ground or strata failure – July 2022 to September 2023**




**Dangerous incident | IncNot0045018 – Greasy back gave way hitting worker**

**Summary:** Two workers were on the right-hand platform of a continuous miner. Without warning, a greasy back gave way. The miner driver jumped back but was hit by falling material. The worker was winded and suffered bruising, scrapes and soreness. The worker was cleared of injury after being assessed at hospital.




Picture 1 (left). Section where rib collapsed.

Picture 2 (right). Fallen material.

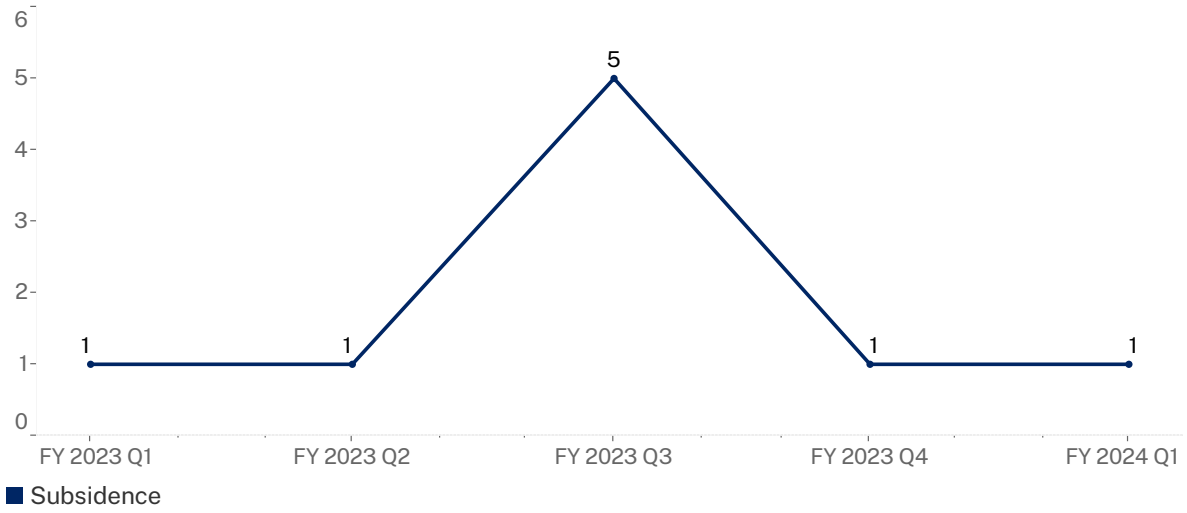
**Comments to industry:** Workers must always be alert to the hazard of unsupported ground and must remain vigilant of their position relative to the risk of unsupported ground failure, which may occur without warning. Operators should review the appropriateness of the equipment they have provided to workers to install the required ground support in a timely manner at all stages of the production cycle. If the appropriate equipment for the prevailing conditions is unavailable, work should not continue.

## Subsidence

**No change (1)**

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 mining hazard in NSW.

**Figure 4. Incident notifications received related to the principal mining hazard subsidence – July 2022 to September 2023**

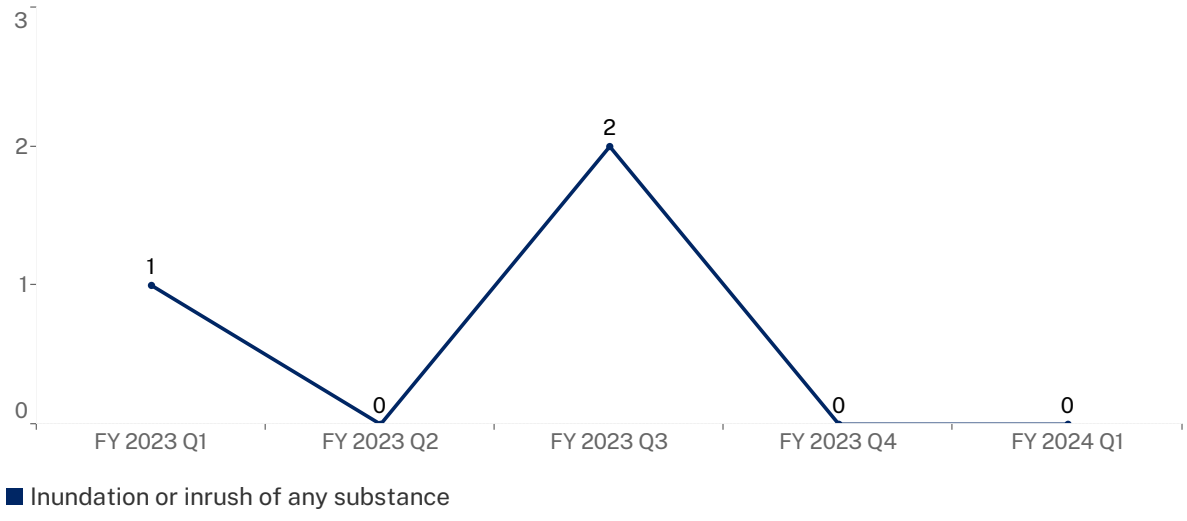



## Inundation or inrush of any substance

**No change (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 mining hazard in NSW.

**Figure 5. Incident notifications received related to the principal mining hazard inundation or inrush – July 2022 to September 2023**

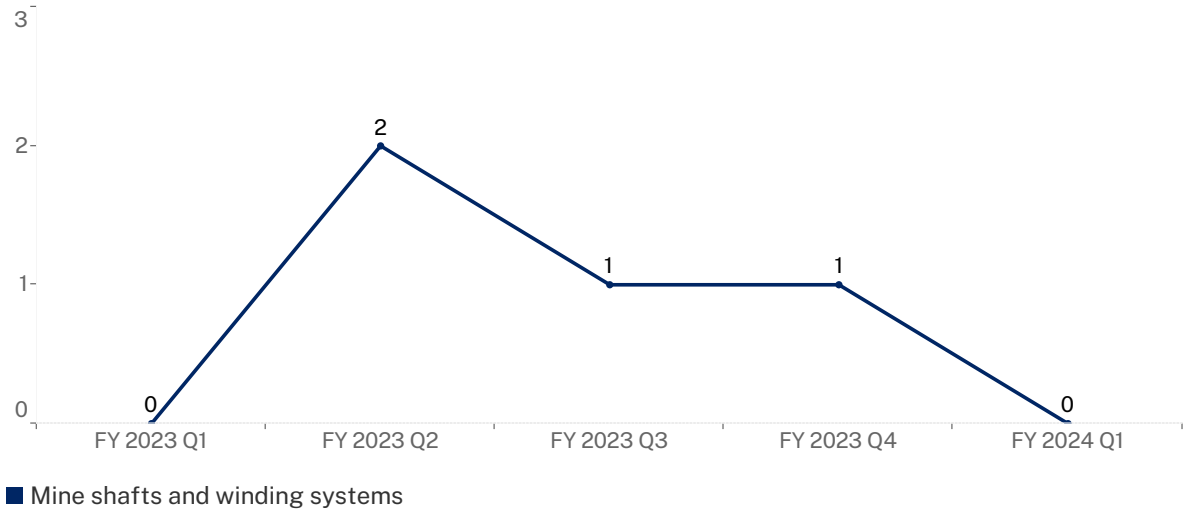


## Mine shafts and winding systems

**Decrease from 1 to 0**

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 mining hazard mine shafts and winding systems – July 2022 to September 2023**

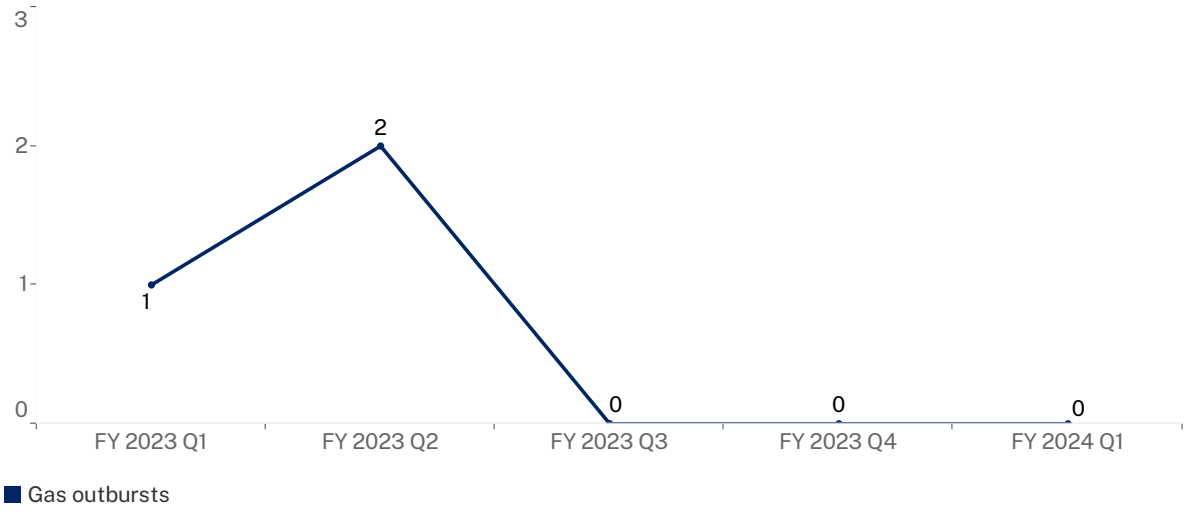



## Gas outbursts

**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 mining hazard in NSW.

**Figure 7. Incident notifications received related to the principal mining hazard gas outburst – July 2022 to September 2023**

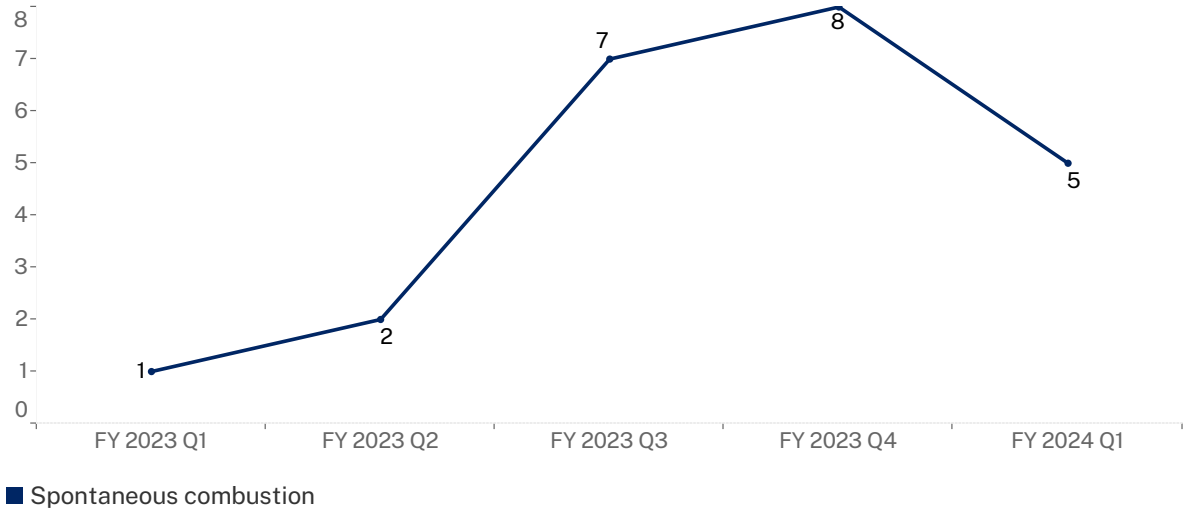


## Spontaneous combustion

**Decrease from 8 to 5**

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 8 below includes spontaneous combustion incidents underground and on the surface of coal mines.

**Figure 8. Incident notifications received related to the principal mining hazard spontaneous combustion – July 2022 to September 2023**

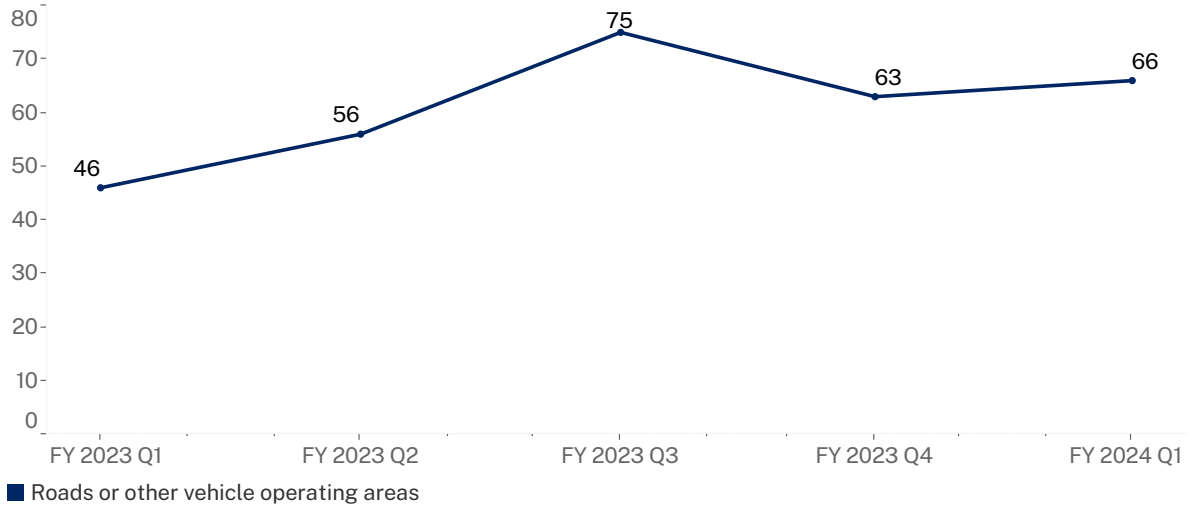



## Roads or other vehicle operating areas

**Increase from 63 to 66**

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 mining hazard in NSW.

**Figure 9. Incident notifications received related to principal mining hazard roads or other vehicle operating areas – July 2022 to September 2023**




**Dangerous incident | IncNot0045436 – Haul truck and light vehicle near miss**

**Summary:** While a light vehicle (LV) was waiting for a dozer to reverse back and park up, a loaded haul truck came around the bend towards the LV and had to take evasive action to avoid a collision. The haul truck stopped approximately 10 m from the LV.

Picture 3. Vehicles involved in near miss.

**Comments to industry:** When stopping light vehicles, workers must not place themselves at risk of interactions with heavy vehicles. Mine operators should continually monitor whether improvements in truck operators' visibility can be achieved by managing the height of windrows at intersections and entrances to ramps and dump sites. Consideration should be given to the location and proximity of designated parking bays in relation to crest, intersection and dump face.

**Dangerous incident | IncNot0045070 – Dozer reverses into truck**

**Summary:** A dozer was pushing off the dump and directing trucks on where to unload. A breakdown in communication occurred, resulting in a truck reversing in behind the dozer as it was reversing across the dump. The ripper box on the dozer hit the tyre on the truck.

Picture 4. Vehicles involved in collision.

**Comments to industry:** Vehicle collisions continue to be a source of concern. The Resources Regulator recently carried out a targeted awareness campaign focused on the risk of collisions involving heavy mining equipment. A Campaign video is available. Plant operators are reminded that they must establish positive communications before entering the work area of other mobile plant. Workers must check the area behind their machine before reversing. Workers should use all aids such as mirrors, cameras and awareness systems that are fitted.

**Dangerous incident | IncNot0045072 – Dump truck hits reject bin leg**

**Summary:** A dump truck was approaching the reject bin to be loaded. As it passed under the bin, the tip of the tray above the operator cabin contacted the left side exit support leg, deforming the tray. This has occurred previously at this mine.

Picture 5. Dump truck hits leg of reject bin.

**Comments to industry:** Haul trucks contacting the support legs of reject bins is a recognised hazard. The hierarchy of controls must be followed when determining controls. When a notifiable incident occurs, Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 section 15 requires that mine operators review and revise control measures. Structures must be protected from impact with mobile plant. The extension of headboards and trays, and the accumulation of material under the bin, should be considered during the design of barriers and guides.

**Dangerous incident | IncNot0045077 – Dump truck and dozer collision**

**Summary:** A dump truck collided with a dozer while reversing to the tip head. The dozer was performing clean up along the face. The dozer operator was unaware of the truck on the dump.

Picture 6. Collision between dozer and dump truck.

**Comments to industry:** When reviewing control measures, Work Health and Safety Regulation 2017 clause 36 requires the hierarchy of controls must be followed. For dumps, controls such as segregation and engineered systems must be considered before resorting to administrative controls. Mine operators should routinely review available proximity detection and collision avoidance systems to determine if they are suitable for their operation.

**Dangerous incident | IncNot0045083 – Service truck overturns on wet road**

**Summary:** A service truck was travelling along a haul road. After rounding a bend, the truck slid on a wet section of haul road onto a dry section which resulted in the truck rolling onto the driver's side. The operator was able to exit the truck and was uninjured.

Picture 7. Service truck lying on side.

**Comments to industry:** When developing control measures to deal with the risks associated with service trucks, plant characteristics, including stopping distances, manoeuvrability, operating speeds and fluid movement must be considered. Operators of trucks need to remain situationally aware and drive to the conditions and manage their speed when negotiating turns.

**Dangerous incident | IncNot0045171 – Tipper truck partial rollover**

**Summary:** A road-registered 10 tonne tipper truck had a partial, slow 45-degree rollover because of washery spillage material hanging up in the tray. Two people in the truck were able to escape from the cabin onto another vehicle.

Picture 8. Tipper truck rollover.

**Comments to industry:** Mine operators should consider the most appropriate truck type for the material being transported. Workers should monitor for material hang up and should report unsafe conditions to their supervisor.

**Dangerous incident | IncNot0045178 – Dozer overturns on large boulder**

**Summary:** A dozer rolled onto its side while working to push material to an excavator on a double bench. The dozer became destabilised when one of its tracks ran over a large boulder and the machine tipped onto its side. The operator was uninjured and was able to remove himself from the machine.

Picture 9. Rolled dozer.

**Comments to industry:** Pre-task inspections of work areas should be undertaken to identify and manage the hazards present. This should include confirming lighting is adequate for the tasks being conducted in the area. Dozer operators need to remain situationally aware while the dozer is in motion and continually assess the work area for hazards. Pre-task inspections of work areas must be monitored and confirmed by supervisors.

Refer to safety bulletins:

- SB19-01 Rise in dozer incident putting operators at risk
- SB19-10 Dozer incidents increase despite warnings

**Dangerous incident | IncNot0045258 – Haul truck loses traction on watered road**

**Summary:** A haul truck leaving a switchback corner lost control when Pos 3 and 4 tyres lost traction on the recently watered road. The truck crossed the centreline of the haul road, contacting and coming to rest on the windrow. The haul truck operator was a trainee under the supervision of an appointed trainer.

Picture 10. Haul truck on windrow.

**Comments to industry:** Workers must operate vehicles at a speed that is appropriate to the prevailing conditions. Engineering controls that minimise the risk of loss of control should be considered, including the use of speed-limiting devices, speed monitoring and alarms. This incident highlights the importance of having appropriately designed and maintained windrows, bunds and edge protection.

**Dangerous incident | IncNot0045399 – Service truck overturns near intersection**

**Summary:** A service cart tipped onto its side when negotiating a bend near a haul road intersection. The truck was turning onto a light vehicle road from an old haul road when the truck drove onto the lower part of the windrow causing it to overturn. The operator self-evacuated. The incident occurred during daylight hours. The road was dry and flat, and visibility was clear.

Picture 11. Service cart tipped on side.

**Comments to industry:** Vehicle operators need to remain situationally aware when changing from one designated road type to another and drive to the conditions. Mine operators should ensure that traffic procedures account for medium-sized vehicles traveling on roads intended for light vehicles.

**Dangerous incident | IncNot0045430 – Articulated water cart truck overturns**

**Summary:** The body of an articulated water cart truck overturned while negotiating a corner after it was filled up.

Picture 12. Overturned body of articulated water cart truck.

**Comments to industry:** The stability of articulated vehicles is a known risk that needs to be managed at mine sites. When developing control measures to deal with the risks associated with articulated trucks, plant characteristics, including stopping distances, manoeuvrability and operating speeds of both the loaded and unloaded vehicle, and the mine's road design must be considered. Movement of fluid in tanks mounted on mobile plant can significantly influence the centre of gravity and overall stability of the vehicle. Consideration should be given to tank shape, baffling and compartmentalisation to control fluid surge. Operators of articulated trucks need to remain situationally aware and drive to the conditions.

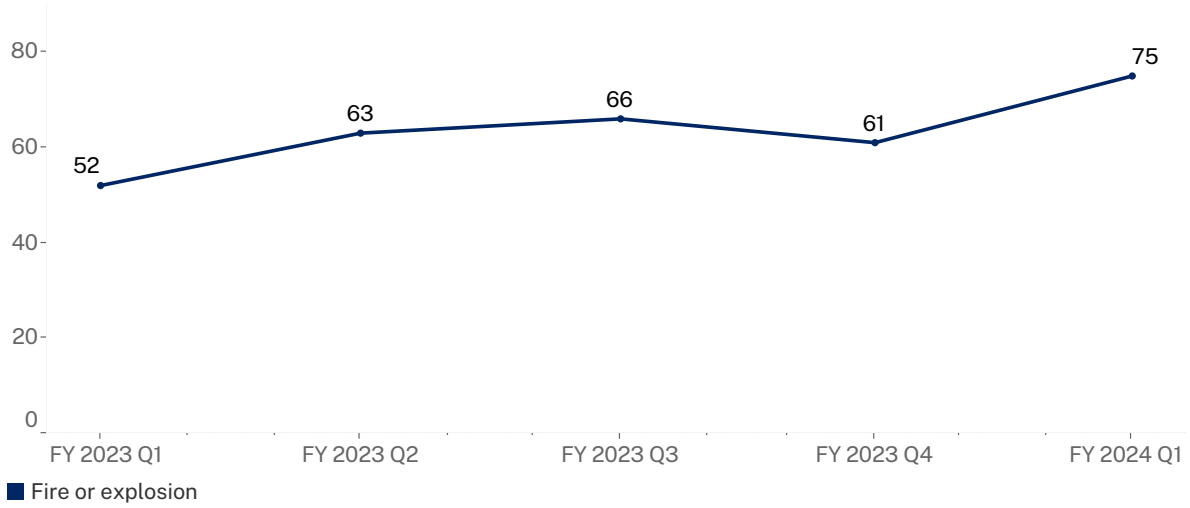
## Fire or explosion

**Increase from 61 to 75**

This principal mining 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 mining hazard is distinct from the hazards covered in the explosives control plan.

This quarter fire or explosion notified incidents increased by 23%, continuing an upwards trend over the past 5 quarters.

**Figure 10. Incident notifications received related to principal mining hazard fire or explosion – July 2022 to September 2023**




**Dangerous incident | IncNot0045309 – Service truck fire during towing**

**Summary:** A broken-down service truck caught fire while the truck was being towed. Most of the onboard fluids were drained from the service truck before it was towed. Once the fire was identified, the tow vehicle was disconnected but efforts to extinguish the fire failed.

Picture 13. Fire on service truck while being towed.

**Comments to industry:** A forensic fire expert has been engaged. Further findings may be communicated in future.

Refer to:

- MDG41 Fluid power systems
- MDG15 Guideline for mobile and transportable plant for use at mines (other than underground coal mines)
- Fire on mobile plant webpage

**Dangerous incident| IncNot0045053 – Shuttle car brake unit fire**

**Summary:** A shuttle car was carrying dry coal from a continuous miner to dump into a swilly. The shuttle car had completed about 9 trips over 2–3 hours when a fire occurred near a brake unit. The flame was extinguished with a fire extinguisher and then further dowsed with water. The brake pack appears to be the ignition source for the fire. The mine is continuing with its investigation to identify the cause.

**Comments to industry:** The operating limits and braking functions should be assessed for the environment they are operating in. This should consider any regenerative capability and the limits these systems may have.

**Dangerous incident | IncNot0045084 – Haul truck fire**

**Summary:** A haul truck was at the dump and had started to lift the tray. A nearby dozer operator noticed flames and called the truck operator instructing him to lower the tray. The dozer operator called emergency over the radio and told the truck operator to hit the fire suppression and exit the truck. The truck operator noticed flames outside the drivers' side door. The operator pulled the plastic tie on the fire suppression and attempted to activate it but was unsuccessful. The operator exited the cab through the passenger door, descended the primary egress, and waited with the dozer operator. The haul truck was engulfed in flames following the failure of the fire suppression system to operate. The operator was uninjured.

Picture 14. Fire on haul truck.

**Comments to industry:** Workers must be regularly trained in how to respond in an emergency such as a fire on plant. Training should reflect the systems and lay out that workers will be operating in, including activation of e-stop and fire suppression systems. The cause of the fire is being investigated. Further information may be published later.

**Dangerous incident | IncNot0045130 – Belt rubs on conveyor structure causing fire**

**Summary:** During a longwall move, a conveyor roller replacements campaign was completed. While recommissioning a drift conveyor, workers walked the belt tracking rollers. The return belt was found to be rubbing on the structure. The conveyor was stopped, and rollers were tracked. When the conveyor was restarted, a burning rubber smell was noticed. The workers proceeded along the belt. Hot embers were seen falling from a point at which the belt was rubbing on the conveyor structure.

**Comments to industry:** This incident illustrates the importance of conveyor inspections following work where changes have been made to the conveyor. Mine operators must plan to monitor and inspect conveyors after events such as bulk roller change out or conveyor belt replacement.

**Dangerous incident | IncNot0045225 – Bearing failure causes fire on conveyor pulley**

**Summary:** Longwall operators smelt burning and found a 30 cm flame on the side of the conveyor boot-end pulley. The belt was stopped, and water was applied to the pulley. The flame reignited once the water was taken off. Water was reapplied, the flame extinguished, and the water left running on the pulley with a spotter in attendance. The heat source of the fire was identified as a bearing failure. The temperature probes installed were discovered to be 290 mm long compared with a specified length of 450 mm contributing to the lack of warning of failure.

Picture 15. Damage from fire on conveyor pulley.

**Comments to industry:** Where condition monitoring is used as a risk control for hazards such as fire, a commissioning process must be in place to ensure the systems are effective. Warning and trip points should be reviewed to ensure adequate detection prior to a failure occurring.

**Dangerous incident | IncNot0045278 – Light vehicle destroyed in fire**

**Summary:** A light vehicle was being driven to a drill rig when it stopped about 80 metres from the drill site. A worker proceeded to the drill rig and commenced work. The worker heard a bang and turned to see the vehicle on fire. The worker used an extinguisher and found the fire suppression system had already activated. This did not extinguish the fire. The worker retreated and raised the alarm. All workers then proceeded to refuge chambers. The mine's emergency rescue team responded to the fire.

Picture 16. Damage to light vehicle from fire.

**Comments to industry:** A forensic fire expert has been engaged. Further findings may be communicated in future.

**Dangerous incident | IncNot0045290 – Loader fire caused by oil cooler hose failure**

**Summary:** A worker was cleaning up in a decline and noticed a red glow at the back of a loader. The worker activated the fire suppression system, which extinguished the fire. A fire extinguisher was also used to ensure the fire was extinguished. An initial inspection determined that an oil cooler hose failed and sprayed oil onto the fan and the turbo. This was supported by the spray of oil on the ground and wall.


Picture 17. Scene of loader fire.

**Comments to industry:** Managing hydraulic hoses is vital in reducing the risk of fire on mobile plant. Hoses near fans should be considered high risk due to the dispersion of any oil if a hose fails.

Refer to:

- MDG41 Fluid power systems
- MDG15 Guideline for mobile and transportable plant for use at mines (other than underground coal mines)
- Fire on mobile plant webpage

**High potential incident | IncNot0045366 – Boom conveyor fire**

**Summary:** A fire occurred on the boom conveyor of a stacker. The control room slewed the stacker away from the stockpile to assist firefighting. The fire was extinguished by site personnel using onsite fire hoses. The belt was shut down for about 2 hours before ignition.

Picture 18. Fire damage to boom conveyor.

**Comments to industry:** The hazard of collapsed conveyor idler bearings must be considered in the fire and explosion risk assessment for surface mines. Defective idler management is not only a concern for underground mines. Every mine operating conveyors should have a defect management system for idlers.

**Dangerous incident | IncNot0045387 – Underground miner fire during trimming**

**Summary:** While a miner driver was trimming the floor, he began to shear up and the head was raised about one metre. The driver heard 2–3 thundering sounds and an orange flame went from the middle of the head to the top of the face. The flame extinguished after 2–3 seconds. Workers used a hose and discharged 2 fire extinguishers to blanket the area. Before the event ventilation was recorded at 11.5 m3/s, the methane general body reading was 0.4%. There was some layering between 0.7–0.9% CH4 (at TRS) and ~ 0.5% CH4 at the cutter head before the incident. An initial investigation suggested that sparking from the cutter pick, striking a hard object ignited gas.

**Comments to industry:** All underground coal mines are required to have a frictional ignition plan that must be continuously reviewed to account for changing conditions in the seam.

**Dangerous incident | IncNot0045403 – LHD flames caused by failed universal joint**

**Summary:** A load haul dump (LHD) with an empty roof support trailer was travelling outbye when the operator smelled smoke and saw flames under the engine, within the engine bay. The investigation identified a failed universal joint.

Picture 19. Damage from engine bay fire on LHD.

**Comments to industry:** Maintenance procedures must ensure that universal joints are included in maintenance schedules.

**Dangerous incident | IncNot0045441 – Water cart engine bay fire**

**Summary:** While operating a water cart underground in a metalliferous mine, the operator noticed smoke and flames from the engine bay. The operator exited the cabin and extinguished the fire with a hand-held extinguisher. The fire reignited and the operator and others continued to fight the fire. Emergency protocols were initiated and workers went to refuge chambers.

Picture 20. Damage from water cart engine bay fire.

**Comments to industry:** The failure of oil and fuel lines near exhausts and turbochargers are well-known causes of fire. Fuel sources and ignition points should be separated or have other controls in place to prevent fires. AS5062:2022 Fire prevention and protection for mobile and transportable equipment was published in November 2022, mine operators should review this update to the Standard.

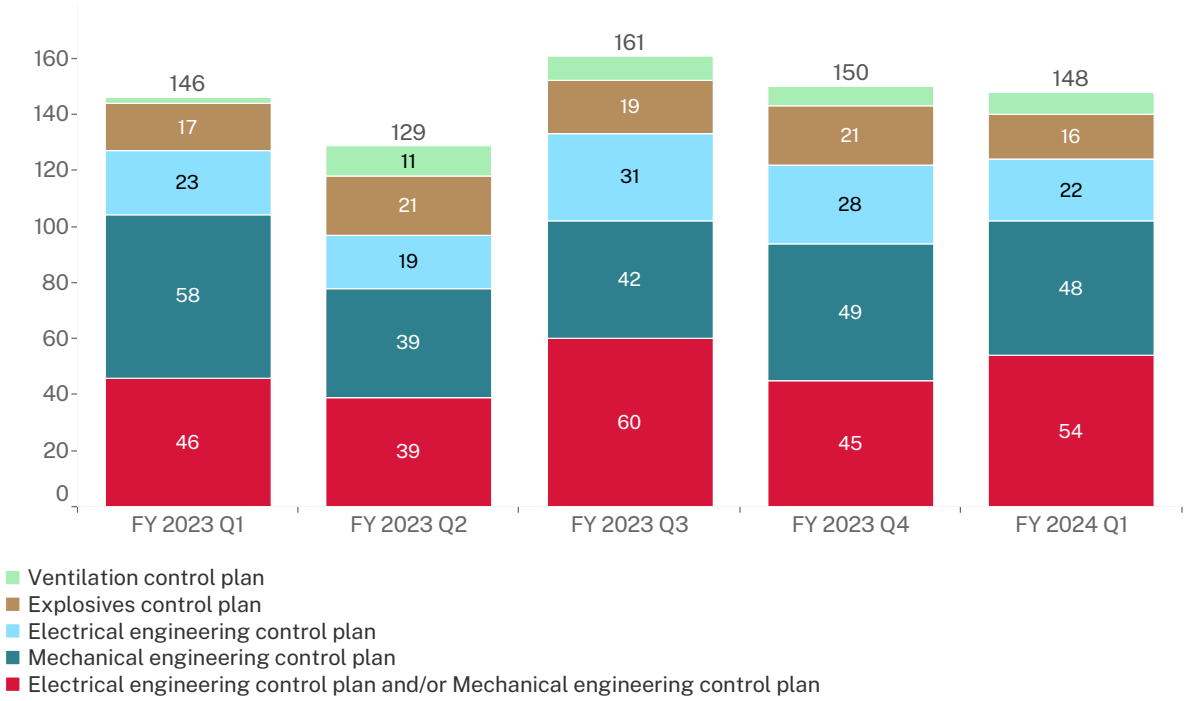
# Principal control plans

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 – July 2022 to September 2023**

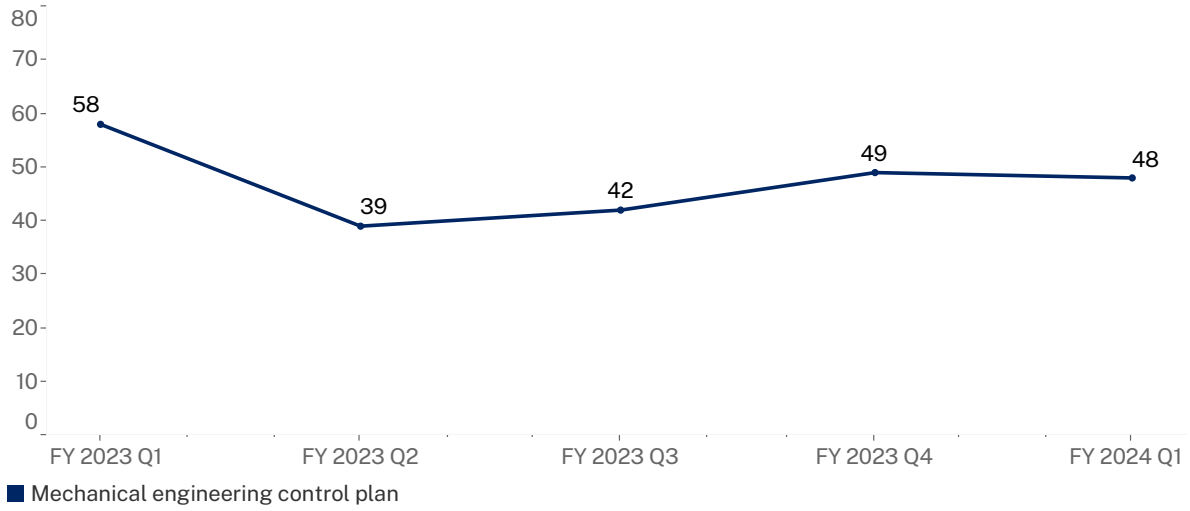


## Mechanical engineering control plans

**Decrease from 49 to 48**

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 – July 2022 to September 2023**



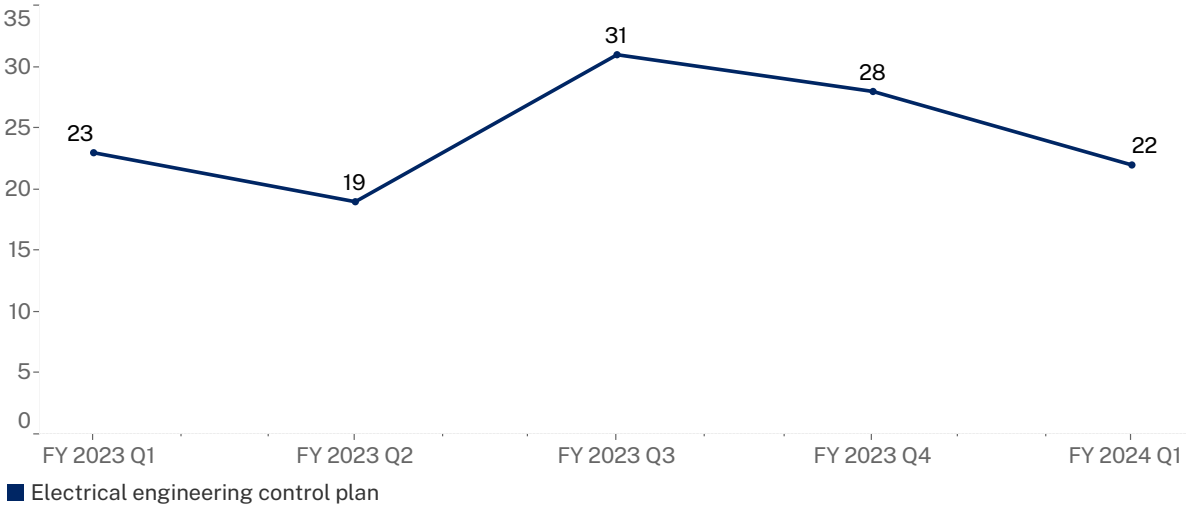

## Electrical engineering control plans

**Decrease from 28 to 22**

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

This quarter notified incidents related to electrical engineering control plans decreased by 21%, continuing a downwards trend from FY 2023 Q3.

**Figure 13. Incident notifications received related to electrical engineering control plans – July 2022 to September 2023**

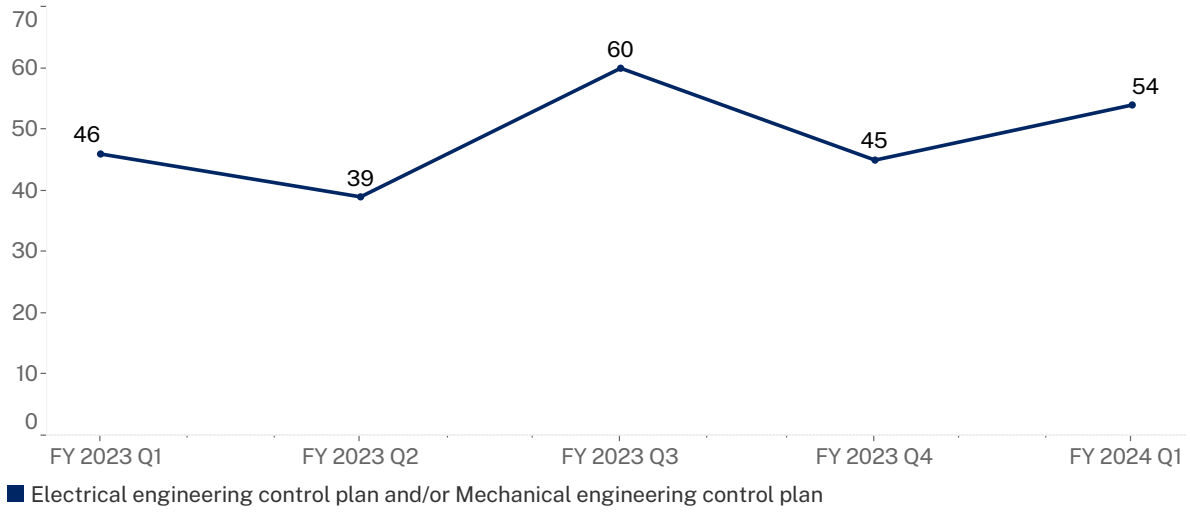


## Electrical and/or Mechanical engineering control plans

**Increase from 45 to 54**

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 – July 2022 to September 2023**

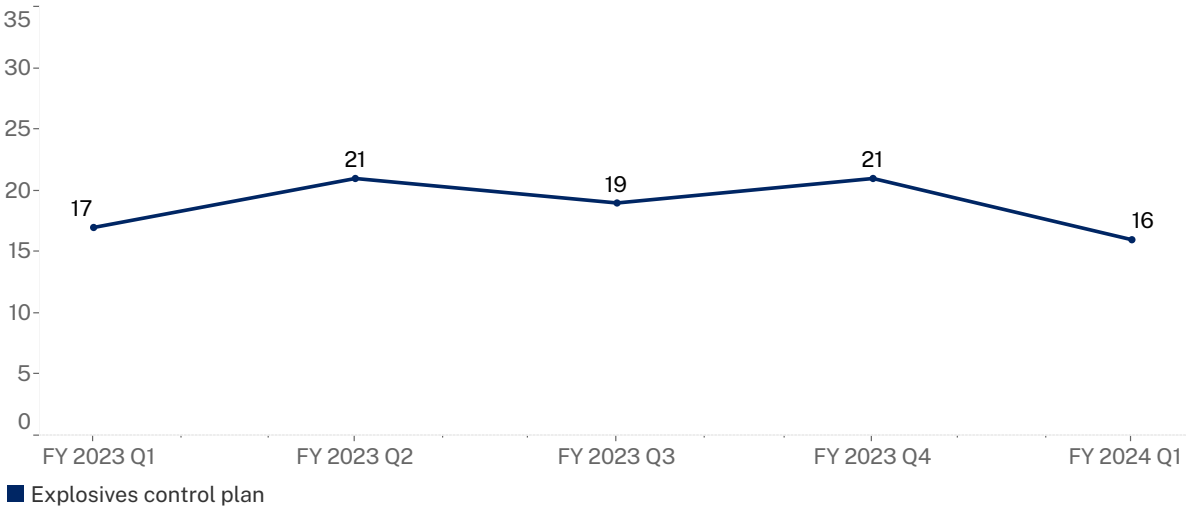



## Explosives control plans

**Decrease from 21 to 16**

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 – July 2022 to September 2023**

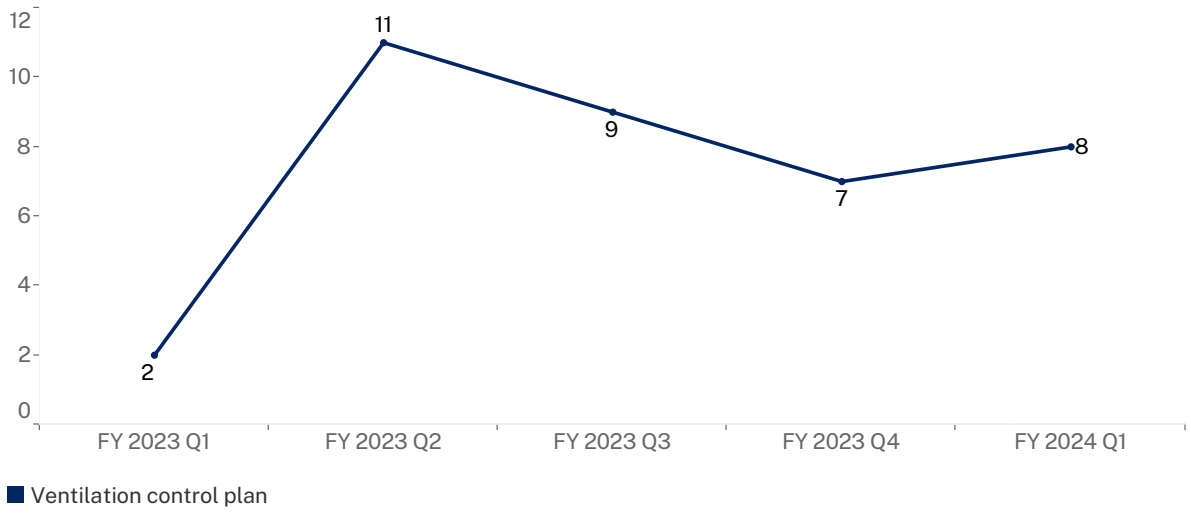


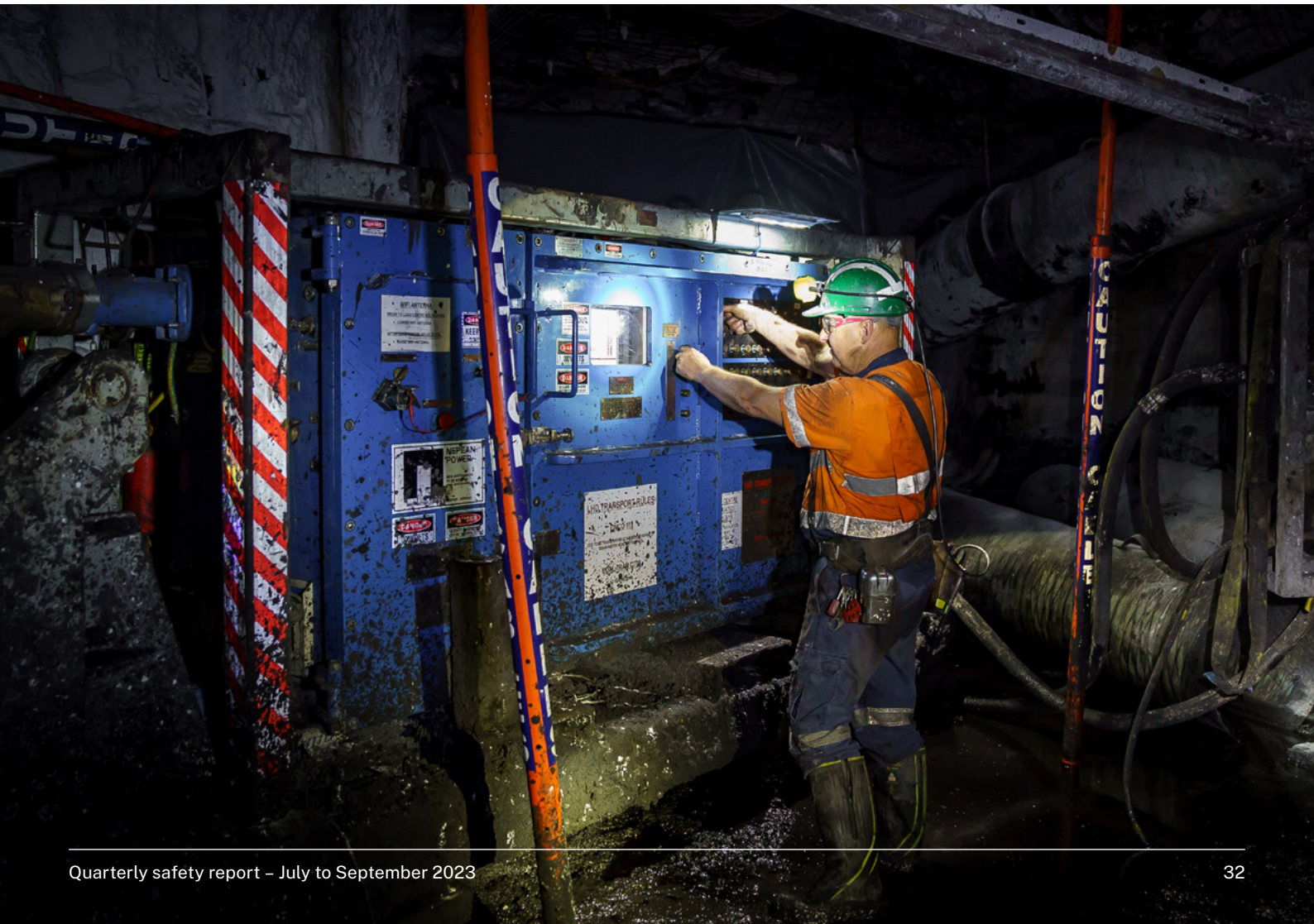
## Ventilation control plans

**Increase from 7 to 8**

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 – July 2022 to September 2023**



# Sector profiles

**NSW Resources Regulator**
Sector reporting

## Coal mines

Open cut, underground and coal preparation plants

## Large mines

**Metalliferous and quarries**
Quarries that produce >900,000 tonnes pa and large open cut or underground metalliferous mines

## Small mines

**Metalliferous, quarries and other gemstones**
Quarries and other mine types (e.g. sand, clay, lime) that produce >900,000 tonnes pa, open cut or underground metalliferous mines and gemstone mines

## Petroleum and Geothermal

Onshore petroleum and geothermal productions and exploration sites

## Opal mines

Opal mines at Lightning Ridge and White Cliffs

## Exploration

Exploration sites (excluding petroleum)

## Non-mine

Includes many manufacturers (including OEMs), suppliers, designers, importers, licence holders and registration holders

# Coal sector

## Incident notifications

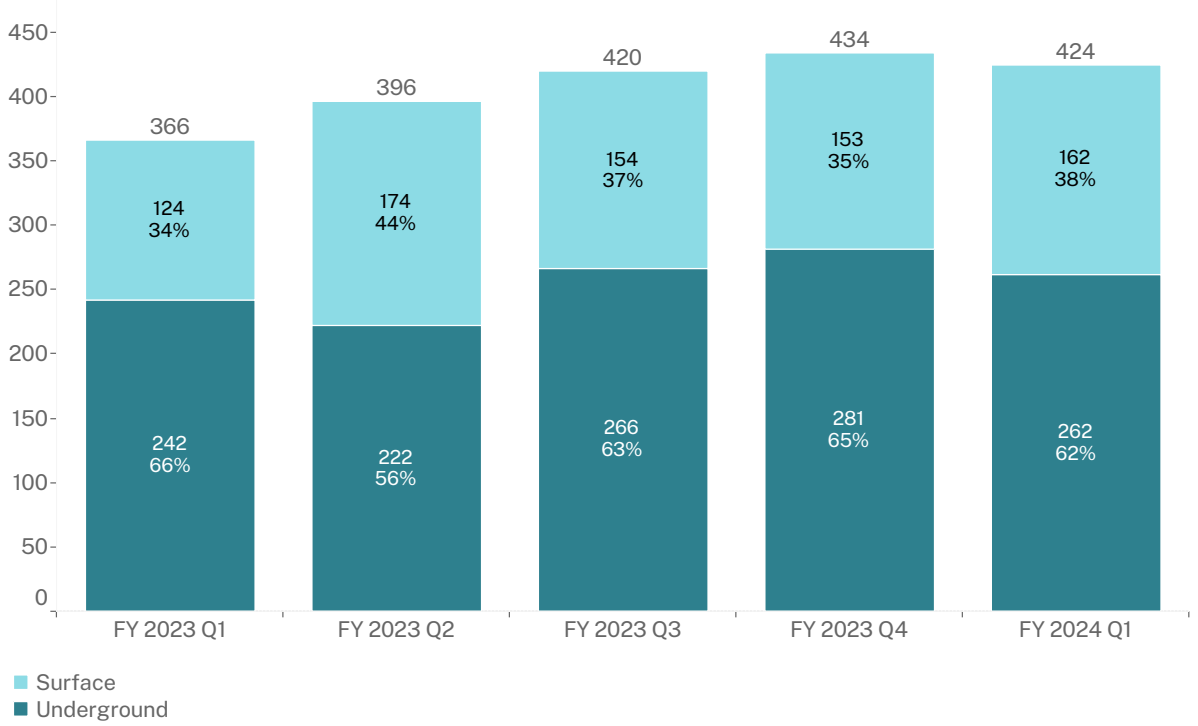
Under work health and safety legislation, mine operators must notify the Regulator about the occurrence of certain types of safety incidents. Incident notification data (by active mine) provides insights into sector-specific reporting trends.

**Table 2. Coal sector incident notification rates – July 2022 to September 2023**

| Measure | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2024 Q1 |
|---|---|---|---|---|---|
| Incidents | 366 | 396 | 420 | 434 | 424 |
| Active mines | 103 | 102 | 101 | 101 | 103 |
| Incident rate per active mine | 3.55 | 3.88 | 4.16 | 4.30 | 4.120 |
| Mines that notified incidents | 50 | 57 | 51 | 49 | 51 |
| % of mines notifying an incident | 49% | 56% | 50% | 49% | 50% |
| Incident rate per notifying mine | 7.32 | 6.95 | 8.24 | 8.86 | 8.31 |

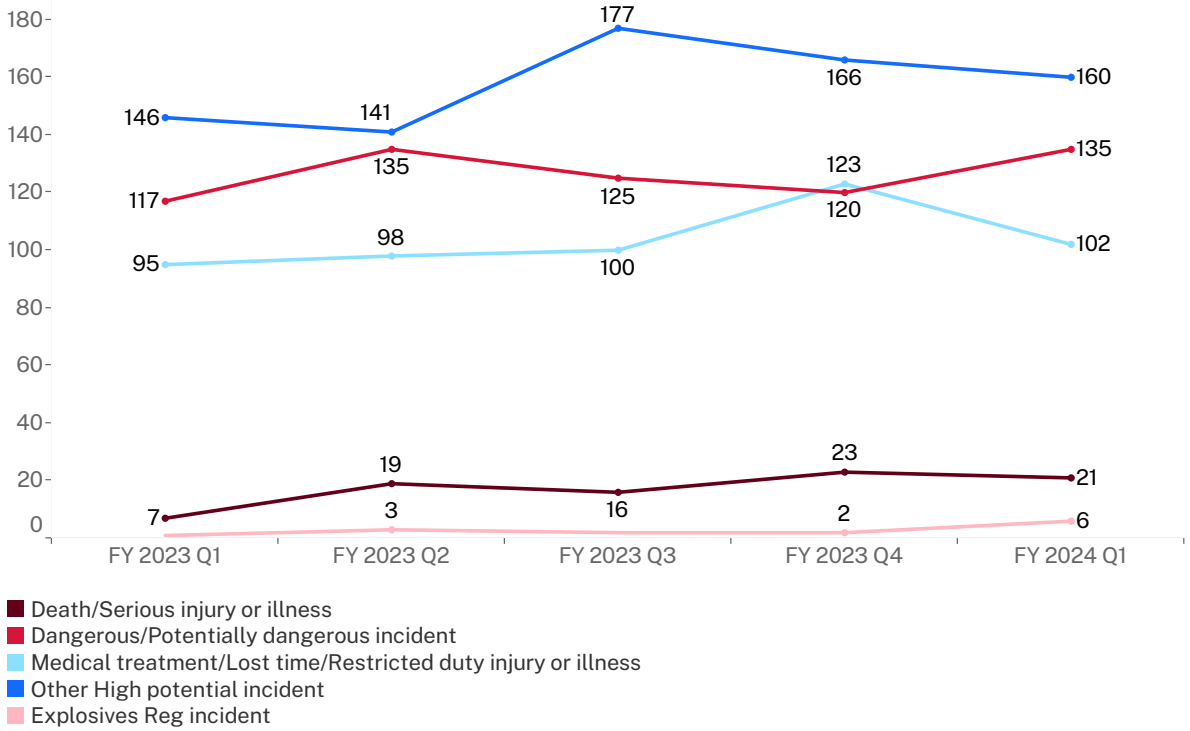
The following graph shows the proportion of safety incident notifications received from surface and underground coal operations. This quarter there was a 7% decrease in the number of incidents notified by underground coal operations, and a 6% increase in surface coal operations.

**Figure 17. Coal sector incident notifications received by operation type – July 2022 to September 2023**



The graph below presents a breakdown of safety incidents notified to the Regulator by the coal sector by the requirement to report. This quarter saw a notable decrease of notifications of medical treatment/lost time/restricted duty injuries or illnesses (17%). Notable increases were observed in dangerous/potentially dangerous incidents (13%) and Explosives Regulation incidents (2 to 6).

**Figure 18. Coal sector incident notifications received by requirement to report – July 2022 to September 2023**

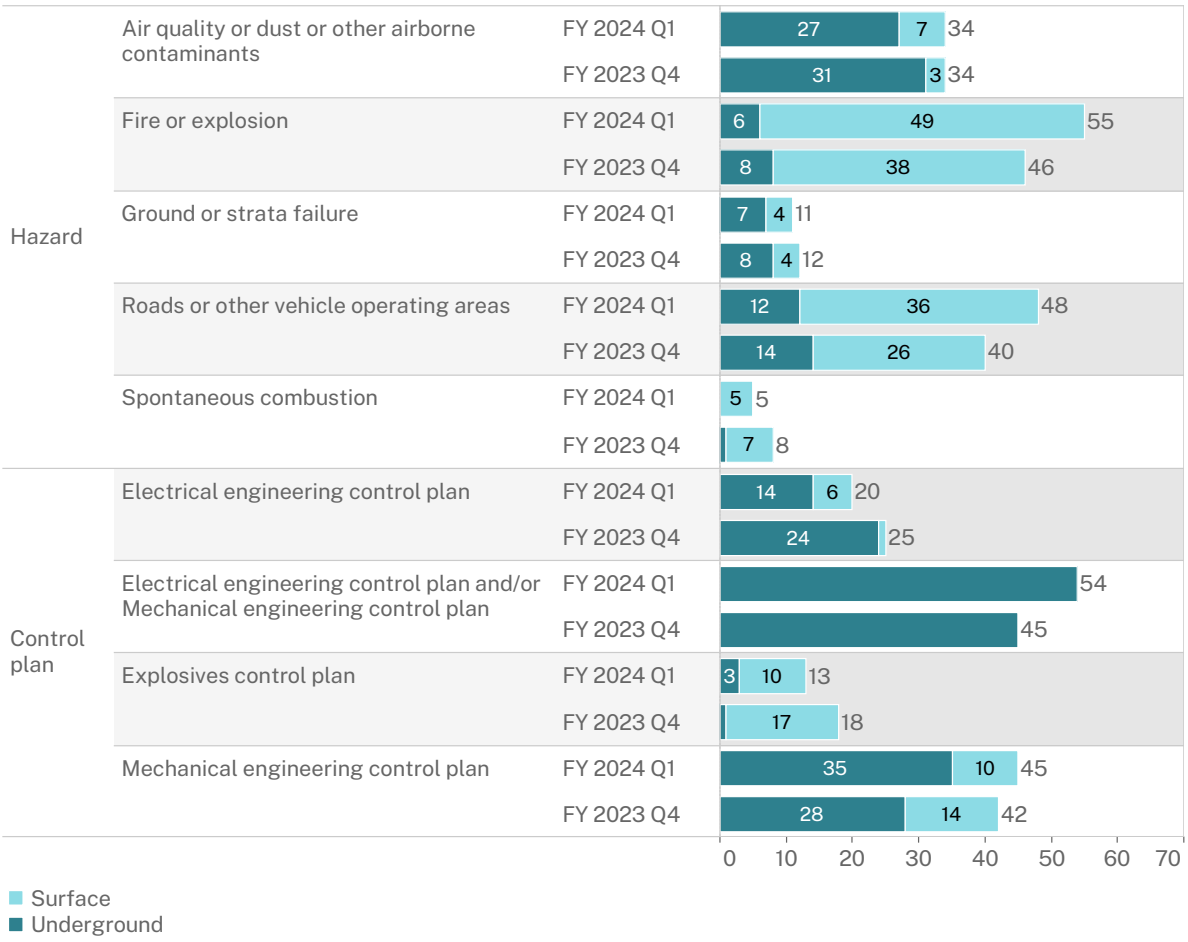



## Incident notifications received by principal mining hazard or principal control plan

The figure below shows the number of incident notifications received from the coal sector during the past 2 quarters, as classified against related principal mining 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 relating to fire or explosion (46 to 55), roads or other vehicle operating areas (40 to 48) and electrical engineering control plan and/or mechanical engineering control plan (45 to 54).

**Figure 19. Coal mine incident notifications received by principal mining hazard or principal control plan, and by operation type – April to September 2023**



# Large mines sector

## Incident notifications received

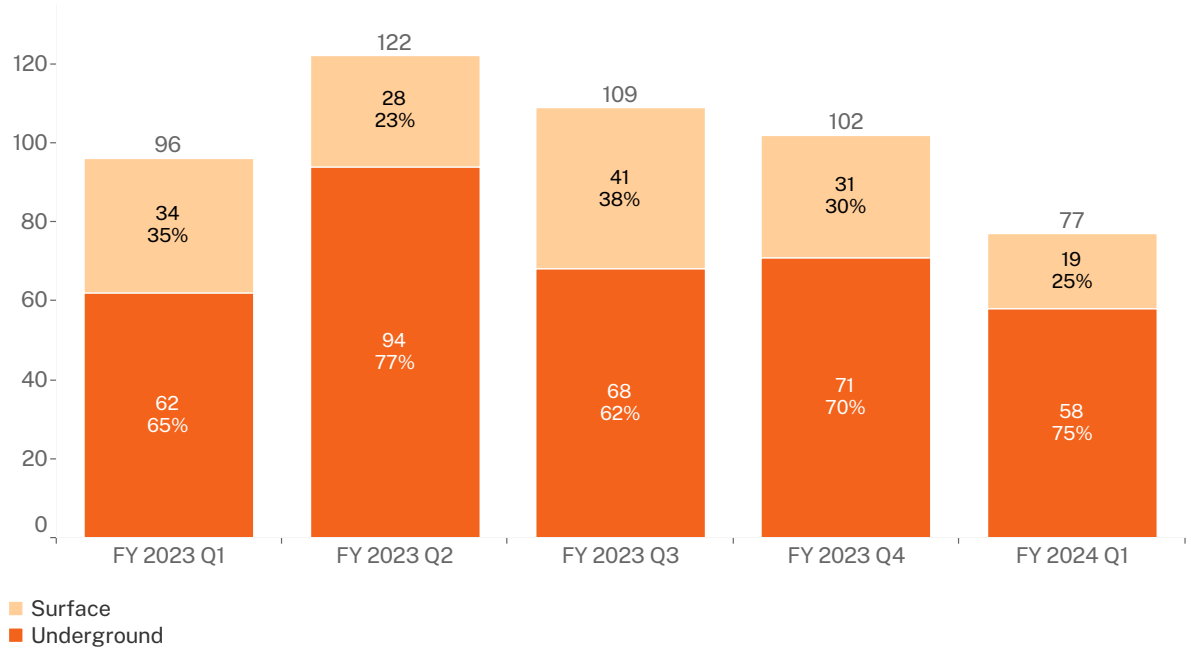
Under work health and safety legislation, mine operators must notify the Regulator about the occurrence of certain types of safety incidents. Incident notification data (by active mine) provides insights into sector specific reporting trends.

**Table 3. Large mines and quarries incident notifications received rates – July 2022 to September 2023**

| Measure | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2024 Q1 |
|---|---|---|---|---|---|
| Incidents | 96 | 122 | 109 | 102 | 77 |
| Active mines | 57 | 57 | 57 | 57 | 57 |
| Incident rate per active mine | 1.68 | 2.14 | 1.91 | 1.79 | 1.35 |
| Mines that notified incidents | 27 | 27 | 34 | 27 | 22 |
| % of mines notifying an incident | 47% | 47% | 60% | 47% | 39% |
| Incident rate per notifying mine | 3.56 | 4.52 | 3.21 | 3.78 | 3.50 |

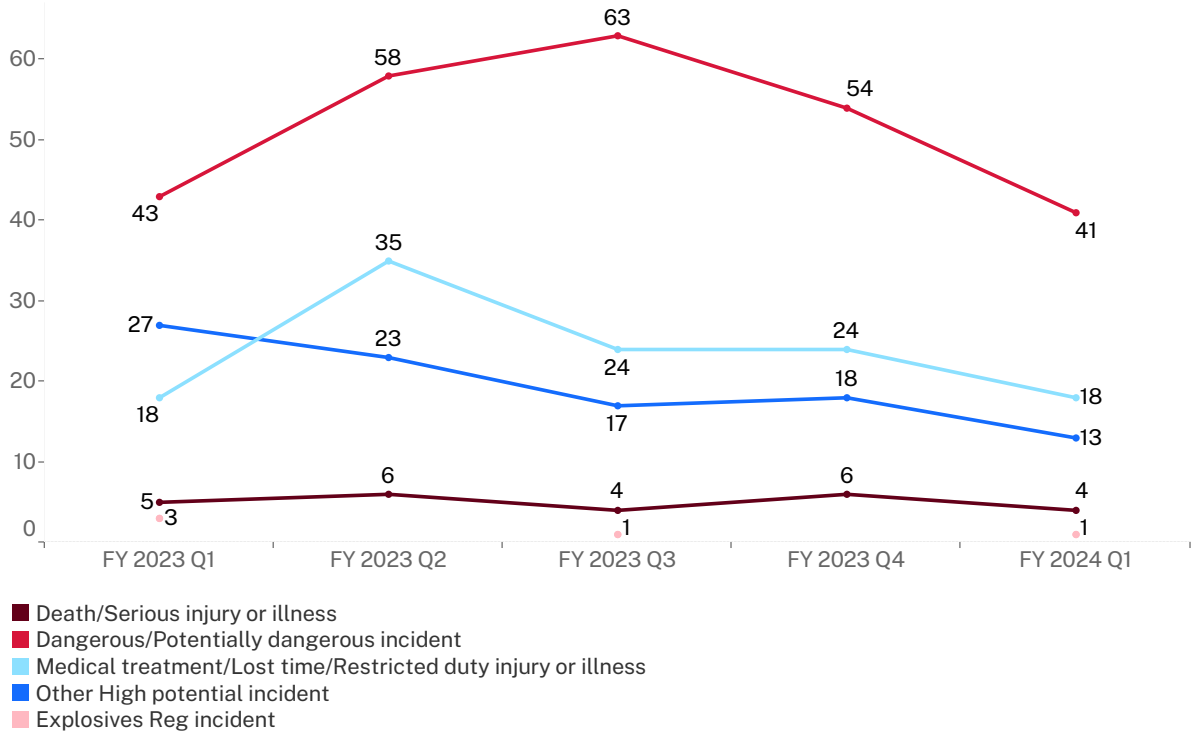
The following graph shows the proportion of safety incident notifications received from large mines and quarries by operation type. In this quarter, notified incidents decreased by 25% (including a 39% decrease in large surface mines), continuing a downward trend from FY 2023 Q2.

**Figure 20. Large mines and quarries incident notifications received by operation type – July 2022 to September 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 downward trend continued this quarter in dangerous / potentially dangerous incidents (down 35% from FY 2023 Q3).

**Figure 21. Large mines and quarries incident notifications received by requirement to report – July 2022 to September 2023**

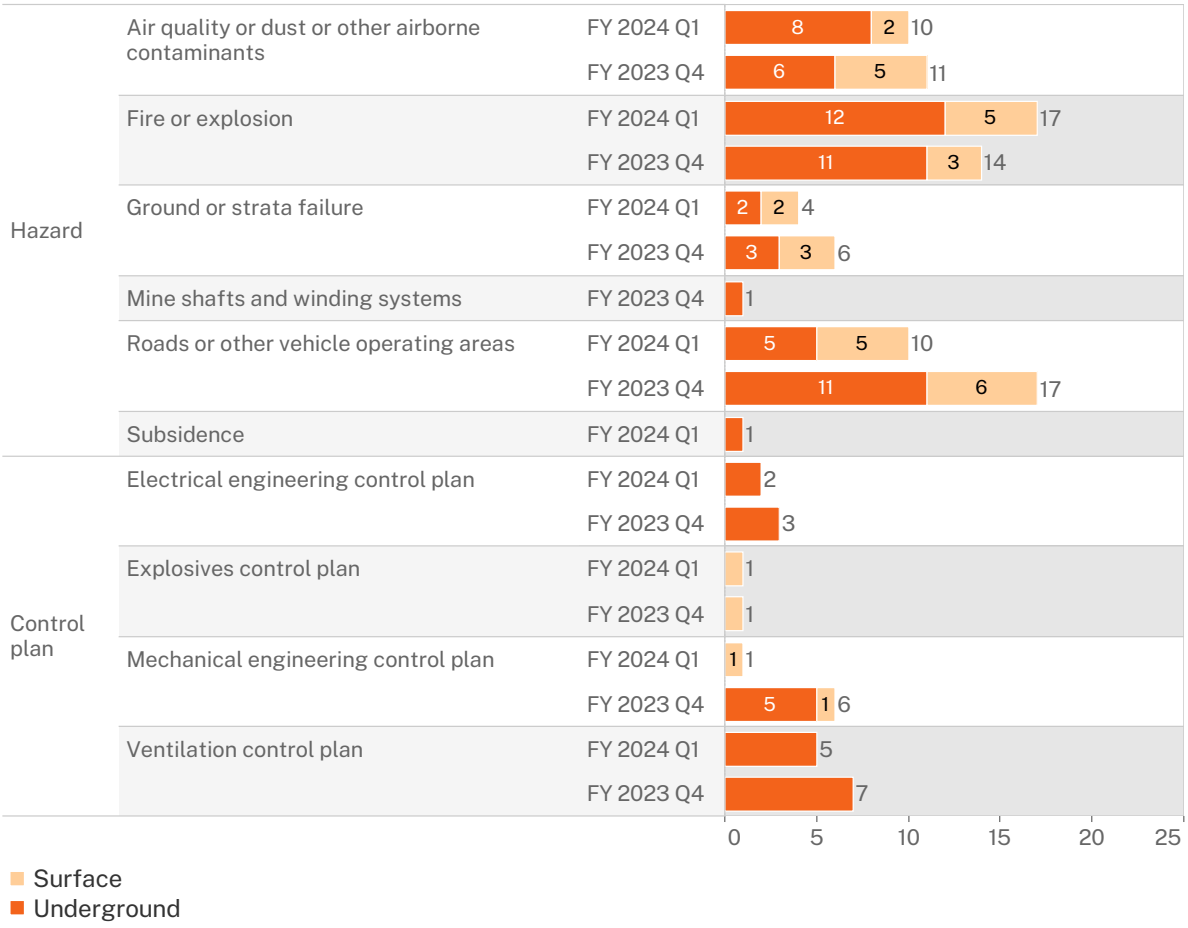



## Incident notifications received by principal mining hazard or principal control plan

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 mining 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, a notable decrease was observed in notified incidents relating to roads or other vehicle operating areas (35%).

**Figure 22. Large mines and quarries incident notifications received by principal mining hazard or principal control plan, and operation type – April to September 2023**



# Small mines sector

## Incident notifications received

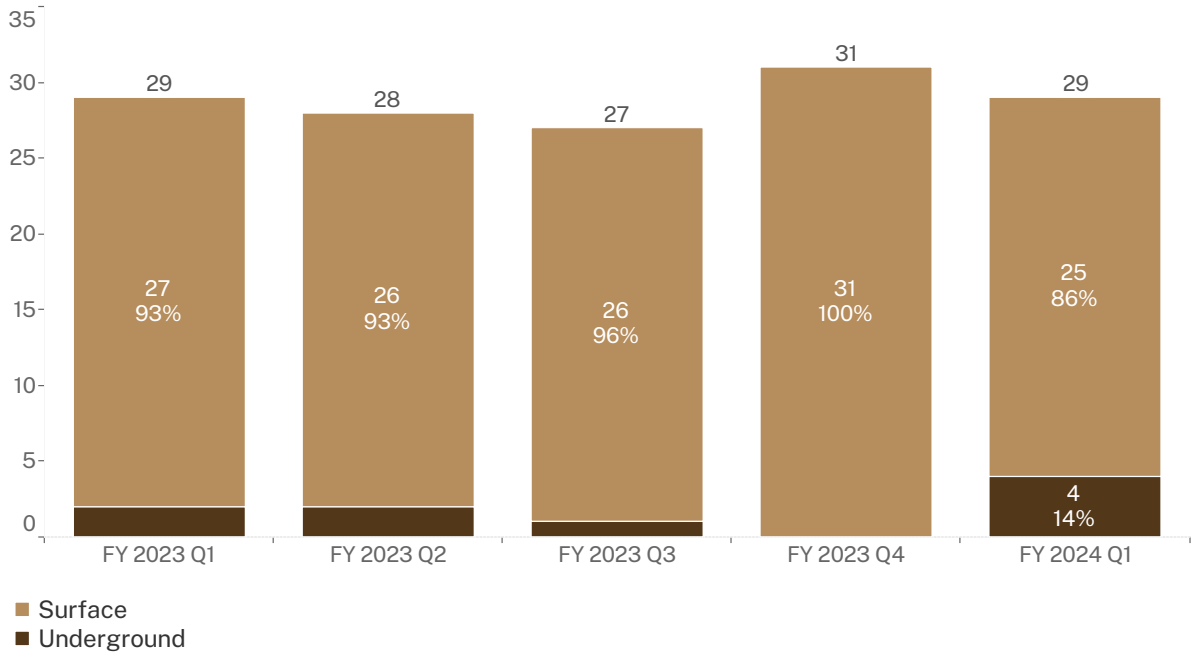
Under work health and safety legislation, mine operators must notify the Regulator about the occurrence of certain types of safety incidents. Incident notification data (by active mine) provides insights into sector specific reporting trends.

**Table 4. Small mines and quarries incident notifications received rates – July 2022 to September 2023**

| Measure | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2024 Q1 |
|---|---|---|---|---|---|
| Incidents | 29 | 28 | 27 | 31 | 29 |
| Active mines | 2542 | 2534 | 2527 | 2536 | 2552 |
| Incident rate per active mine | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Mines that notified incidents | 25 | 25 | 22 | 22 | 26 |
| % of mines notifying an incident | 0.98% | 0.99% | 0.87% | 0.87% | 1.02% |
| Incident rate per notifying mine | 1.16 | 1.12 | 1.23 | 1.41 | 1.12 |

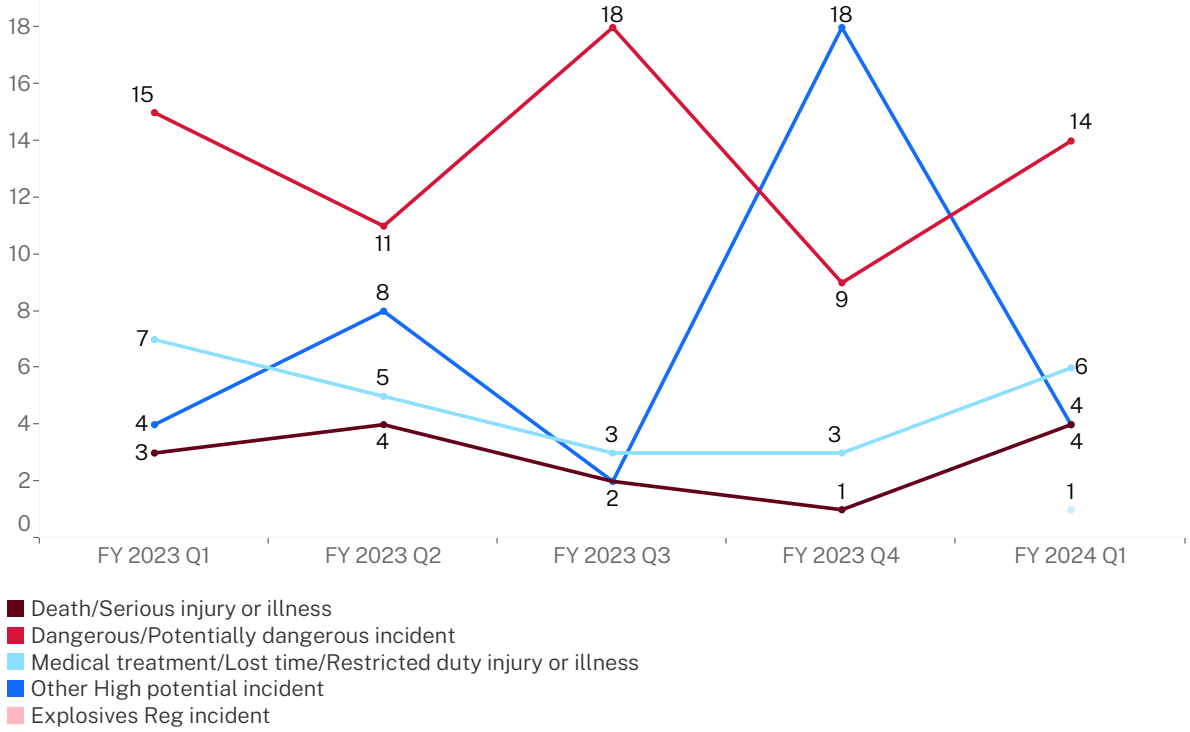
The graph below shows the proportion of safety incident notifications received from small mines and quarries.

**Figure 23. Small mines and quarries incident notifications received by operation type – July 2022 to September 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 increases in dangerous/potentially dangerous incidents (9 to 14), medical treatment/lost time/restricted duty injuries or illnesses (3 to 6) and death/serious injuries or illnesses (one to 4). A decrease in other high potential incidents (18 to 4) represents a return to previous levels.

**Figure 24. Small mines and quarries incident notifications received by requirement to report – July 2022 to September 2023**

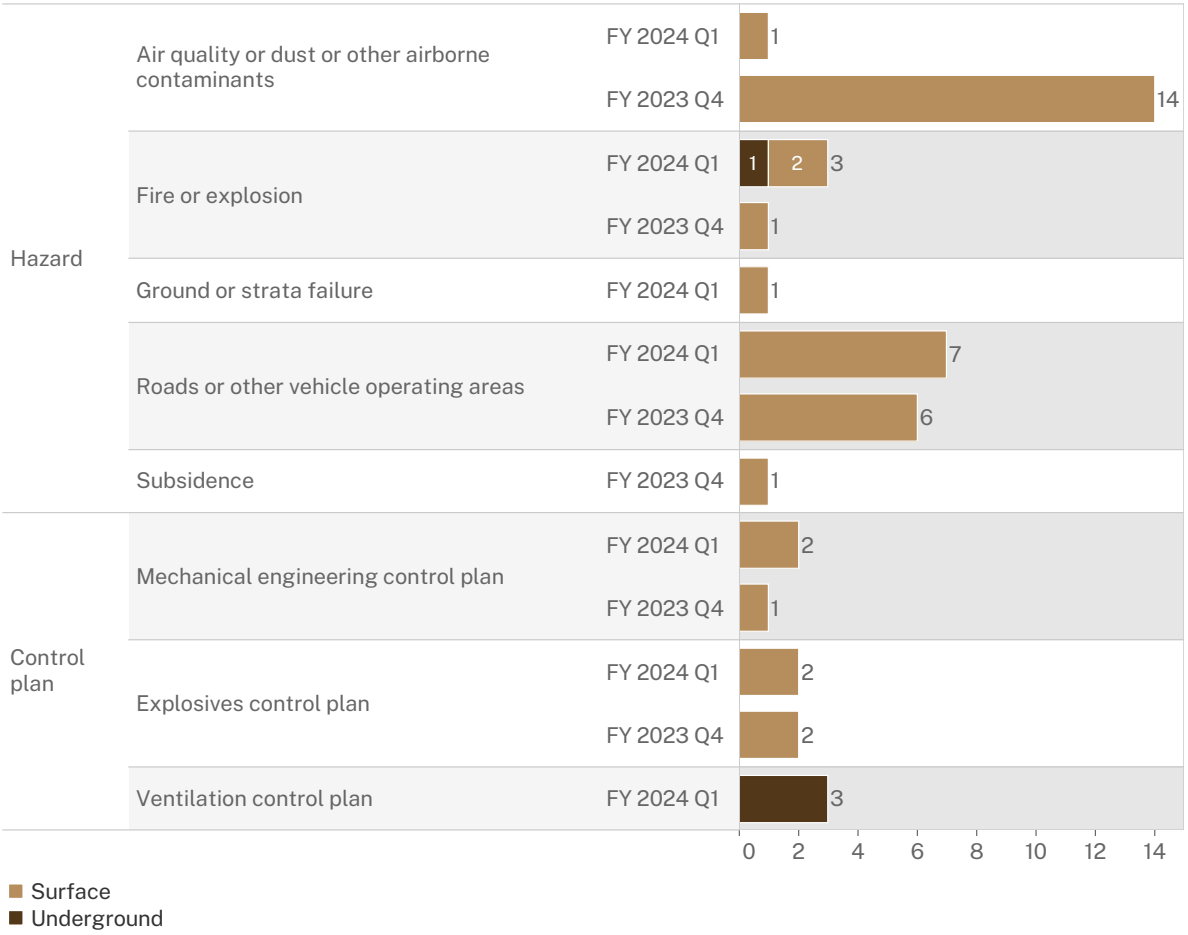



## Incident notifications received by principal mining hazard or principal control plan

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 mining 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.

Air quality or dust or other airborne contaminants incidents notified this quarter decreased substantially from 14 to one.

**Figure 25. Small mines and quarries incident notifications received by principal mining hazard or principal control plan, and operation type – April to September 2023**



# Other mines sector profiles

## Incident notifications received

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 mining hazard.

**Table 5. Petroleum and geothermal sites, opal mines and exploration sites incident notifications received – July 2022 to September 2023**

| Sector | Measure | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2024 Q1 |
|---|---|---|---|---|---|---|
| Petroleum & geothermal sites* | Incidents | 0 | 0 | 0 | 0 | 0 |
| Opal mines | Incidents | 0 | 1 | 0 | 1 | 1 |
| Exploration sites** | Incidents | 0 | 0 | 1 | 1 | 0 |

* includes exploration
** excludes petroleum and geothermal

**Table 6. Opal mines and exploration sites incident notifications received by requirement to report – July 2022 to September 2023**

| Sector | Requirement to report measure | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2024 Q1 |
|---|---|---|---|---|---|---|
| Opal mines | Death/Serious injury or illness | 0 | 0 | 0 | 1 | 0 |
| | Dangerous/Potentially dangerous incident | 0 | 0 | 0 | 0 | 1 |
| | Other high potential incident | 0 | 1 | 0 | 0 | 0 |
| | Medical treatment/Lost time/ Restricted duty injury or illness | 0 | 0 | 1 | 1 | 0 |
| Exploration sites | Dangerous/Potentially dangerous incident | 0 | 1 | 0 | 0 | 0 |

**Table 7. Opal mines and exploration sites incident notifications received by principal mining hazard and other hazards – July 2022 to September 2023**

| Sector | Incident notification PH/PCP classification | FY 2023 Q1 | FY 2023 Q2 | FY 2023 Q3 | FY 2023 Q4 | FY 2023 Q2 |
|---|---|---|---|---|---|---|
| Opal mines | Ground or strata failure | 0 | 1 | 0 | 0 | 1 |
| | Roads or other vehicle operating areas | 0 | 0 | 0 | 0 | 0 |
| | Not classified | 0 | 0 | 0 | 1 | 0 |
| Exploration sites | No related principal mining hazard or principal control plan | 0 | 0 | 1 | 1 | 0 |

# 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.

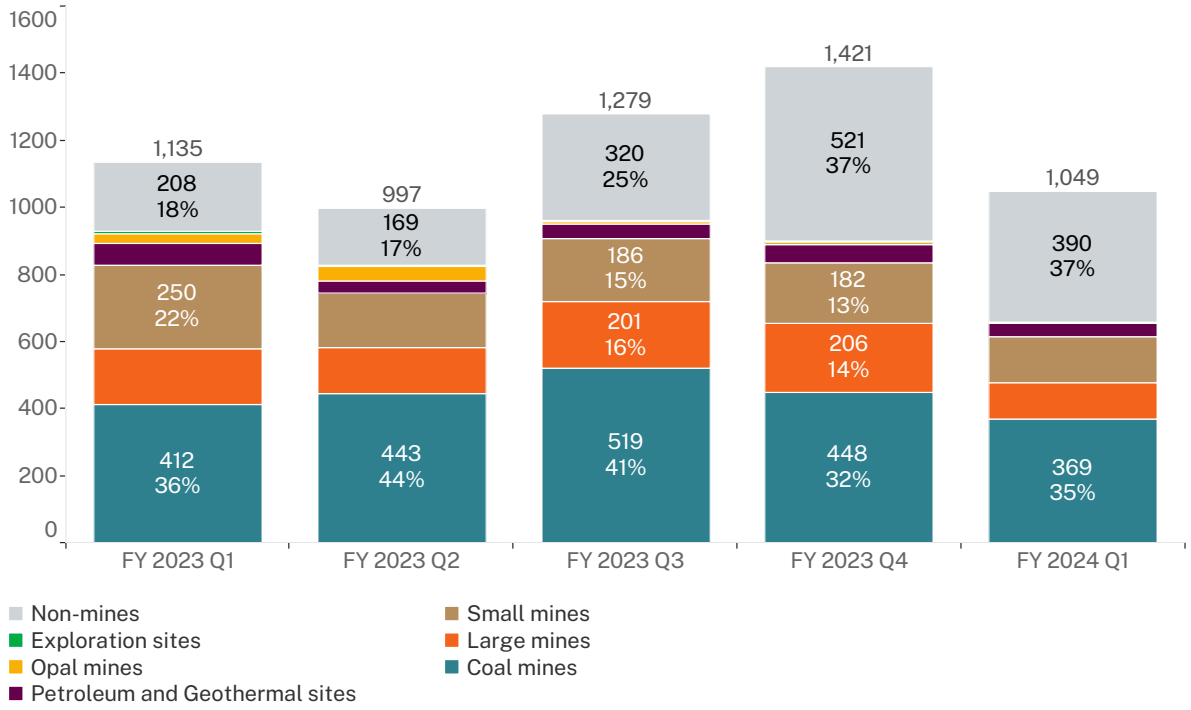
Detailed information regarding compliance activities, priorities, outcomes and reports are published on our website and in our business activity reports.

## Safety assessments by sector

This quarter saw a decrease in the number of assessments with the second lowest 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 – July 2022 to September 2023**

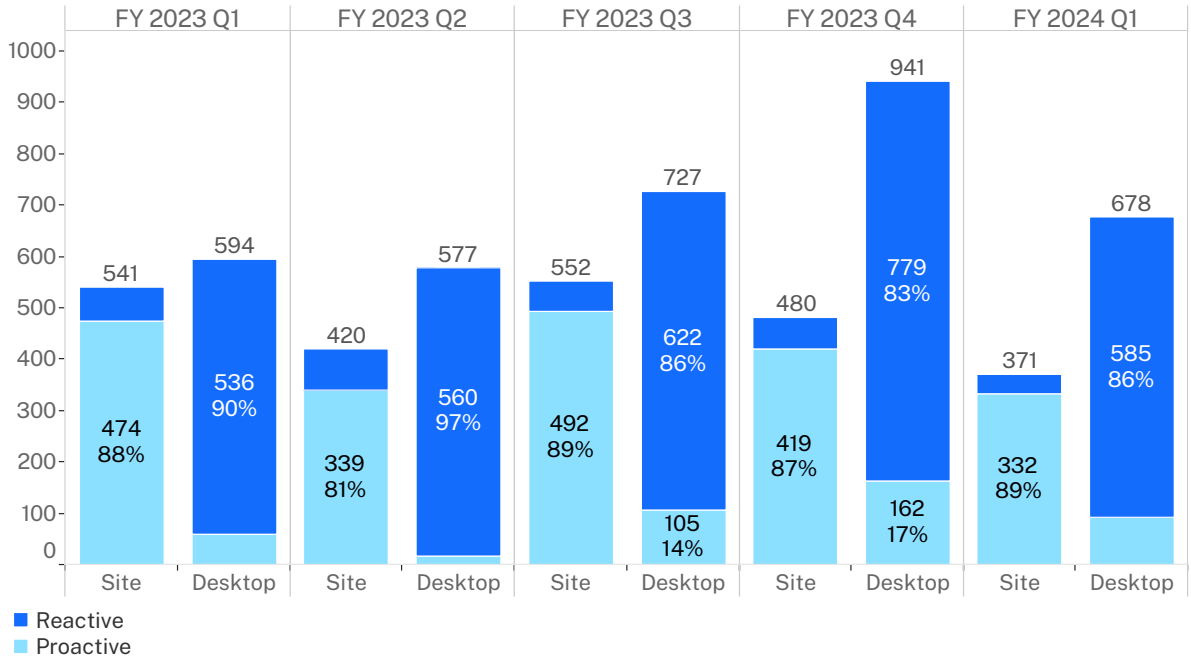


# Safety assessments by category and nature

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.

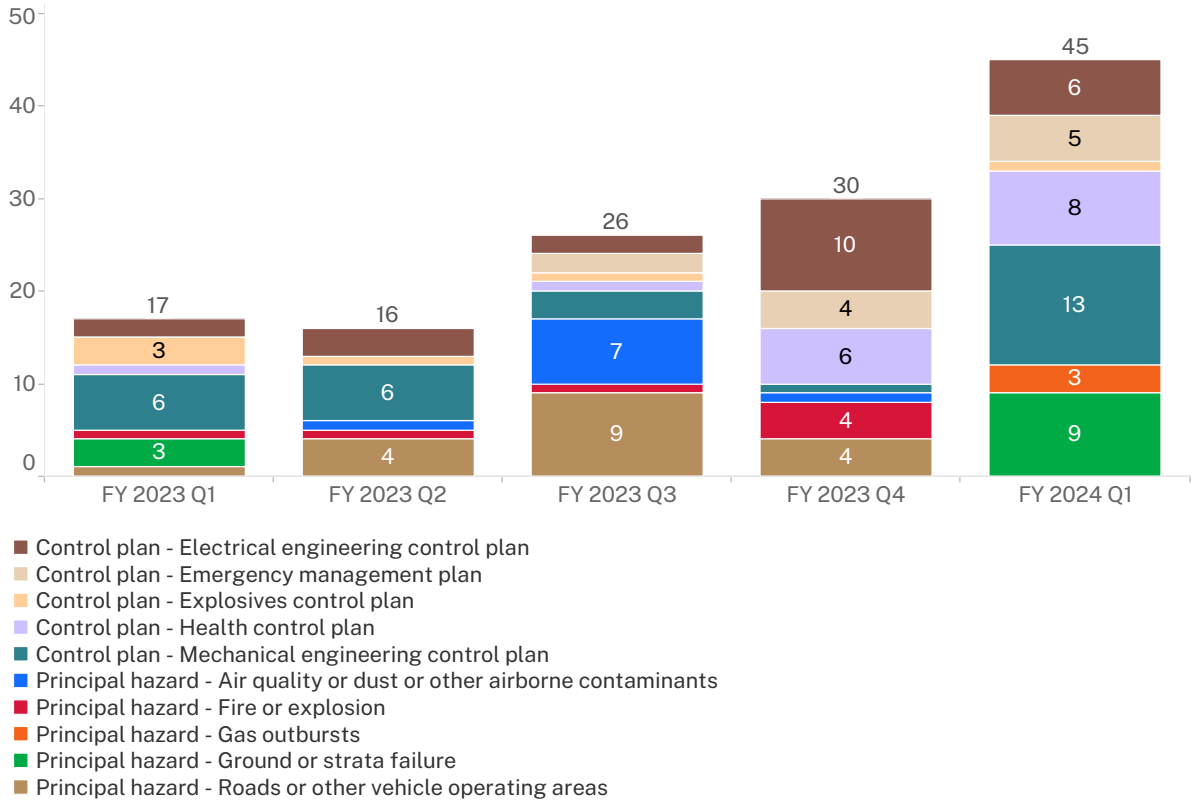
**Figure 27. Safety assessments by category and nature – July 2022 to September 2023**

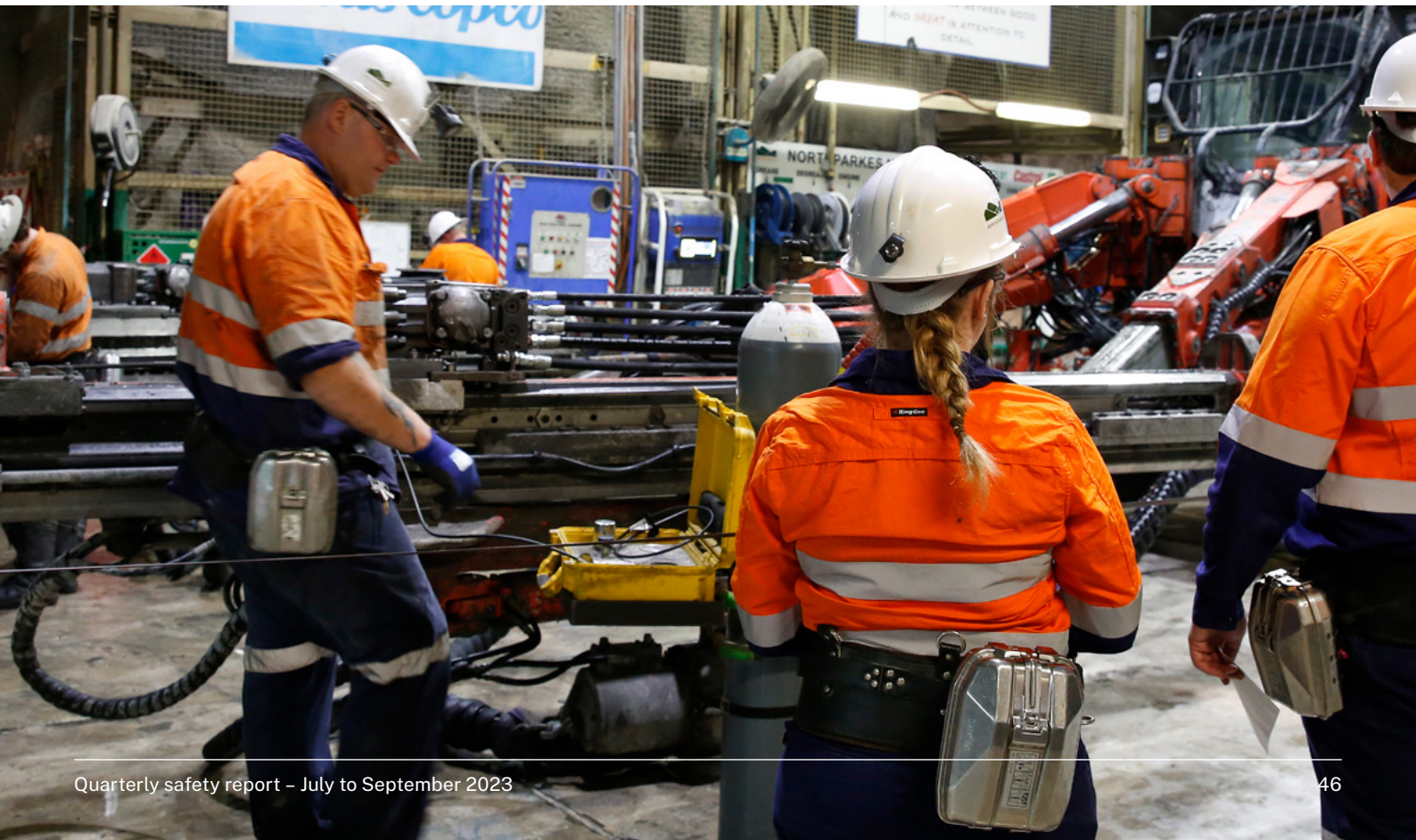


# Programmed site assessments

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

**Figure 28. Targeted assessments by principal mining hazards, control plans and other programs – July 2022 to September 2023**



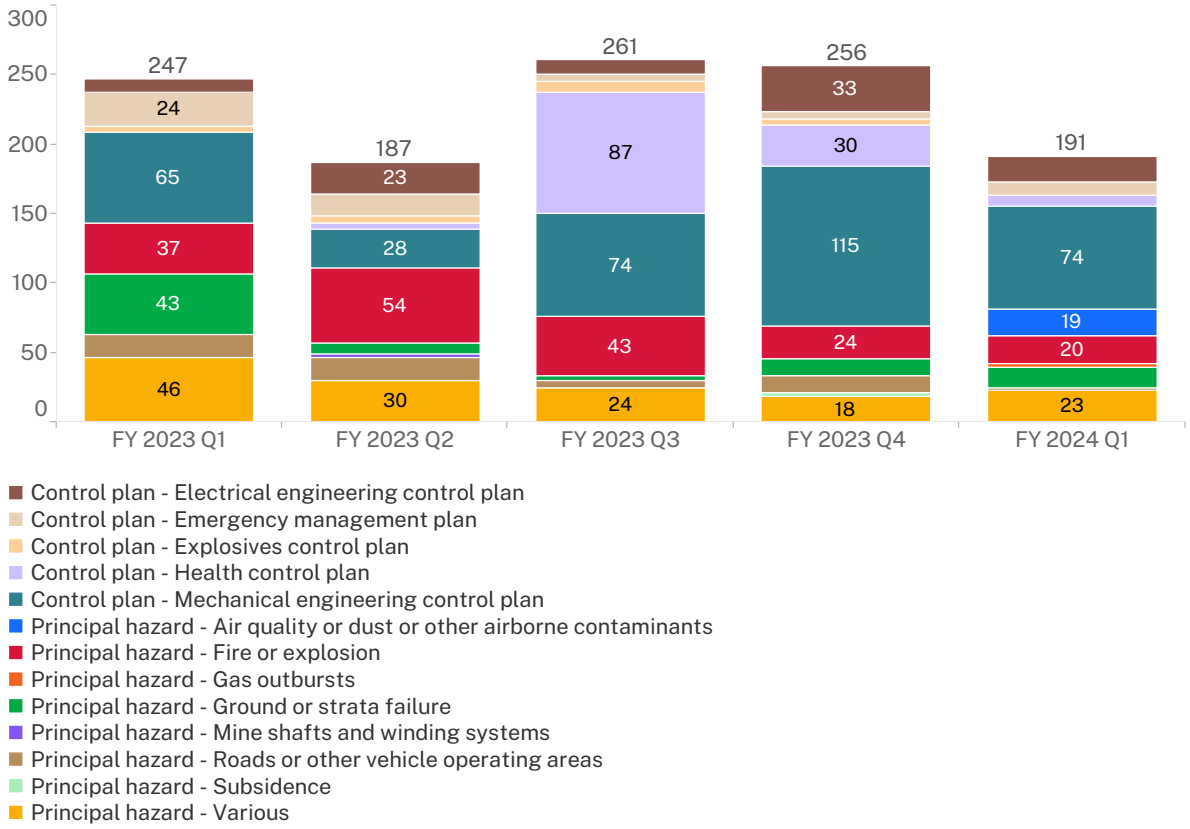



# Planned inspections

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.

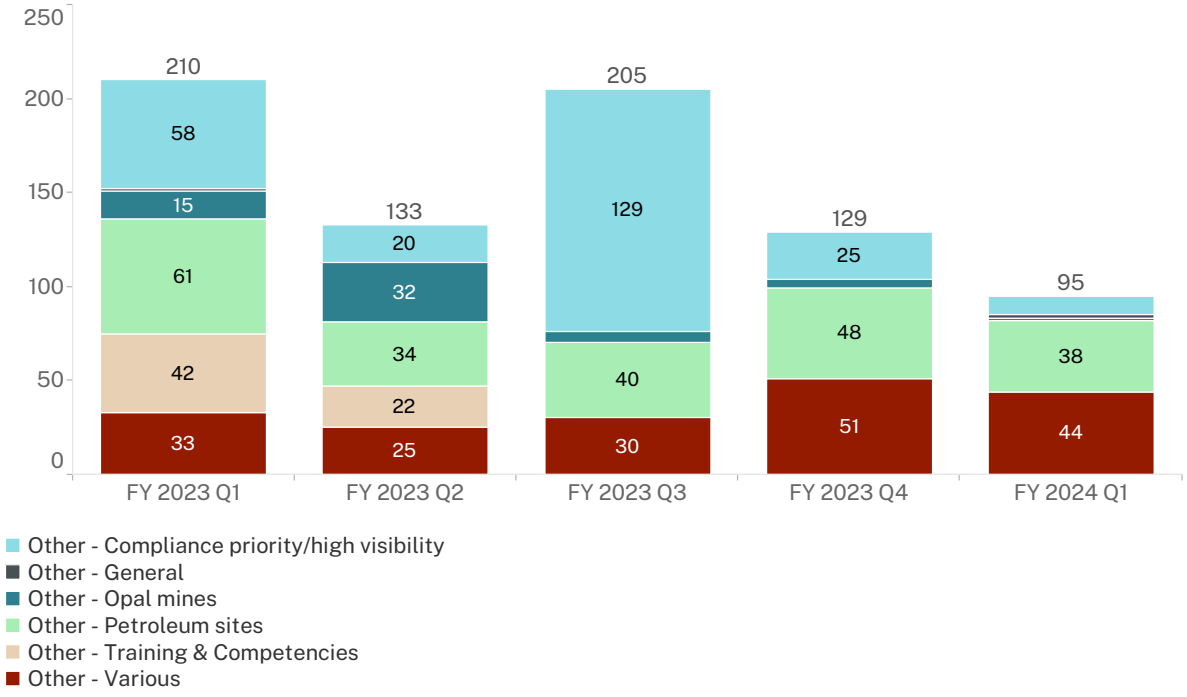
Planned site inspections were commenced on the principal mining hazards and control plans shown in the graph below.

**Figure 29. Planned inspections by principal hazards and control plans – July 2022 to September 2023**



The graph below shows planned site inspections commenced for ‘other’ hazards. ‘Other’ hazards are those hazards that are not related to principal mining hazards or principal control plans.

**Figure 30. Planned inspections by ‘other’ programs – July 2022 to September 2023**

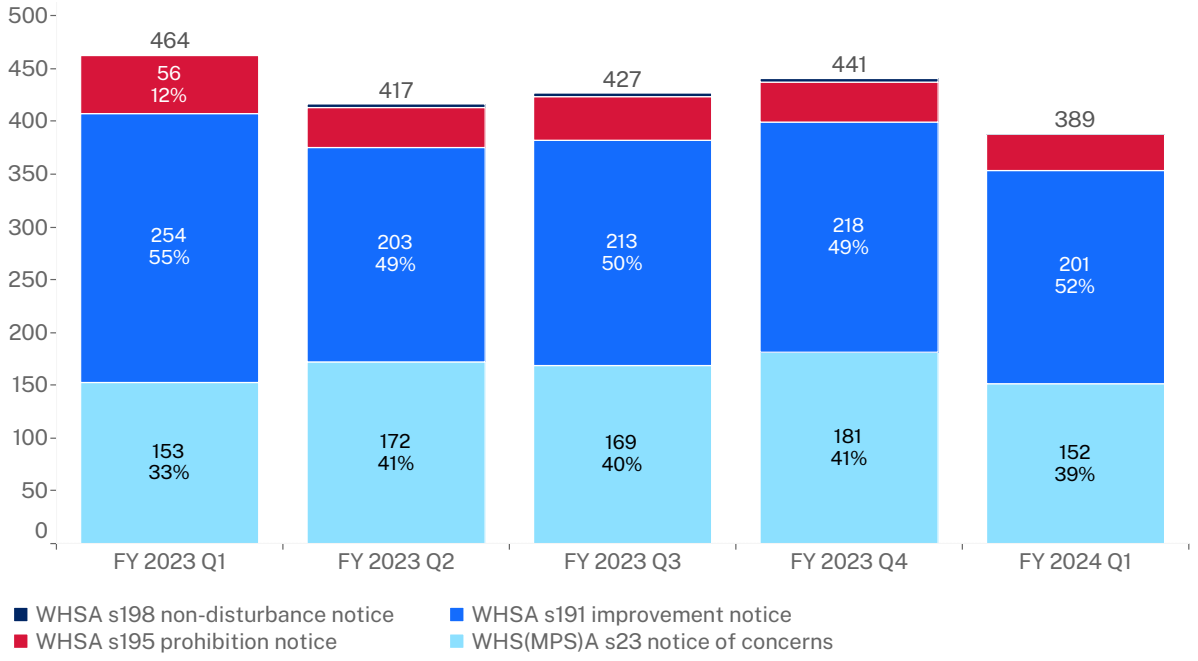



# Safety notices issued

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

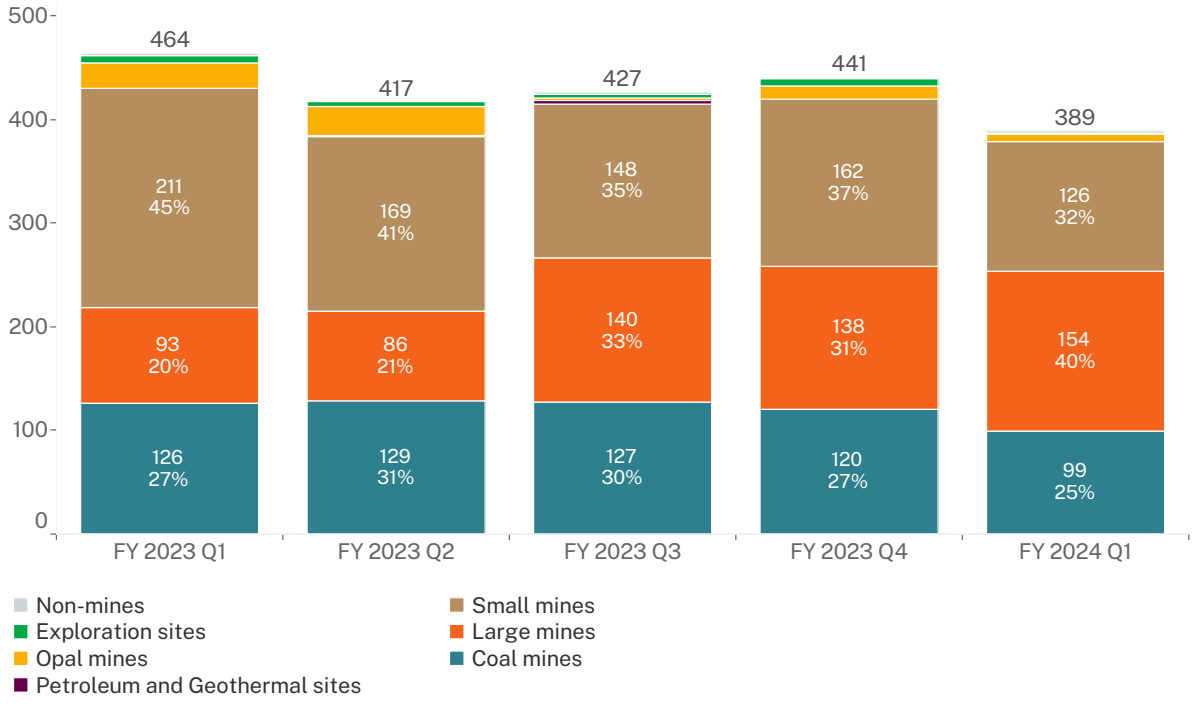
The graph below shows the number and type of safety notices issued during each of the 5 quarters since July 2022. This quarter saw a decrease in the number of notices issued recording the lowest figure over the last 5 quarters.

**Figure 31. Safety notices issued by notice type – July 2022 to September 2023**




The proportion of safety notices issued to coal mines (18%) and small mines (22%) have notably decreased this quarter, with an increase observed in the large mines sector.

**Figure 32. Safety notices issued by sector – July 22 to September 2023**



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