



Mines Safety Significant Incident Report No. 181

Hydraulic hose failure leads to dump truck fire

Summary of incident

A dump truck operating at an open pit mine caught fire when a hose-end fitting separated on a single-wire reinforced hydraulic hose. Oil sprayed onto hot engine components in the engine bay and ignited. The operator stopped the truck when steering was lost and the brake applied automatically due to fluid loss. The dump truck was not shut-down in accordance with the recommended procedures.

The truck had no fire-suppression system, and flames and thick black smoke prevented escape down the normal access ladder. The operator tried to access the vertical emergency ladder but pushed rather than pulled the gate and could not exit. The operator returned to the cab and called on the two-way radio for urgent assistance. The operator exited the vehicle by climbing over the rail and down the vertical emergency ladder while another person directed a fire extinguisher at the flames.

Probable causes

Direct:

- A new double-wire hose-end fitting was incorrectly fitted to a single-wire hydraulic hose assembly.

Contributory:

- The truck was not fitted with a fire-suppression system.
- The emergency shut-down button was not located in a prominent position on the truck dashboard.
- The operator did not follow the correct shut-down procedures.
- The operator, although regarded as experienced, was neither familiar with nor practised in emergency procedures.

Actions required

- Ensure the design of hydraulic hose assemblies complies with the requirements of the original equipment manufacturer (OEM) and the assemblies are fit for purpose.
- Use correctly rated and compatible fittings when maintaining hydraulic hoses.
- Ensure hydraulic hoses are assembled and installed by competent personnel.
- Undertake a fire risk assessment (e.g. Australian Standard AS 5062:2006 *Fire protection for mobile and transportable equipment*) to identify and implement control measures to prevent and mitigate vehicle fires.
- Ensure machine emergency controls are visible, clearly labelled and easily accessed.
- Ensure training and assessment for operation of mobile equipment includes emergency scenarios and procedures, including access and egress.
- Maintain regular emergency procedure drills, with documented reviews of outcomes.

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3 April 2013