



S A F E T Y B U L L E T I N

INJURIES THROUGH OPENING ENCLOSED SYSTEMS

Within a three month period, five people have been injured either while opening, or working near openings on enclosed systems. In each case a substance, either inherently dangerous or in a dangerous condition, was discharged from within an enclosed system through an opening, causing injuries.

THIRD DEGREE BURNS FROM HOT IRON ORE

In the first accident, iron ore powder at a temperature of about 500°C, was dislodged from a cyclone above an inspection port, during operations to locate a blockage in the plant. The hot powder cascaded out of the port, causing severe burns to two of the three workers standing nearby. One man requires skin grafts and faces several months in hospital.

GASSED BY SO₂

The second accident was a gassing, which occurred when a technician was opening a scrubber hatch for gas sampling before inspection and cleaning. As she opened the hatch she was exposed to SO₂ fumes, resulting from the undetected combustion of sulphide concentrates within the plant. She suffered a severe respiratory reaction, and required hospitalisation for 24 hours medical observation.

SCALDED BY SUPERHEATED STEAM

The most recent accident occurred when a fitter was removing a mechanical seal from a pressure vessel which had not been properly depressurised. He was scalded by a blast of steam and received burns to his arm, and to both legs from the groin to the ankle, and required hospitalisation for about two weeks.

Regulation 7.26 of the Mines Safety and Inspection Regulations - 1995 - requires each responsible person at a mine to identify hazardous substances contained in enclosed systems to persons who are potentially at risk of being exposed to that substance.

Both normal or abnormal plant operation can result in potentially injurious substances or conditions existing within an enclosed system, which can remain hazardous despite normal tagging out and isolation.

Closed systems such as vessels, ducts, or pipework, should not be opened until the plant has been isolated, and internal conditions have been identified, made safe if possible, and precautionary measures, including the use of appropriate Personal Protective Equipment, put in place.

Reference should be made to the Australian Standard 2865 - 1995 "Safe Working in a Confined Space".

J M Torlach
STATE MINING ENGINEER

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