NSW GOVERNMENT

NSW Resources Regulator

SAFETY ALERT

DATE: JANUARY 2021

Elevated work box falls from integrated tool carrier

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

Issue

A work box detached and fell two metres from an integrated tool carrier (IT). The work box hit the ground and rolled 90 degrees onto its side. Two mine workers located in the work box, were partially ejected from the work box and suffered minor injuries.

Circumstances

The incident occurred on 9 January 2021.

Two workers were tasked with installing a secondary vent fan from the roof (backs) in the main decline of an underground metalliferous mine using an integrated tool carrier (IT) and combination fan lifting/ work box.

The work box, with fan restrained, had been attached to the IT during the previous shift and parked in a nearby adjacent heading ready for the commencement of work. In line with the requirements of a pre-start inspection, the operator believed he had 'confirmed' engagement of the attachment locking pins by lifting the work box from the ground and tilting it forward. He did not visually inspect the locking pins to ensure they had fully engaged the work box attachment.

The hydraulic isolation valve was placed in the isolated position and all three workers placed personal isolation locks to stop any inadvertent operation of the locking pins during operation.

The fan was raised and secured to the roof (backs) before the work box was partially lowered. During this lowering, the work box has detached from the IT and fallen to the ground. Upon hitting the ground, the work box rolled 90 degrees onto its side, ejecting the two workers.

Figure 1. Workbox on its side with integrated tool carrier in the background

Investigation

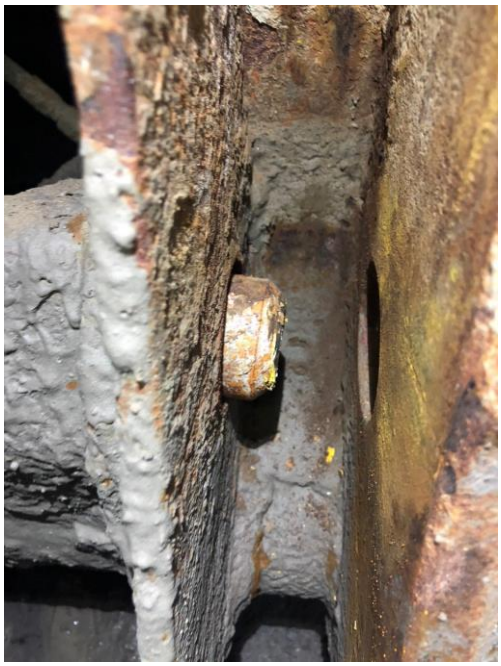
An inspector from the NSW Resources Regulator attended the site on the day of the incident and conducted an assessment which identified the following contributing factors:

- The attachment locking pins appear to have been only partially extended and had not fully engaged the work box's attachment to the coupler of the IT.
- A visual inspection of the locking pins to confirm the full engagement of the attachment was not undertaken.
- Workers relied on the IT operator to have properly assessed the effectiveness of the locking pin control measure prior to placing their locks on the hydraulic isolation valve.

Figure 2. IT workbox attachment point

Figure 4. Gouge marks on face of workbox locking pin receptacle

Figure 1. LHS locking pin partially extended



Recommendations

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

- Control measures employed to ensure the effective and secure coupling of work boxes and implements to mobile machinery are reviewed, taking into account the hierarchy of risk controls.
- Operational switches in mobile equipment are of an appropriate type, positioned and labelled appropriately to prevent inadvertent operation and consideration is made to install additional barriers or protection of the locking pin release switch.
- Each worker verifies the effectiveness of a control measure prior to placing their isolation lock and tag.
- Information, instruction and training are 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 common area, such as your notice board where appropriate.

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