Safety Bulletin

Date: March 2024

Bulldozer incident increase

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

Issue

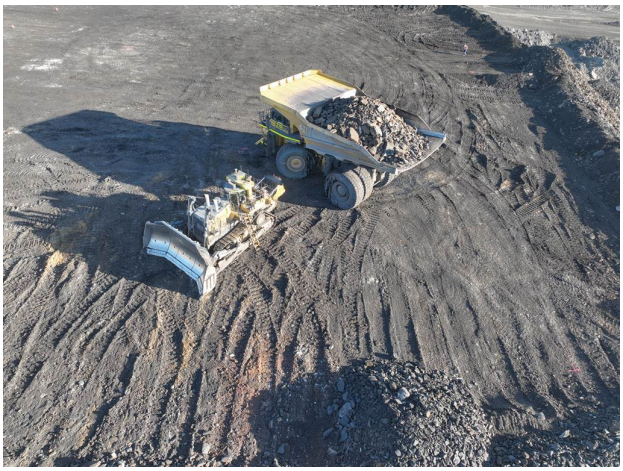
The NSW Resources Regulator has observed a concerning upward trend in reported incidents involving bulldozers. There have been 66 incidents involving bulldozers reported to the Regulator since January 2022.

Past incidents involving Bulldozers in NSW mines have resulted in serious injuries and deaths.

Circumstances

The potential hazards involved with working with bulldozers are numerous, 4 typical examples of incidents are detailed below.

Example 1 - IncNot0045257



While approaching a dump tip head, a haul truck proceeded behind a dozer that was maintaining the tip head without making positive communication. The dozer operator did not see the truck and reversed back making contact with the left side of the stationary truck.

The following causes were identified:

1. The dozer reversed a long way in an unusual manoeuvre and failed to look behind

2. No positive communication by the truck operator

3. The dozer operator was in-training, operating under minimal supervision arrangements

Example 2 - IncNot0043760

Incorrect parking location of light vehicle (LV) in relation to the active work area.

The operator of the LV parked within the 30 metre exclusion zone of a dozer and then proceeded to operate the dozer, leading to the event.

The operator of the D11 dozer had reversed into their unoccupied light vehicle.

Contributing factors included:

- a lack of adherence to the 50/30 rule
- not following safe park up procedures
- poor change management process.

Example 3 - IncNot0042903

A dozer was cleaning up around an excavator when it slid off the coal floor into a body of water, dropping a track into a deeper section, with water rising over the tracks. The operator was unharmed. Police were informed of a rescue in progress by the Open Cut Examiner. Material was placed into the water to form a "bridge" which the operator walked out on.

A contributing factor was the dozer operator failing to follow procedure and reversing while in a body of water of unknown depth.

Example 4 - IncNot0045178

A Komatsu 475 Super Dozer was pushing down over height material on the top of a blast heave adjacent to a CAT 6060 Excavator's work area. The operator was using an access track to travel back into the work area and noticed a large rock had fallen onto the track. The operator attempted to move the rock off the track with the dozer blade.

The operator believed they had removed the rock and cleared the track. The operator tracked back to change direction and move forward to continue up the track. Upon moving forward, the operator

felt the right-hand side track climb upward, incorrectly believing it was a smaller rock they continued forward.

As the right hand track climbed onto the rock, the dozer tilted to the left causing the left hand side track to slide off the left hand side of the access ramp resulting in the dozer rolling onto its side.

Investigation

There have been 66 incidents involving bulldozers reported to the Regulator since January 2022. On 56 occasions, there was physical equipment damage. An additional 10 incidents reported as a potential for injury or illness. The data cannot reflect on the number of near misses that have gone unreported.

The Regulator's review identified the following contributing factors:

- operators have not identified all the hazards in their workplaces
- operators and supervisors have not maintained standards in their work areas including windrows, demarcation of work zones, light vehicle park-up areas and exclusion zones
- operators have not maintained control of dozer work areas
- a lack of positive communication between operators that is repeatedly a factor in collisions
- several instances when operators and supervisors did not identify the need for positive communications.

Recommendations

Mine operators should regularly audit the effectiveness of the roads and other vehicle operating areas principal hazard management plan including:

- A review of risk control measures must be conducted in accordance with section 15 and 16 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 and recorded in accordance with section 17 (Record of certain reviews of control measures) of the Regulation.
- The review of the safety system as required by section 22 of the WHS(MPS) Regulation must include consideration of the hierarchy of control as per WHS Regulation 2017 section 35.
- "Reasonably practical" as per *Work Health and Safety Act 2011* section 18 is to be applied.
- Communication to operators of the hazards present in their work area including stability and grades of the material the bulldozer will be working on.
- The shift task allocation against the training system and taking corrective action when deficiencies are detected.
- The effectiveness of operators and supervisors identifying hazards, controlling risks and skills and taking corrective action when deficiencies are detected.

Every shift supervisor should:

- confirm operators have identified all the hazards in their workplaces
- confirm that the proposed risk controls to manage the hazards will control the hazard risk

- monitor the effectiveness of the risk controls during the shift and take corrective action when deficiencies are detected
- require that ground implements (blades and rippers) are kept as low to the ground as possible during operation, particularly when operating on uneven surfaces
- review stockpiles to confirm that valve locations are easily and readily identifiable for operators.

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