



Significant Incident Report No. 280

Subject: Bulldozer operator crushed between ladder and handrail – significant injuries

Date: 20 March 2020

Summary of incident

Note: The Department of Mines, Industry Regulation and Safety's investigation is ongoing. Information contained in the significant incident report is based on findings at the time of writing.

On 5 March 2020, a bulldozer operator sustained serious injuries to their leg after being crushed between a hydraulic access staircase and handrail that were attached to the bulldozer.

The bulldozer operator had just completed a pre-work inspection of the job site with their leading hand and was accessing the bulldozer via the stairs when the stairs began to raise unexpectedly.

The operator attempted to get clear of the moving stairs by jumping to the platform alongside the operator's cabin, but was trapped between the handrail and the moving staircase.

The leading hand saw that the operator was trapped and used a spanner to remove the handrail from the bulldozer and free the operator prior to site emergency response personnel arriving and providing assistance. The operator was airlifted to hospital for treatment of crush injuries to their leg.



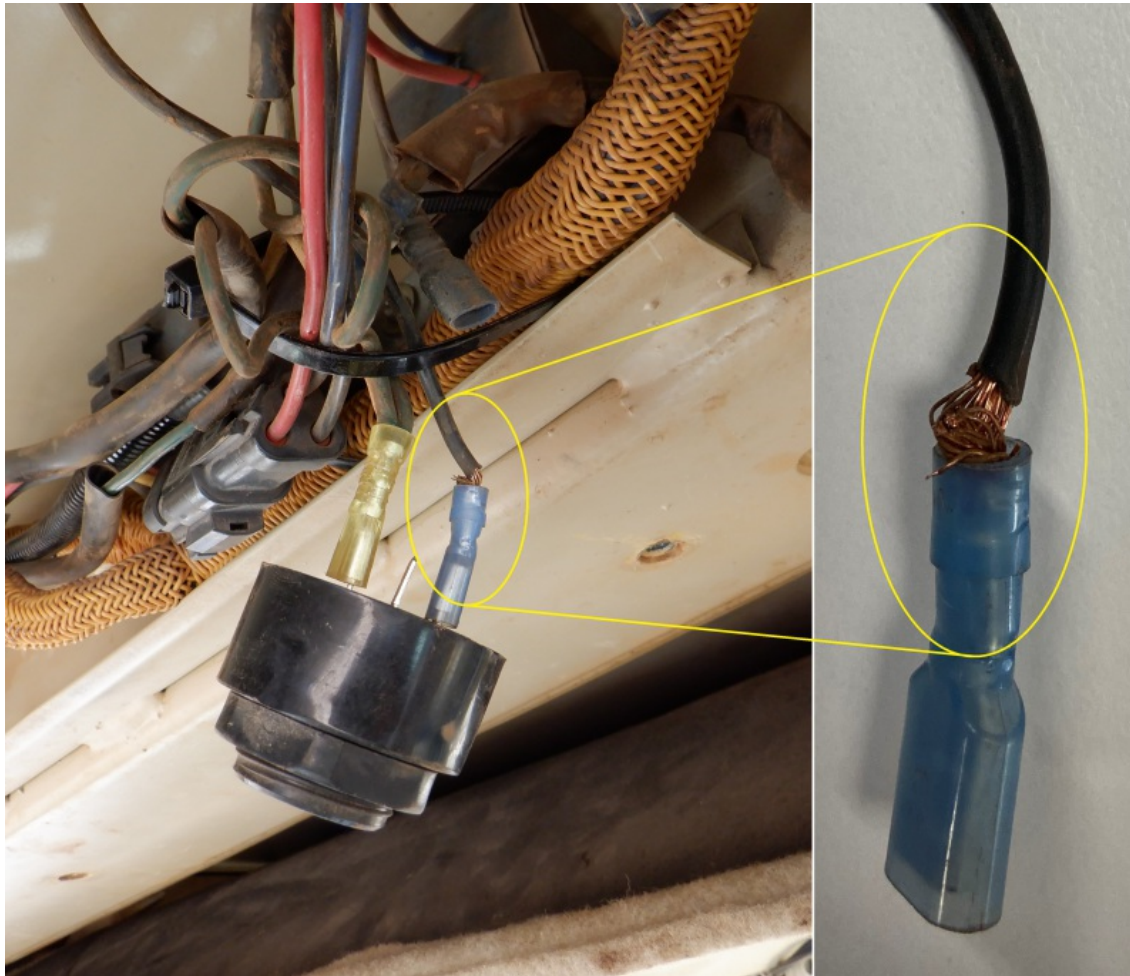
The circle indicates where the accident happened, with the staircase in a partially raised position.

Direct causes

The operator was in the line of fire when the hydraulic access staircase activated and rotated anti-clockwise.

Contributory causes

- There were multiple modifications to the wiring of the bulldozer which were not compliant with the requirements for installation of the hydraulic staircase.
- There was a poor wiring termination on a modification allowing the switching wire for the hydraulic staircase to earth, triggering unexpected staircase movement.



L - Modification (buzzer installation) connected to staircase switching wire. R - Exposed copper at termination that was able to earth on bulldozer bodywork.

Actions required

The following actions are recommended to assist in the safe operation of heavy mobile equipment.

- Review Significant Incident Report No. 261 *Face shovel operator crushed between ladder and handrail – fatal accident* and follow the recommended actions for all mobile plant fitted with a hydraulic access ladder or staircase.
- Ensure that all modifications to plant are assessed, undertaken and tested by competent persons prior to being put into operation.

- Undertake an inspection and audit of plant with an actuated ladder or staircase to ensure that non-compliant or poorly installed wiring cannot trigger an unexpected movement of the access ladder or staircase.

Further information

SIR No. 261 *Face shovel operator crushed between ladder and handrail - fatal accident*

www.dmp.wa.gov.au/Documents/Safety/MSH_SIR_261.pdf

This Significant Incident Report was approved for release by the State Mining Engineer on 20 March 2020