Safety Alert

Date: July 2024

Vehicle interaction in an underground mine

A collision occurred between a light vehicle carrying 3 passengers and an integrated tool carrier (ITC).

This safety alert provides safety advice for the NSW mining industry.

Issue

1. The light vehicle was parked behind a stationary ITC in a level access way to give way to an oncoming truck travelling up the decline.
2. The mine had similar incidents in the past, including when an ITC reversed into a parked light vehicle and when a light vehicle reversed into another light vehicle.

Figure 1: Damage to the light vehicle

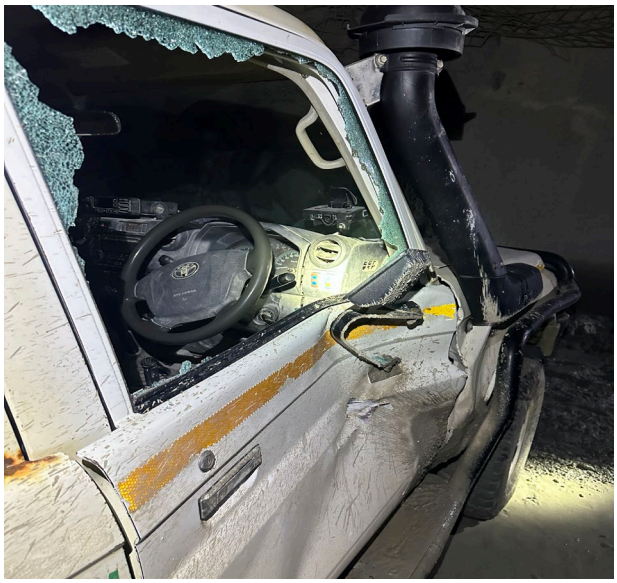
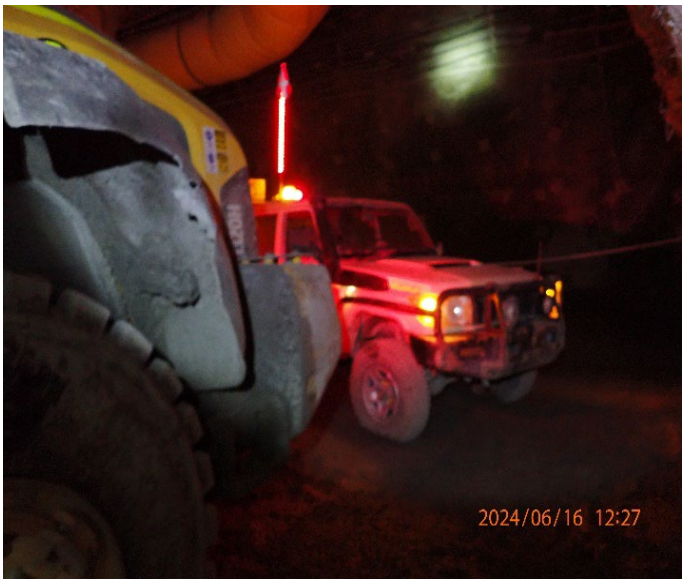


Figure 2: The position of the equipment after the incident



Circumstances

Two ITCs were tramming down a mine decline about 8.10am on 16 June 2024 and pulled into a level access to give way to a haul truck that was travelling up the decline.

A light vehicle was following the ITCs and pulled into the level access area about one metre behind the second ITC.

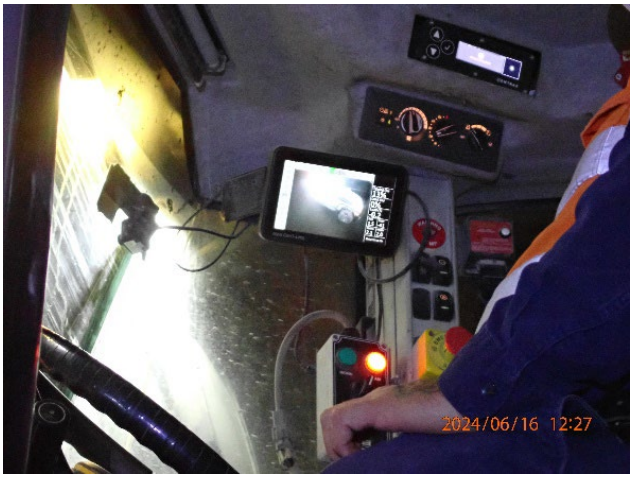
There was no positive communication between the light vehicle or either of the ITCs.

After hearing the truck operator call on the radio that it had passed that level, the second ITC operator looked over their right shoulder and reversed out of the level back onto the decline. Due to the proximity of the light vehicle, the ITC operator was not aware of it.

The ITC hit the rear counterweight and the driver's door of the light vehicle, shattering the driver's side window before the ITC operator became aware of the situation, stopped and moved forward.

Figure 3: The view over the ITC operator's right shoulder

Figure 4: The view of the reversing camera



Investigation

The mine had a similar incident and had not implemented the controls identified for that incident.

The preliminary investigation by the mine operator identified similar issues between the 2 incidents.

- Failure of positive two-way communication.
- Non-compliance with traffic management procedures.
- The failure to use a reversing camera on the ITC.

Further investigation including witness interviews and video recordings, both internal and external of the light vehicle that found:

- the light vehicle operator failed to call up on the two-way radio and parked in close proximity to the second ITC
- the light vehicle driver assumed that the second ITC in front of them was the ITC that they would be working with on the level they had just pulled into
- the second ITC operator was scheduled to work on the level below and reacted to the radio call of the truck passing. They did not used their mirror or camera before reversing out of the access level
- when reversing visibility in the ITC is significantly impaired by the position of the exhaust, it is unlikely the operator could see the 'antler' light on the light vehicle
- there was no evidence of the second ITC sounding its horn before reversing the machine

- the light vehicle operator sounded the horn when the ITC started to reverse. The nearby ventilation fan and accumulative noise from the other vehicles, may have made it difficult to hear the light vehicle horn in the second ITC.
- the mine procedures for underground traffic management and light vehicle personnel carrier did not detail the requirements for parking in a congested area
- the ITC operator had limited experience in using cameras and there was no competence assessment for using reversing cameras on heavy vehicles at the mine.

At the time of publication, the mine was conducting and ICAM investigation of the incident to identify the causal factors.

Recommendations

Mine operators should consider the following when managing the risk of vehicle interaction.

- Dangerous incidents must be investigated, and high order controls must be implemented when practical in a timely manner, with the aim to prevent a recurrence.
- Regularly review vehicle video to monitor workers' behaviour.
- Regularly assess and correct worker behaviour with respect to compliance with rules and procedure.
- Review procedures, rules, and systems to ensure they detail the behaviours required by workers to work safely.
- Assess the experience, demographic and habits of workers to develop competencies to ensure workers are competent to use all technology available and ensure they safely operate mobile plant and equipment.
- Mine operators should conduct human and organisational factor investigations/assessments of contractors to help determine and manage the culture of the organisation.

Note: Please ensure all relevant people in your organisation receive a copy of this safety alert and are informed of its content and recommendations. This safety alert should be processed in a systematic manner through the mine's information and communication process. It should also be placed on the mine's common area, such as your notice board where appropriate.

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