



**DEPARTMENT OF MINERALS AND ENERGY
WESTERN AUSTRALIA**

SIGNIFICANT INCIDENT REPORT NO. 69

ANFO MIXING VEHICLE FIRE

INCIDENT

An ANFO mixing vehicle with a leaking fuel oil tank was being used in charging operations at a surface mine. The vehicle caught fire halfway through the charging up operation. Approximately 4.5 tonnes of ammonium nitrate and 400 litres of fuel oil were on the vehicle at the time of the fire. The operators were not injured and mine personnel were evacuated to a distance of 1000m. The fire subsided to the area under the fuel oil tank, but continued to burn for 48 hours, at which time the fire crew extinguished the fire. The major concern during the incident was the possibility of an explosion involving the remaining ammonium nitrate and ANFO on the vehicle.

IMMEDIATE CAUSE

The leaking fuel oil tank provided the fuel for the fire. The ignition source was possibly either the heat from the engine retard system or damaged wiring.

A similar incident has occurred where the engine retard system caused a fire on a mixing vehicle. It appears that some automatic transmission vehicles have retard systems located on the tail shaft which can be susceptible to overheating.

COMMENTS AND PREVENTATIVE ACTION

The circumstances leading to this incident underline the fact that maintenance of ANFO or HEAVY ANFO mixing vehicles is of critical importance.

All companies operating ANFO or HEAVY ANFO mixing vehicles should check their vehicles to ensure:

- any oil or fuel leaks are rectified;
- that the wiring to the rear of the cabin is contained in approved conduit; and
- that any engine retard system is not susceptible to overheating.

Mixing vehicles should not be operated until any fuel leaks or spillages have been cleaned up and rectified.

The operation of either ANFO or HEAVY ANFO mixing vehicles is required to comply with the Guidance Note issued by the Explosives and Dangerous Goods Division. Copies can be obtained by ringing the Duty Inspector on 09 222 3413.

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STATE MINING ENGINEER

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SAFETY AWARENESS SAVES LIVES