



# Fire on a personnel transport vehicle

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## Mine type

All underground mines

## Incident

Fire on an air compressor delivery hose connected to an air receiver.

## Equipment

Underground personnel transport vehicle – compressed air delivery hose.

## Hazard

Fire/contaminated atmosphere.

## Cause

Inappropriate application of the hydraulic hoses used between the air compressor outlet and the air receiver.

## Comments and recommendations

The mine's reticulated compressed air system was low on pressure following a compressor failure.

A contractor's personnel transport vehicle was being used to supply compressed air to start an LHD.

The air line between the air compressor and the air receiver comprised three hoses and a check valve.

Connected directly to the compressor was a No.6 hose, 1 metre long, of PTFE, steel wire braided construction. However the remaining two hoses were not similarly constructed, being standard No.8 hydraulic hoses, 1.2 and 0.8 metres long respectively, with a joiner and check valve fitted between them.

Repeated attempts at starting the vehicle raised air temperatures due to the compressor's increased duty cycle, which caused the non-PTFE hoses to smoulder.

Similar instances of minor fires on inappropriate hoses had previously occurred in this application.



- Consult with original equipment manufacturers (OEM) to ensure that compressor change out intervals and pneumatic system configuration and maintenance are consistent with their recommendations.
- Limit personnel transport equipment being used to "jump start" LHDs and similar machines. This task exceeds the design parameters and intended duty cycle of the compressors fitted to personnel vehicles by the OEM and increases the potential of fire from the resulting heat.
- Refer to:
  - AS/NZS 3584.1:2005 Diesel engine systems for underground coal mines - Fire protected - Heavy Duty, Section 2.12
  - MDG 1 Guideline for Free-Steered Vehicles, July 1995, Sections 5.10.2 and 5.10.4.6
  - MDG 15 Guideline for Mobile and Transportable Equipment for Use In Mines, March 2002, Sections 3.8.3b, c & d.
- Mines should ensure that personnel responsible for maintaining these items of plant are aware of the importance of correct fitting and inspection, so as to mitigate the risk of diesel vehicle fires in underground coal mines.

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