

Safety Alert

Date: February 2024

Wheel rim ejected during tyre inflation.

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

Issue

During the process of inflating a haul truck tyre, a rim was ejected vertically while a tyre worker was in the vicinity

Figure 1: The mine workshop before the rim was ejected



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Figure 2: The rim ejected with the tyre technician circled on the right



Circumstances

The rim of a haul truck wheel assembly ejected from the tyre on Friday 15 December at 5.45am. The wheel assembly was on the mine's workshop floor. The tyre was being inflated after having the rim o-ring seals replaced. The rim weighing around 2.5 tonnes was ejected about 1.5 metres above the tyre.

The rim ejection incident occurred in the tyre bay with the technician about 5 metres from the tyre (See photo above). The pressure in the tyre was reported to be just above 10 psi at the time.

The wheel assembly had been removed from a haul truck during maintenance and the tyre was deflated and stored. The incident occurred during the process of fault-finding the leak.

Investigation

Preliminary findings indicate that during the process of replacing the o-ring, the tyre was rotated twice through 180 degrees. Each time it was dropped about 300 mm to the floor, due to the rotational limitations of the tyre handler. The impact with the floor appears to have dislodged the components and lock ring. This appears to have allowed the rim to dislodge and be ejected during inflation.

At the time of publication, the mine is investigating the incident to identify the causal factors.

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Considerations

Mine operators should consider the following when managing heavy earthmoving wheel assemblies:

- No-go zones during inflation and handling
- Control of line-of-fire risks through retention of rim components using engineering controls
- Detailed, stepped inflation processes including dimensional and fitment checks
- Capability of the tyre handler for all intended tyre and wheel assembly handling processes
- Original equipment manufacturer (OEM) recommendations on discard criteria for lock rings
- OEM component compatibility guidance

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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