



## Department of Industry and Resources

Safety and Health Division

# Safety Bulletin No. 72

Date: 6 May 2005

Subject: Loss of control of large mobile equipment on gradients

## The hazard

A number of significant incidents have occurred recently where the drivers of large mobile equipment have lost control of their equipment while driving up an incline.

In the most recent incident, a fully laden on highway dump truck travelling on an internal sealed access road rolled backwards when it stalled after failing to reach the top of an incline.

The operator was attempting to negotiate the incline in too high a gear, which led to the engine stalling. Once the truck had stalled, the emergency service and park brakes were not adequate to hold it and prevent it from running away, despite the best efforts of the driver.

An examination of the induction records, procedures, training records and competency assessment documents for truck drivers at the site revealed that there was little or no information detailing the correct method to safely negotiate an incline.

## Contributory factors identified

- Presence of steep gradients.
- Presence of poor road surfaces reducing tyre grip.
- Drivers negotiating the incline in too high a gear.
- No signage displayed to warn of the hazard or instruct personnel to select low gear.
- Poor procedures and training regarding how to negotiate an incline safely.
- The braking systems of the truck were not adequate to prevent it rolling back down the hill after stalling.

## Recommendations

- Each company needs to review its induction, procedures, training and competency assessments to ensure that the rules to safely negotiate an incline can be understood and practiced by all drivers prior to them being deemed competent or being allowed to drive on the mine.
- Consideration should be given to the need for signage, displayed in accordance with regulations 4.10 and 13.7(4) of the Mines Safety and Inspection Regulations 1995, to identify the presence of a steep incline and the need to select a low gear.

- Roads should be formed to ensure that planned gradients are designed in accordance with the vehicle limitations specified by the original equipment manufacturer (OEM). The roads should not be excessively steep and the road surfaces should ensure adequate tyre grip.
- Under regulation 13.2, the Registered Manager, the Principal Employer and any other employer must ensure that a motor vehicle is not used at the mine unless it is equipped and maintained with brakes capable of effectively stopping and holding that vehicle fully loaded under any condition of operation when driven in accordance with the manager's instruction.

**MJ Knee**  
**STATE MINING ENGINEER**