

Safety and health alert

09/99 Operating pressurised plant

Incident

An automotive electrician working on the owner's site installed a replacement starter motor on a diesel engine driving a compressor fitted to a twin chamber pressure discharge bulk tanker trailer.

To check that the starter motor was installed correctly and working properly the electrician started the diesel engine. This in turn set the direct drive compressor in motion, which commenced to pressurise the air supply system. During the process a flexible rubber connection extended and came away from the steel pipes (in the main air supply pipeline) that it was joining. The flexible rubber connection was located directly above where the electrician was standing. The separated section of steel pipeline swung down (via a threaded connection) and struck the electrician on the head, resulting in serious injury.

Factors

1. An isolation valve had been installed in the main air discharge pipeline between the compressor and pressure relief valve. The flexible rubber connection was located within the section of pipeline between the compressor and isolation valve. At the time of the accident the isolation valve was believed to be in the closed position.
2. The compressor was not fitted with a relief valve.
3. When the compressor started, air pressure built up in the pipeline between the compressor and isolation valve until the pressure was sufficient to cause the rubber connection to separate from the steel pipe allowing the steel pipe to swing in a downward direction with significant force.
4. The electrician was not familiar with the operation of this type of pressurised plant and did not check that valves were correctly located before starting the diesel engine.
5. There were no written operating instructions on the tanker for the electrician to follow.

Recommendations

1. Pressurised systems should be designed and inspected by suitably competent persons who have undertaken appropriate hazard identification processes.
2. Relief valves on pressurised systems should not be isolated from pressurised components or over-ridden.
3. Pressurised plant should only be operated by suitably trained and competent personnel.
4. Operating instructions should be clearly displayed or readily available to persons working on the plant.



Further Information

Further information can be obtained from the WorkSafe internet site www.worksafe.wa.gov.au, or by contacting customer service on 1300 307 877 or email: safety@docep.wa.gov.au.

Date: February 1999

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