



Significant Incident Report No. 262

Subject: Integrated tool carrier tips over underground

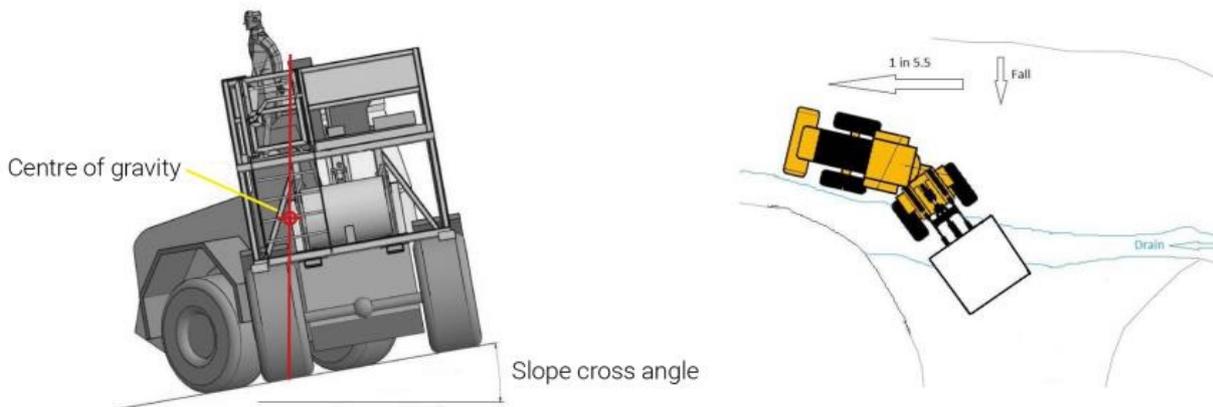
Date: 07 May 2018

Summary of incident

In February 2017, two underground workers were using an integrated tool carrier (IT) to complete a task at the intersection of a decline and a link drive. To access the work area the IT was parked in the decline with the front of the machine articulated (35°) around the corner of the intersection. The decline had a cross slope angle of 10.3° .

In order to undertake the task, the work platform, with a worker inside, was raised. When the basket reached a height of 2 m (and 30° off horizontal) the IT tipped onto its side. Fortunately, the worker in the basket and the IT operator were uninjured.

Note: The total estimated weight of the work platform was 3,106 kg and within the capacity for the IT.



Left. Schematic of the IT showing the cross slope angle of the floor and the centre of gravity of the machine. Right. Plan view showing position of the IT at the time of the incident.

Direct causes

- The IT was positioned and operated on a cross slope that exceeded the static stability threshold for the IT when articulated and with the work platform raised.

Note: The original equipment manufacturer's (OEM's) operating parameters and recommendations state that the IT's static stability threshold maximum is 10° (applicable if IT is not articulated and the boom is fully lowered).

Contributory causes

- The operator was unaware of the static stability limitations of the IT and the effect of articulation and position of work platform on the stability of the machine.
- The inclinometer on the IT was not set up to measure the cross slope angle across the front axle.

Actions required

The following actions are recommended to duty holders to assist in the safe operation of integrated tool carriers.

- Review the OEM operating parameters and recommendations for all ITs on site to ascertain their stability limitations and determine if they are suitable for the tasks expected of them.
- Inform operators of the stability limitations of ITs and include the information in their training.
- Verify the competency of IT operators to use the mobile plant and associated attachments (e.g. work basket).
- Consider installing monitoring equipment (e.g. tyre pressure indicators, inclinometer across the front axle) to assist in determining if working within the static stability limitations for the IT.
- Avoid where possible, working on a cross slope approaching the static stability threshold when a raised work platform is required.

Further information

- Department of Mines, Industry Regulation and Safety, Mines safety alerts, www.dmp.wa.gov.au/Safety/Mines-safety-alerts-13194.aspx

Mines Safety Bulletin No. 114 *Compliance requirements for multi-purpose plant*

This Significant Incident Report was approved for release by the State Mining Engineer on 07 May 2018