

Safety Alert

Arc flash risk whilst drilling on or near energised electrical equipment

The purpose of this Safety Alert is to highlight the risk of using power tools to drill on or near live electrical equipment.

Background

The NT WorkSafe Electrical Safety Unit has been alerted to two incidents recently where workers using power tools has resulted in arc flashes, and in one case burn injuries.

In the first incident a communications technician drilled into the back panel of a switchboard escutcheon panel with a step drill, the drill tip contacted a live busbar resulting in an arc flash. The worker escaped injury.



Image 1: (Left) Damaged busbar after contact with the drill bit. (Right) The step drill showing oxidation and discoloration.

In the second incident a tradesman and apprentice were drilling out a cable lug on a battery bank. The opposite end of the lugged cable was still connected to a battery terminal. Whilst drilling, the drill has contacted a live conductor causing an arc flash, a small fire and burns to both workers.



Image 2: (Left) Cable lug being drilled out. (Right) The cable was still attached to the battery.

Possible contributing factors

- The equipment being worked on in both incidents was energised.
- Effective de-energisation and isolation (lock out, tag out) was not undertaken prior to initiation of the task.
- The work being performed differed from the activities outlined in the Safe Work Method Statement and the risks had not been adequately assessed or documented.
- The lack of risk assessment meant there were insufficient controls for working near live conductors.

Action required

- Undertake a risk assessment prior to commencing work and whenever there is a change to the scope of work
- Ensure effective de-energisation and isolation (lock out, tag out) be undertaken prior to commencing work.
- Review controls for working on or near live conductors.
- Ensure appropriate personal protective equipment, including face shields/eye protection and gloves are available and used

Further information

For further information, please refer to the following:

Codes of Practice

- [How to manage work health and safety risks](#)
- [Managing electrical risks in the workplace](#)

Legislation

- [Electrical Safety Act 2022](#)
 - [Part 2 of the Electrical Safety Regulations 2024](#) applies to managing risks to health and safety.

Other guidance

- [AS/NZS 4836:2023 Safe working on or near low-voltage and extra-low voltage electrical installations and equipment](#)

The official Australian and New Zealand Standard that sets out safety principles, guidelines, and procedures for working on or near low-voltage (LV) and extra-low voltage (ELV) electrical installations and equipment.

Disclaimer

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