DEPARTMENT OF MINERALS AND ENERGY WESTERN AUSTRALIA

SIGNIFICANT INCIDENT REPORT NO. 101

LIME TANKER PRESSURE PIPING CONNECTION FAILURE

INCIDENT

An automotive electrician received a serious head injury when he was struck on the head by a steel pipe which suddenly separated from other pipe-work it was connected to on a pressurised discharge bulk tanker trailer; (lime tanker).

He had installed a replacement starter motor on a diesel engine which was directly coupled to a compressor installed on the lime tanker. To check that the starter motor was working properly, he then started the engine. This in turn set the compressor in motion, which pressurised the pressure piping on the lime tanker.

After the engine started, a flexible rubber connection, which was located directly above the controls for the engine, suddenly separated from a steel pipe that it was joining. The separated steel pipe swung down (on a threaded connection) and struck him on the head.

IMMEDIATE CAUSES AND CONTRIBUTING FACTORS

An isolation valve had been installed in the main air discharge pipeline between the compressor and a pressure relief valve. The flexible rubber connection was located within this section of pipe work between the compressor and isolation valve. At the time of the accident the isolation valve was believed to be in the closed position.

The compressor was not fitted with a pressure relief valve.

The electrician was not familiar with the operation of the pressure equipment installed on the lime tanker.

There were no written operating instructions on the tanker for the electrician to follow.

COMMENTS AND PREVENTATIVE ACTION

Although this particular incident did not occur on a mine, it is appropriate (given the widespread use of this type of unit in the mining industry) for mining employers and managers to ensure that their own sites are not susceptible to similar events.

Pressurised equipment and systems should be designed and inspected by suitably competent persons who have undertaken appropriate hazard identification processes.

Pressure relief valves on pressure equipment should not be isolated from pressurised components nor over-ridden.

Only trained and competent personnel should operate pressure equipment.

Operating instructions should be clearly displayed and readily available to persons working on pressure equipment.

J M Torlach
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SAFETY AWARENESS SAVES LIVES