

Electrician electrocuted working at a domestic property

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◆◆ **WorkSafe is issuing an alert about the risk of installing cables in older domestic properties where the electrical supply has not been de-energised and/or the integrity of existing electrical cable is not known.**

Background

Recently a licenced electrician working at an older domestic property was fatally electrocuted.

The electrician was under the house, preparing to install a cable to a power point within the house. The electrical supply was not de-energised at the time.

The electrician had dropped a stringline inside the wall cavity, and was attempting to hook the stringline so the cable could be pulled up to the switchboard. The hook used was metal and came into contact with an existing live electrical cable.

It is believed the existing cable's insulation was compromised, likely due to its age, and the metal hook came into contact with the live conductor.

Potential safety risks

- working on or near an electrical supply that has not been de-energised, isolated and locked out
- unidentified live permanent wiring
- working alone where a job requires two (or more) people to undertake the task safely
- using metal tools close to live electrical wiring

Other safety risks that may be present at older properties

- residual current devices (RCDs) may not be fitted
- where RCDs are fitted they may not protect all circuits
- multiple electrical circuits may be in the area where works are to occur

- contacting deteriorated, brittle or poorly installed live wiring
- existing faults to earth wiring may be present

Recommended ways to control risks

1. **Develop a safe work method statement (SWMS)** for the electrical work.
Electrical installation work is high risk construction work (HRCW) when it is conducted on or near energised electrical installations or services.
An employer or self-employed person must prepare a SWMS for high risk construction work (HRCW) before the work commences. The work must be performed in accordance with the SWMS. If the HRCW changes or if there is an indication that control measures are not adequately controlling the risks, the SWMS must be reviewed and, if necessary, revised.
Note: The preparation of a SWMS meets the AS/NZS 4836 'Safe working on or near low-voltage electrical installations and equipment' requirement to carry out an assessment of risks that have the potential to cause harm or damage at the work site.
2. **Identify and assess** the scope of works and assess the work area for electrical cables. Visually check the work area for any cables to ensure they appear to be in good condition and that there are no exposed connections or cables.
3. **De-energise the installation or part of the installation** to eliminate the risk of an electrical shock, for example by removing the electricity service fuse. The removal and replacement of the service fuse should be done in accordance with Energy Safe Victoria (ESV) guidelines.
4. **Use appropriate signage** - Once the service fuse is removed, lock out/tag out the main switch(es) or isolation devices.
5. **Verify the installation is de-energised** - Treat the electrical installation as energised until testing confirms that de-energisation has been achieved. If the de-energised installation is left unattended, it is recommended that it is re-tested to ensure it is still de-energised before recommencing work.
6. **Use a safe system of work** - Safe systems of work should be developed and followed along with risk controls, to reduce the risk to people undertaking:
 - removal and replacement of the service fuse
 - lock out and tag out of the main switch(es) and isolation points
 - verification of de-energisation process

Legal Duties

Under the Occupational Health and Safety Act, employers must:

- so far as is reasonably practicable, provide and maintain a working environment that is safe and without risks to the health of employees and independent contractors
- provide or maintain plant or systems of work that are safe and without risks to health, so far as is reasonably practicable

- provide employees with the necessary information, instruction, training or supervision to enable them to do their work in a way that is safe and without risks to health
- ensure, so far as is reasonably practicable, that people other than employees are not exposed to risks to their health or safety arising from the employer's conduct

Self-employed persons must ensure, so far as is reasonably practicable, that persons are not exposed to risks to their health or safety arising from the conduct of the undertaking of the self-employed person.

Employers and self-employed persons have additional duties under the Occupational Health and Safety Regulations 2017 including preparing and following a safe work method statement for high risk construction work.

Electricity safety law, which is regulated by ESV, requires all electrical circuits or electrical equipment handled during electrical work to be disconnected from the electricity supply, unless adequate precautions are taken to prevent an electrical shock or other injury.

Resources

- **Australian Standard AS/NZS 4836** - Safe working on or near low-voltage electrical installations and equipment.

Further information

- **Electrical installations at construction sites: Industry standard**

<https://www.worksafe.vic.gov.au/resources/electrical-installations-construction-sites-industry-standard>

- **Preventing electric shocks to electricians**

<https://www.worksafe.vic.gov.au/preventing-electric-shocks-electricians>

- **Preventing electric shocks when working in ceiling spaces**

<https://www.worksafe.vic.gov.au/preventing-electric-shocks-when-working-ceiling-spaces>

- **Energy Safe Victoria**

<https://www.worksafe.vic.gov.au/resources/energy-safe-victoria>