Department of Mines
Western Australia

No. 2

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

EMERGENCY STOPS AND PLC's

BACKGROUND

Sound rules have been established to ensure that emergency stop circuits operate in the most reliable and effective manner possible. Due to an increased use of programmable control systems it is timely to remind such users of their obligation to comply with definite minimum requirements.

REQUIREMENTS

Specific requirements for emergency stop circuits are detailed in the following Australian Standards:

AS 3000-1986	SAA Wiring Rules (4.1.6)
AS 1755-1986	Conveyor Code (4.8.7.3)
AS 3007.4-1987	Electrical Installations – Quarries (21.2)

In general, provisions within these Standards require emergency stop devices to be:

- READILY ACCESSIBLE for safe operation.
- SIMPLE, POSITIVE AND RELIABLE in design.
- HARDWIRED external to electronic equipment.
- INCAPABLE OF BEING OVERRIDDEN by programmable devices.

COMMENTS

Circuits should be fail-safe in design and devices should operate either directly in the main power supply or in an associated control circuit.

Particular attention is required to emergency stop circuits of equipment controlled by programmable devices such as PLC's and the like. It is essential that the stopping function of a circuit is not impaired in any way by a programme malfunction, equipment failure or application of software overrides.

Users of equipment controlled by PLC's should check and ensure that the integrity of associated emergency stop circuits are satisfactory.

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