

Vehicle collisions - how long before it's really bad?

Mines safety alert no. 232 | 25 August 2009 | Version 1

Mine Type

All surface mines

Incident

On the first nightshift of the tour, at 4.30am, an operator of a loaded rear dump truck fell asleep at the wheel on entering a left hand bend, crossed the lanes and collided with an approaching empty rear dump truck. The operator of the empty truck saw what was happening, tried to avoid the collision, and also attempted communication on the 2-way radio without success. Fortunately there were no injuries.

Equipment

Rear dump trucks in this incident, but this could apply to all mobile plant.

Hazard

Vehicle collision.

Cause

Under investigation - however fatigue is clearly a factor to be assessed.

Comments

1. Without prejudicing the mine's investigation, an examination of the photographs might lead to the conclusion that the general environment didn't present any particular difficulties. It is fortunate that:
 - both trucks were left hand drive
 - a light vehicle was not involved
 - the empty truck did not roll.
2. The mine gives credit to the operator for admitting falling asleep and therefore assisting the investigation process.
3. **Hard Barriers**

In April 2008, Safety Alert 194 drew attention to a probable head on collision between two rear dump trucks when a loaded truck lost control but was stopped by a substantial centre berm dividing the haul road. Industry was challenged on the potential use of hard barriers and two comments from that safety alert are repeated below:

 - There are many unplanned movement/loss of control incidents involving light and heavy vehicles on the Inspectorate's database. Causal factors include wet roads, micro sleeps, brake

faults, speed, inexperience and various distractions (e.g. phone). Many incidents have resulted in vehicles crossing lanes, fortunately without tragic consequences.

- In recent years the use of centre berms on ramps, particularly on descending left hand bends, has become more common (and is used at this mine). However soft or administrative/procedural controls are the norm for haul roads generally.

4. Proximity Detection Devices

The Inspectorate has recently conducted two of a series of four seminars planned on Collision Avoidance and Proximity Detection. Presentations from a number of operators and suppliers demonstrated technological advances made in proximity detection and visibility devices for mobile and other equipment. A central theme is the challenge to industry to manage the risk associated with large mining plant to within an acceptable level, (a component of which is 'as low as reasonably achievable'), which is a fundamental requirement of Queensland's risk based mining safety and health legislation.

5. Fatigue Detection Devices

An on the job example is the Smart Cap which was initially developed under an Australian Coal Association Research Program project grant. Substantial industry investment has resulted in a commercial product that is being introduced to mines now. The Smart Cap measures brain wave activity to detect fatigue symptoms which then raises an alarm with the wearer.

Recommendations

A mine's risk management process must drive regular review of operational procedures to identify any changes in circumstances, such as the availability of other control options, new technology or innovations. This continuous improvement process is another fundamental of the mining safety and health legislation, and a means of ensuring that risk is maintained 'as low as reasonably achievable'.



(https://www.dnrme.qld.gov.au/__data/assets/image/0009/233397/rear-dump-truck-crossing-lanes-1.jpg)



(https://www.dnrme.qld.gov.au/__data/assets/image/0010/233398/rear-dump-truck-crossing-lanes-2.jpg)

Authorised by Gavin Taylor - Chief Inspector of Coal Mines

Contact: minesafetyandhealth@dnrm.qld.gov.au

Issued by the Queensland Department of Employment, Economic Development and Innovation

Placement: Place this announcement on noticeboards and ensure all relevant people in your organisation receive a copy.

Find more safety alerts and bulletins (<https://www.dnrm.qld.gov.au/mining/safety-and-health/alerts-bulletins-search>)

Search the hazards database (<https://www.business.qld.gov.au/industry/mining/safety-health/mining-safety-health/hazards>)