



## Work on or near energised electrical installations

### New Regulations

Presented by

**Building and Energy Division**

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### NEW LEGISLATION

- Occupational Safety and Health Regulations 1996 amended
- Electricity (Licensing) Regulations 1991 amended
- Published in Gazette 14 November 2017
- Code of Practice for Persons Working On or Near Energised Electrical Installations – published in Gazette on 1 December 2017
- Commence from 14 May 2018

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### Justifications for Change

- No improvement since safe work practices Code was published in 2008
- Evidence that some EW/ECs are cutting corners
- Constant reminders about live work dangers and the importance of isolating circuits are being ignored

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**Justifications for Change**

- In some cases, work done live purely because more convenient
- Lessons from recent investigations / fatalities
- Too many serious shocks, arc-flash incidents and electrocutions involve electricians doing live work

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**NEW LEGISLATION**

- Electricity (Licensing) Regulations 1991 – Electrical Work
- Occupational Safety and Health Regulations 1996 –  
All forms of general paid work in roof spaces

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**Electricity (Licensing) Regulations 1991**

- New Regulation 55 covers electrical work on or near electrical **installations**
- R. 55(1) creates an offence if electrical work is carried out on or near a live part of an electrical installation unless the conditions set out in r. 55(2) are satisfied.

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- R. 55(2) provides for work on energised installations if:
- A risk assessment has been completed by a competent person familiar with the task; and
- The person is satisfied that –
  - There is no reasonable alternative to carrying out the work while the part of the installation is live; and
  - The risks identified are or can be reduced to as low as reasonably practicable; and
  - The work can be carried out safely; and

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- A Safe Work Method Statement (SWMS) for the work has been completed complying with R. 3.143 of the OSH Regulations; and
- Suitable personal protective equipment and safety equipment are used.

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R. 55(3) provides justifications to support decisions to proceed with live work:

- For the work to be carried out effectively; or
- Otherwise the health and safety of one or more persons would be put in imminent and significant danger; or
- In order to test, measure the performance of, or detect or locate faults or defects in part of the installation

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• 'Effectively' needs careful consideration of the work site circumstances and the function of the electrical circuit or equipment involved.

• A rigorous assessment is required – it must not be superficial.

• It's easier, often cheaper and always safer to de-energise if at all possible.

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• R. 55(4) creates an offence if an EC or an in-house licensee carries out or causes electrical work to be carried out under r. 55(2) unless they ensure that –

- The work is carried out in accordance with the SWMS; and
- If not, the work stops and does not resume until the SWMS is complied with; and
- The safety and personal protective equipment is used properly by each person carrying out the work

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**'competent person'**, in relation to the doing of anything, means a person who has acquired through training, qualification or experience, or a combination of those things, the knowledge and skills required to do that thing competently.

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**'Near'** does not refer to any given distance. If an uninsulated energised part can be reached by a person's hand or by anything in contact with a person working in the area, or a conducting object could be dropped on to an uninsulated energised part, that person is 'near'.

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- Work near energised parts is permissible if rated barriers are installed to prevent contact.
- Installing such barriers could be live work and may require de-energisation during their installation.

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Occupational Safety and Health Regulations 1996

New regulations 3.59A and 3.59B

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R.3.59A requires duty holders to ensure that before electrical work is carried out on a part of an installation the part is tested by a competent person to ascertain if it is energised or not and if energised to arrange for a competent person to de-energise it.

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- R.3.59B requires, before any work is carried out in the roof space of a residential premises, that all energised equipment (including cables) are de-energised by a competent person.
- If the work is electrical work carried out by an electrician R.3.59B does not apply.

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A **roof space** is immediately under the roof. Not all buildings have ceilings. If there is a ceiling, it is the space between it and the roof but does not include any habitable rooms in this space.

Buildings affected are Class 1, Class 2 or Class 10a under the Building Regulations 2012.

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- Electrical contractors and in-house electrical installation work licence holders may develop generic risk assessment check lists and safe work method statements for the more common types of electrical work they carry out.
- There should be some space available to add other risks identified when assessing new work situations.

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- Generic risk assessment and SWMS forms must be customised for each individual premises by identifying the work tasks, site and the date or dates when the work is to be carried out
- The forms are to be retained for 2 years after the work is completed

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- ‘Effectively’ needs careful consideration of the work site circumstances and the function of the electrical circuit or equipment involved.
- A rigorous assessment is required – it must not be superficial.
- It’s easier, cheaper and safer to de-energise if at all possible.

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**CODE OF PRACTICE FOR PERSONS  
WORKING ON OR NEAR ENERGISED  
ELECTRICAL INSTALLATIONS**

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- The Code commences on 14 May 2018, will be referenced in r. 49(1) of the E(L)R and has the power of regulations
- It provides more detailed information about R.55 compliance
- The Code applies to all work on electrical equipment operating at low but not to ELV or work on the four network operators' distribution networks

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Code compliance may be achieved by following another method utilising sound risk management practices if the alternative provides an equivalent or superior standard of electrical safety.

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• The Code includes a SWMS template.

• If you are using your own SWMS design for the OSHR you can continue to use it to satisfy both purposes.

• Some adjustment might be necessary for specific electrical work tasks and sites

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• Clause 3 of the Code provides information about the persons collectively responsible for ensuring electrical work is carried out under de-energised conditions in all circumstances except as permitted by R.55

• Those persons are essentially the duty holders described in the Occupational Safety and Health Regulations 1996

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Appendix A of the Code shows a sample of a SWMS;

Appendix B shows a decision flowchart

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**Appendix A**

### Safe Work Method Statement

For work on: \_\_\_\_\_  
 Equipment involved: \_\_\_\_\_  
 Prepared by: \_\_\_\_\_ on: \_\_\_/\_\_\_/20\_\_\_

Work must be carried out in accordance with the SWMS. This SWMS must be kept and be available for inspection until the electrical work to which it relates is completed. If the SWMS is revised, all copies should be kept. The SWMS must be kept for at least 2 years from the date of completion of the work.

Person in charge of the place where the work will be carried out (Name, contact details)	Electrician/Contractor (Name, contact details)	Date SWMS given to EC	Date SWMS received by workers	What are the links involved? List the work tasks in a logical order	What are the hazards and risks? Identify the hazards and risks that might cause harm to workers or the public.	What are the control measures? Describe what will be done to control the risk. What will you do to make the activity as safe as possible?

Name of worker(s) involved in the work	EW number	Worker's signature(s)

Date SWMS received by workers: \_\_\_\_\_

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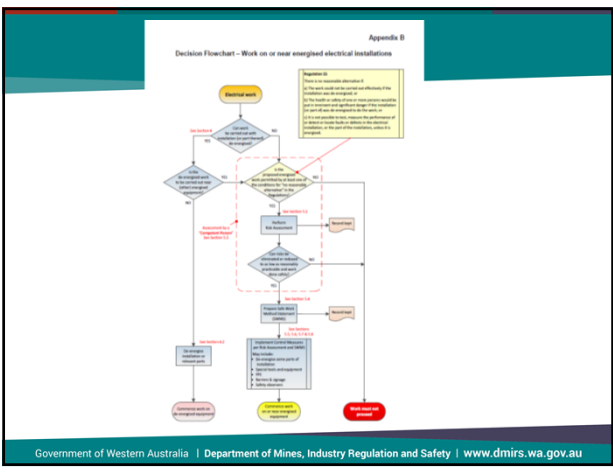
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## CORRECT PPE REQUIRED

- PPE used during live work must be correctly chosen and rated for the task
- Tools must be insulated for the full LV range to 1000 V.
- Reference: Standard IEC 60900

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**New risks:**

Battery Energy Storage Systems – BESS

- These devices can have output terminals up to 600 V dc
- Batteries can deliver huge fault currents
- Arc flash temperatures approach the temperature of the surface of the sun

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**New risks to be aware of**

Solar panels

- The output terminals of each panel will be live during daylight unless the panel is covered with a light-blocking material
- Changing the roof-top DC isolator is live work if series-connected panels produce at LV

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**Customer Relations**

- **It's always inconvenient to turn off the power**
- **Warn them at the outset this will be required**
- **Work with them to plan the best and least inconvenient time for the work**
- **Ask about risks they will incur if the power is off**

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