

Construction Safety Focus

March 2017



Electrical Safety

This document provides employers and employees with information about WorkSafe's current safety focus on electrical safety in the construction industry and directs them to appropriate guidance.

We're focusing on electrical safety

WorkSafe inspectors are currently visiting construction sites to ensure duty holders are controlling risks associated with electrocution and electric shock.

Inspectors will be checking:

- Builders and their contractors are complying with the Industry Standard - *Electrical installation on construction sites* and the No-Go-Zone rules for overhead and underground electrical assets.
- Safe Work Method Statement (SWMS), in particular, for work on or near the energised electrical installations or services.
- Registered Electrical Contractors (RECs) have procedures in place to ensure electricians do not work on an energised installation and that apprentice electricians are suitably supervised.

Why the visits?

Historically, electrocution is one of the leading causes of death for construction workers, including electricians. WorkSafe is notified of one or more electric shock incidents each day; many electric shocks occur during construction work.

In 2016, two apprentice electricians sustained fatal injuries after being electrocuted in separate incidents.

Frequent electrical safety issues

Inspectors routinely take enforcement action in relation to, for example, the following electrical safety issues, including but not limited to:

- Portable electrical equipment has not been inspected and maintained (tested and tagged)
- Residual Current Devices (RCD) have not been inspected and tested at the required intervals
- Breaching the 'No-Go-Zone' of overhead powerlines
- Live permanent wiring onsite has not been identified
- Electrical equipment or wiring has not been de-energised when working on or near it
- SWMS are missing, inadequate or not followed when undertaking work on or near energised electrical installation or services.

Controlling electricity risks (general)

The Industry Standard - *Electrical installation on construction sites* is a practical guide to construction wiring and for the ongoing management of the site electrical installation and portable electrical equipment.

The No-Go-Zone rules provide advice on reducing electric shock risks when operating powered mobile plant or when erecting and using scaffold near overhead electrical assets.

Controlling electricity risks (electricians)

Work on or near an energised electrical installation or service is high risk construction work (HRCW) and must not start until a SWMS is prepared.

A SWMS must:

- identify work that is HRCW,
- state the hazards and risks to health or safety,
- sufficiently describe measures to control the risks, and
- describe the manner in which the risk control measures are to be implemented.

An employer (including a self-employed person) must stop the work immediately or as soon as it is safe to do so if a SWMS is not being followed.

REC should identify procedures and controls in their SWMS for:

- de-energisation and re-energisation,
- ensuring de-energisation is maintained for the duration of the work, and
- safely performing verification tests and tests for live.

Risk control measures (electricians)

The risks of electric shock or explosion must be eliminated. If that is not reasonably practicable, the risks must be reduced by using the highest level of risk controls, so far as reasonably practicable.

Examples of risk controls are shown in the table below. A combination of controls will usually be needed.

Hierarchy of Control for construction work

Level 1	Eliminate any risk (eg de-energise all or that part of the installation being worked on and lock & tag out the isolation devices).
Level 2	Reduce the risk by implementing one or a combination of the following: <ul style="list-style-type: none">• substitute the hazard giving rise to the risk health or safety with a new activity, procedure, process or plant that is of lesser risk (eg use a non-conductive draw wire instead of metal wire).• isolate persons from the hazard (eg install temporary insulated barriers around live parts).• use engineering controls (eg retractable tip test probes and high impedance testers).
Level 3	Reduce the risk using administrative controls (eg electrical testing procedures, safety observers, warning signage).
Level 4	Control the risk by providing appropriate personal protective equipment (eg electrically rated gloves, eye protection, face shield, full coverage arc flash resistant clothes).

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Review Review and, if necessary, revise risk control measures:

- before making a change to the way the work is performed or if new or additional information about hazards becomes available,
- if the risks are not adequately controlled, or
- after receiving a request from a health and safety representative (HSR).

Consultation

Employees and their Health and Safety Representatives (HSRs) must be consulted when identifying or assessing hazards and risks, and when determining or reviewing risk controls, so far as is reasonably practicable.

Employee Responsibilities

While at work, employees must take reasonable care of their own health and safety and that of others who may be affected by their acts or omissions at a workplace. This includes co-operating with their employer with respect to any actions taken by their employer to comply with health and safety duties.

Further Information

Visit www.worksafe.vic.gov.au to download the following publications:

Industry Standard - Electrical installations on construction sites

Information - Preventing electric shocks to electricians

Information - Preventing electric shocks in ceiling spaces

Information - Safe Work Method Statements

No-Go-Zone webpage

Contact WorkSafe's Advisory Service on (03) 9641 1444 or free call 1800 136 089.

For further information about Energy Safe Victoria (ESV) requirements and to access ESV guidance, including:

Requirements for effective supervision of apprentice electricians

Visit esv.vic.gov.au or contact 1800 800 158

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