Safety Alert

NSW RESOURCES REGULATOR

DATE: JANUARY 2019

Elevated workbox falls from a loader

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

Issue

A workbox detached and fell two metres from a loader. A mine worker who was in the workbox suffered a fractured lower leg and back injuries as a consequence of the falling workbox. The incident occurred on 2 December 2018.

Circumstances

Two engineering maintenance workers were tasked with installing a cable at the roof level using a loader and workbox in an underground metalliferous mine. The machine they were using was a wheel loader that had been converted to an integrated tool carrier.

The workbox attachment assembly was not fully compatible with the attachment assembly on the loader. When the locking pins were disengaged, the attachment was able to swing, disengaging from the attachment hook.

The hydraulic isolation valve was not engaged to stop the locking pin (that was holding the workbox) from disengaging during operation.

The loader operator selected the workbox locking pin release switch. The locking pin disengaged causing the workbox to detach from the loader and fall to the ground.

Figure 1. View of the loader and the workbox on the ground. (Photograph by the Resources Regulator)

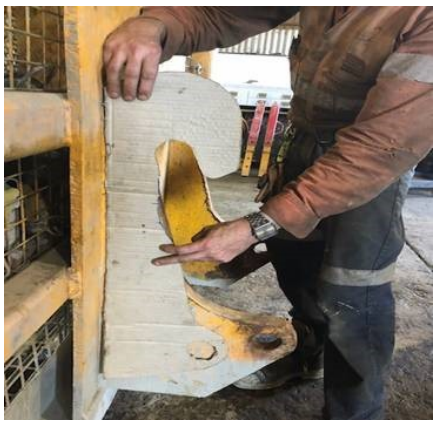
Investigation

The NSW Resources Regulator attended site and conducted an assessment of the mine's investigation into the incident and identified the following factors associated with the incident:

→ The mine operator failed to identify and control the risk of the work box falling from the tool carrier if the locking pins were disengaged.

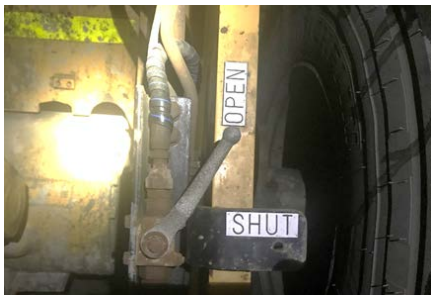
Figure 2. The workbox attachment hitch (Photograph by Resources Regulator)

Figure 3. A comparison showing the typical hitch pattern used on site (cardboard template) with the hitch fitted to the incident workbox, showing differences in the hook length and locking pin location. (Photograph courtesy of the mine operator)



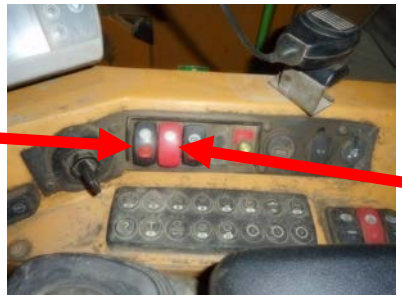
→ The locking pin was not hydraulically isolated in line with operational procedures and the pre-start checklist.

Figure 4. Hydraulic isolation valve handle in the open position. (Photograph by Resources Regulator)



→ The switch panel layout presented a risk of incorrect switch selection.

Figure 5. View of the switch panel layout inside the cabin of the incident loader. (Photograph by Resources Regulator)



Recommendations

Mine operators should review their safety management systems, particularly focusing on ensuring that:

- → workbox attachment systems are fit-for- purpose with machine attachment systems
- → change management arrangements for the modification and maintenance of workbox attachment systems are to be assessed in consultation with relevant equipment manufacturers or engineering specialists
- → for any modified plant, mines should conduct thorough assessments to ensure compatibility with existing site equipment and attachments
- → operational switches in mobile equipment are of an appropriate type, positioned and labelled appropriately to prevent inadvertent operation and consider additional barriers or protection of the locking pin release switch
- → information, instruction and training is provided to, and implemented by workers for the safe use of workboxes.

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 notice board.

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