

Mines Inspectorate
www.dme.qld.gov.au

Safety alert 232
Published 25 August 2009

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

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*'.

Gavin Taylor**Chief Inspector of Coal Mines**

Contact: Mike Walker, District Inspector of Mines, +61 7 4938 4121

Please ensure all relevant people in your organisation receive a copy of this Safety alert. Any such advice supplied to site should reach those who require it, and it should also be placed on the mine notice boards.

See more Safety alerts and Safety bulletins at

http://www.dme.qld.gov.au/mines/safety_information___bulletins.cfm