



Cotton farm safety: detailed information on electrical safety

The information on powerlines, residual current devices (RCDs), and portable electrical equipment in this document supports the Cotton Safety Fact-Sheet: electrical safety, a copy of which can be downloaded from Cotton Australia's [CottonSafe webpage](#). More information and additional resources are available at the CottonSafe webpage: www.cottonaustralia.com.au

Overhead powerlines

Regular inspection to identify powerlines that harvesters, trucks and high machinery may come in contact with is important and will help identifying those powerlines that pose a high risk when operating machinery. It is important to know the height and voltage of powerlines to maintain safe 'approach' distances. For overhead powerlines, the following 'safe approach' distances are:

- 3 metres of powerlines up to 132,000 volts
- 6 metres between 132 and 330kV, and
- 8 metres for powerlines above 330kV

It is further recommended that a spotter or observer is used to prevent contact by the operator when working with machinery within 3 - 6.4 m of powerlines.

The recommended minimum height of a power line above open areas is 6.7m and 5.5m above a road or carriageway.

Relocating powerlines or placing them underground in high traffic areas, especially around workshops and silos eliminates the risk of high machinery coming into contact with overhead powerlines.

Powerlines that pose a risk of contact could be identified with warning signs and have reflectors attached to make the lines more visible. Further, developing safe work procedures and communicating this information to workers and contractors will contribute to a safer workplace.

Further information can be found in the [NSW Code of Practice - Working near Overhead Powerlines](#) and the [Queensland Electrical Safety Regulations 2013 - Schedule 4](#).

Workshop electrical safety

It is a requirement that all electrical power circuits are fitted with a residual current device (RCD, also known as a safety switch) that protects against electrocution. RCDs work by tripping, (turning off power to the circuit) when detecting a difference in current flow between active and neutral or earth (Type I: less than 10 milliamps and 40 milliseconds; Type II: less than 30mA and 300mS). When they are working, they prevent electrocution.

There are different electrical safety requirements in NSW and Queensland for inspecting and testing plug-in electrical equipment.



In NSW:

If you are a business or employer (or other person conducting a business or undertaking - PCBU) you must ensure that the electrical equipment is regularly inspected and tested by a competent person if the electrical equipment:

- Is supplied with electricity through an electrical socket outlet ('plug in' equipment)
- Used in an environment in which its use exposes the equipment to operating conditions that are likely to result in damage to the equipment, or a reduction in its expected lifespan. These conditions can include:
 - exposure to moisture
 - heat
 - vibration
 - mechanical damage
 - corrosive chemicals or dust

The NSW WHS legislation refers to the Australian Standard *AS/NZS 3760: 2013 In service safety inspection and testing of electrical equipment* to provide guidance on inspection, testing and tagging methods.

All power circuit boards are required to be fitted with an RCD and are regularly tested at the following intervals:

- Workshops - push button every 6 months; operating time test and push button every 12 months
- Hostile environments - every 12 months

Electrical equipment and extension cord sets are required to be regularly inspected and tested at the following intervals:

- Workshops - every 6 months
- Hostile environments - every 12 months

A record of testing must be kept until the electrical equipment is next tested or permanently removed, or disposed of, from the workplace. The record must specify:

- the name of the person who carried out the testing
- the date of the testing
- the outcome of the testing
- the date on which the next testing must be carried out

The record may be in the form of a tag attached to the electrical equipment tested.

In Queensland:

The *Queensland Electrical Safety Regulations 2013* has been amended and provides information for the safe use of electrical equipment on farms and in farming workshops (rural industry work).

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For all rural industry work, inspection, testing and tagging of electrical equipment depends on whether 'specified electrical equipment' is used with 'stated electrical risk factors' (as identified below), with or without an RCD fitted to the power board.

All plug-in equipment is required to be visually inspected that it is safe before use.

'Specified electrical equipment' used in rural industry work is defined as:

- o a cord extension set with a current rating of not more than 20 amps
- o an electrical portable outlet device with a current rating of not more than 20 amps
- o electrical equipment, other than a portable safety switch, that has a current rating of not more than 20 amps; and is connected by a flexible cord and plug to low voltage supply

For all rural industry work where 'specified electrical equipment' is used (such as personally supported electrical equipment - pressure cleaners, hand held drills, saws, grinders) under the following conditions define 'stated electrical risk factors' as:

- o an unroofed area or wet area, including, for example, a hose down area
- o use of personally supported electrical equipment if the electrical supply cord is subject to flexing while the equipment is being used
- o use of plug-in electrical equipment that is exposed to environmental factors that subject the equipment to abnormal wear or deterioration, e.g. corrosive or damaging dusts, corrosive chemicals

The following table summarises Queensland rural industry electrical safety requirements:

| Class of Work | Portable/ Specified Electrical Equipment | Type I or II Safety Switch (fixed) | Type I or II Safety Switch (portable) |
|--|--|---|---|
| Rural industry work (all plug in equipment) | Visual examination before each use | | |
| Rural industry work (Specified electrical equipment used under stated electrical risk factors) | Either: test and inspect every 12 months or protect with a safety switch | Recommended push button test every three months | Recommended push button test every three months |

It is a requirement in both States that RCDs are fitted to all houses.

Further information

For farm safety checklists and information on farm safety risks and controls, please visit:

- [Cotton Australia](#)
- [myBMP](#)
- [ACAHS](#)
- [Farmsafe Australia](#)

Or contact the Australian Centre for Agricultural Health and Safety: PO Box 256, Moree NSW 2400
P: 02 6752 8210 E: info@farmsafe.org.au



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