



## Mines Safety Bulletin No. 88

**Date:** 26 October 2009

**Subject:** Electric shocks from welding equipment

### Background

The number of electric shock incidents from welding equipment has increased noticeably in the past four months, with 16 incidents reported to Resources Safety. This is a worrying trend that needs to be addressed by responsible persons at Western Australian mining operations.

### Immediate causes or contributory factors

Analysis of the incident reports identified the following issues:

- faulty or damaged equipment, such as broken hand-pieces;
- careless work practices, such as direct contact with the electrode or work piece with bare hands, arms or other exposed parts of the body;
- failure to identify and address the hazard levels presented by the working environment; and
- damaged, wet or inappropriate gloves and protective clothing.

### Recommendations

- Review welding procedures at the mine site and ensure measures include the identification of welding environments and the necessary risk controls for each environment type. As a minimum, all procedures must comply with Australian Standard AS 1674.2:2007 *Safety in welding and allied processes – Electrical*.
- Ensure employees and contractors who carry out or supervise welding work are trained in the use of these procedures and any associated checklists.
- Remind employees who carry out welding work about the dangers of electricity and the necessary safe practices when welding. Resources Safety's *Mine Safety Matters* brochures on these topics are available from the website.
- Ensure welding machines, cables and appliances are all suitable for the work environment.
- Use hazard reducing devices such as voltage reduction devices (VRDs) or trigger switches.
- Where possible, use DC welders in preference to AC welders.
- Ensure welding machines, cables and appliances are maintained in good condition and regularly checked by a competent person, and defective equipment is not used.
- Where possible, perform work on a dry insulated floor. Wooden platforms, rubber mats and dry areas provide extra protection, particularly in confined spaces.
- Check personal protective equipment and clothing before use and change it if it becomes wet.
- Refer to the Welding Technology Institute of Australia's *Technical Note 7: Health and safety in welding*, which is an approved code of practice under the *Mines Safety and Inspection Act 1994* and an excellent resource for training, refresher programs and toolbox meetings.

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