



# Mines Safety

## Significant Incident Report No. 139

### Loss of control of service vehicles

#### Incident

Two incidents occurred recently on underground mines where there was a loss of control of a service vehicle while travelling down the decline.

In the first case, a loaded concrete agitator truck struck the sidewall a number of times after its brakes failed. It then tipped onto its side in an access drive. The second case involved a flat-bed service truck transporting explosives underground. The operator steered the vehicle into the sidewall to stop it after the brakes failed.

Fortunately, the operators of these vehicles were not seriously injured. However, both vehicles sustained serious damage.

#### Causes

- In both incidents, the brakes of the vehicles had been poorly maintained.
- The operators had not completed the required training for the respective vehicles.
- The vehicles were being driven in the wrong gear.
- The agitator truck, which had an automatic transmission, appeared to have been operated in the drive mode and not locked into first gear. As the vehicle picked up speed, it may have automatically upshifted into second gear thereby requiring numerous brake applications to slow it down. The service truck was being driven in high range with a load in excess of its allowable payload. Again, brake applications were required to slow it down.
- The increased braking may have caused the brakes to overheat and become ineffective.
- The exhaust brake or retarder systems of the vehicles did not appear to have been working effectively.

#### Recommendations

- Vehicles need to be appropriately maintained, with particular emphasis given to their braking systems. Maintenance schedules should be consistent with manufacturer's guidelines and schedules. Pre-start checks must include brake testing.
- Vehicles operating on mine sites must be able to safely ascend, descend, stop and be held stationary on all grades they are required to traverse. This should take into consideration the operating environment, loads being transported and braking systems in place.
- The service brake must be able to stop and hold mobile equipment travelling with its rated loads on the decline grades used, should a failure of the engine transmission or exhaust brake or retarder occur.

- Operators must receive proper training and be tested and passed as competent to operate a particular type of vehicle. This should include instruction in the gear to be used when driving down the decline.
- High range gears should be locked out or selection disabled to allow only low range gears to be used underground or on steep surface slopes. Signage for the proper selection of gears should be clearly displayed in the vehicle.
- Managers of mines should confirm with the manufacturers of mobile equipment, particularly types not purpose-designed for the mining environment, that it is safe to use the vehicles with their nominated loads on the decline grades. Appropriate risk assessment for the use of the vehicles should also be completed and recorded.

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