

# Investigation information release

Date: July 2024

## Dangerous incident at Clarence Colliery – roof fall

**Incident date:** 9 July 2024

**Event:** A dangerous incident involving a roof fall occurred within a recently formed intersection at an active development panel of an underground mine.

**Location:** Clarence Colliery, Bells Line of Road, Clarence NSW 2790

### Overview

In a panel where an intersection had been developed recently, a known up-throw fault intersected the area. No workers were present when a section of the roof fell in an unsupported cut near the intersection. Subsequently, the intersection was barricaded to prevent access. About 2 hours later, a second roof fall propagated into the intersection of the developed roadway.

### The mine

Clarence Colliery is an underground coal mine at Clarence near Lithgow, in NSW. The mine is operated by Clarence Coal Pty Limited and uses a bord and pillar method of mining. It supplies coal to both the export and domestic markets. There are approximately 300 workers employed by the mine.

### The incident

In panel 832 of the mine, the intersection involved with the roof fall had been developed. Within this panel, there was a known up-throw fault that had been intersected multiple times over several weeks before the incident. On those occasions, the fault was intersected mid pillar, with its trajectory trending towards proposed intersections.

The incident took place at an intersection in the location designated by the sequence plan as 'Z' heading 13 cut-through. According to this plan, the heading needed to be cut at a 70-degree angle relative to the intersecting roadway (forming a herringbone pattern).

In the formation of intersections along 'Z' heading, the process involved cutting the headings and leaving sections of the roof unsupported on either side of the intersection. Additionally, the floors in these areas were being stripped as part of a 'second pass' mining strategy. The same system of work was used for developing intersections at the 11 and 12 cut-throughs.

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The cut-through leading up to this intersection from the 'A' heading was supported by Green trigger action response plan (TARP) for roof support. However, at the intersection itself, the roof support was managed under the Red TARP support plan to address the 1.5 metre fault in the immediate area.

On 8 July 2024, during the night shift, mining operations were underway in the inbye area of where the fall occurred the following day. At the end of that shift, the continuous miner used for this work was taken out of service for planned maintenance during the day shift. Work was planned to resume the following day, with the focus on stripping the floors in the area where the incident occurred.

Initially, the planned maintenance was to be undertaken at the intersection where the incident occurred but, for reasons unrelated, it was moved about 50 metres away.

About 11 am on July 9, 2024, a roof and skin failure occurred in the 'Z' heading outbye of the intersection at 13 cut-through. The roof in this area was supported about 6 metres from the centreline of 13 cut-through in accordance with the Red TARP requirements, which left the remainder of the Z heading roadway unsupported. There were no workers present at the time. As a safety measure the area, including the intersection, was barricaded off to prevent access.

About 3pm, there was a roof collapse throughout the entire intersection at 'Z' heading 13 cut-through. Both bolted and non-bolted sections of the roof fell. Given the area had already been barricaded off, no workers were present when this occurred.

The Resources Regulator was notified of the incident because the mine operator identified it as being 'a potential dangerous incident'. This was because of its plan for workers to go back into the area to commence floor stripping once maintenance was complete on the continuous miner.

Figure 1: Intersection at 'Z' heading 13 cut-through inbye



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Figure 2: 12 cut-through inbye to intersection at 'Z' heading with floor stripped (for context of final roadway dimensions)



### The investigation

The Regulator commenced an investigation to determine the cause and circumstances of the incident that will explore, among other things, the:

- adequacy of forecast mine plans in providing appropriate mining methods to mitigate the risk of roof falls in panels with known faults
- adequacy of the safety management system in identifying and addressing changes in strata conditions before continuing with planned mining activities
- adequacy of the strata failure principal hazard management plan in implementing control measures to manage fall of ground risks associated with forming intersections leading to unsupported cuts
- instruction, training, experience and supervision of workers in relation to intersection formation.

### Safety information

Underground mine operators are reminded of their duty to identify hazards and manage risks to health and safety in accordance with provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulations.



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In particular, underground mine operators must:

- prepare and implement a principal mining hazard management plan (PMHMP) for a mine if they identify a principal mining hazard is present, including a mandatory ground or strata failure management plan
- specifically consult with workers when conducting the risk assessments when preparing the plan
- carry out a comprehensive risk assessment for the PMHMP for ground or strata failure and document it
- ensure the principal hazard management plan includes a record of the most recent risk assessment conducted in relation to the principal hazard, in accordance with clause 28(3)(d) of the Work Health and Safety (Mines and Petroleum Sites) Regulation (WHS (MPS) Regulation).
- ensure installed strata control support is inspected in accordance with clauses 88(5)(g) and (h) of the WHS (MPS) Regulation.
- carry out audits of the strata failure hazard management plan, as part of the safety management system
- review the strata failure hazard management plan, in accordance with the WHS (MPS) Regulation, to identify if the ground or strata failure management plan is effective in managing the ground or strata failure hazards and how it may be improved, and consult with workers and their health and safety representatives at the mine
- review the PMHMP for ground or strata failure during the course of mining if a risk control measure is reviewed under clause 38 of the *Work health and Safety Regulation* or clause 10 of the WHS (MSP) Regulation. In relation to strata in particular, such relevant circumstances to trigger a review may include:
  - a significant deviation from the assumptions or expected conditions are encountered
  - major changes to roadway dimensions or mine layout are to occur
  - new options for support or mining methods being implemented
  - a major roof, rib, floor or pillar failure incident occurs.

### Further information

Please refer to the following guidance materials:

- [NSW code of practice – Strata control in underground coal mines](#)
- [Consolidated report – Coal underground or strata failure, secondary extraction](#)
- [Fact sheet – Planned inspection program – ground or strata failure, underground coal](#)
- [Consolidated report – Managing ground or strata failure risks in underground coal mines](#)
- [Safety Alert SA13-01 Underground coal mine roof strata monitoring](#)
- [Safety Bulletin SB22-02 Strata failures increase in underground coal mines across state](#)

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## About this information release

The Regulator has issued this information to draw attention to the occurrence of a serious incident in the mining industry. Further information may be published as it becomes available.

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