Licensed Electrical work
Electrical work is defined as “the manufacture, construction, installation, testing, maintenance, repair, alteration, or replacement of electrical equipment or parts” (Electrical Safety Act 2002).

The conduct of electrical work is prohibited unless a person is licensed or certified as competent under legislation to perform that work. Live electrical work carries a higher degree of risk and is prohibited by law except under strict controls. The Electrical Safety Code of Practice can assist in providing direction to the electrical worker.

Examples of electrical work that may be required at UQ include:
- Opening an electrical cabinet that exposes energized electrical parts (live wires and terminals) in order to replace the bulb for a light indicator.
- Repair or replacement of the damaged plug top or lead that supplies electricity to a bench top machine.
- Changing the fuse of electrical equipment such as a control cabinet
- Dissembling or taking apart electrical equipment.

Electrical work - incidents and risk
Instances of unlicensed and unsafe electrical work that could have resulted in serious injury or fatality such as electrical shock or electrocution, have occurred at UQ workplaces.

One incident involved the unauthorized electrical modification of a microwave-sintering oven by an RHD student who accessed the control panel, removed the plug top from the vacuum pump and wired the pump directly to the main switch of the transformer control box. The control box carried 415 volts. Upon detection of this electrical hazard, a licensed electrician was engaged to safely de-energise and remove the equipment from service.

In a second incident wires were disconnected from the electric motor of a pump by a UQ researcher who was not licensed to conduct electrical work. The wires were left unterminated and the power plug was not locked out (figure 1). If the pump had been plugged in and switched on, the adjacent steel frame shelves or any other metal objects in contact with the wires would have been energised by the 240V AC mains voltage. Anyone who touched or came into contact with the energised objects could have been seriously injured or killed.

In a third incident, a staff member cut the three-phase power supply of an external process chiller unit that was located in an enclosure outside of a building. The cut cord was left hanging and exposed (figure 2) and when noticed was reported to the OHS Division and Property and Facilities. Subsequently, a licensed electrician confirmed that the supply was still energized (live) despite the power having been turned off at the wall-mounted isolator. The licensed electrician terminated the energized cable in a safe manner.
Compliance responsibilities for electrical work

All UQ managers and staff are responsible for complying with requirements under the Electrical Safety Act 2002 as follows:

- Staff and postgraduate students who are not holders of relevant electrical licences, qualifications and certified competencies **must not** undertake work, or must not be exposed to situations where contact with exposed live parts is possible at voltages in excess of extra low voltage.
- All electrical work at voltages in excess of extra low voltage (greater than 50Volts AC (RMS) or greater than 120Volts Ripple free DC) must only be carried out by and supervised by electrical workers, who are licensed and competent to do so.
- Electrical equipment modifications, installations and fixed-wiring work must be conducted **only** by an licensed electrical professional.
- All electrical work on fixed wiring and installations must be arranged through P&F.

Responsibilities for engaging electrical workers or electrical contractors.

The relevant UQ manager must carefully review the electrical contractor’s licensing and qualifications before work commences, if a licensed worker or contractor is employed by UQ to perform UQ electrical work. In this instance work on electrical equipment and electrical infrastructure can only be carried out and supervised by a suitably qualified electrician, who is licenced to the appropriate level for the work being undertaken.

Electrical contractor licence requirements

UQ staff who manufacture or modify electrical equipment for non-UQ entities require an electrical contractor licence. Failure of UQ organisational units to hold an electrical contractor licence when conducting electrical work for people or entities other than UQ, would result in risk exposure to the University and would constitute an offence under the Electrical Safety Act 2002.

The Electrical Safety Office website can be accessed to check for holders of electrical licences and electrical contractors licences.

Further information about UQ electrical safety compliance requirements be found at PPL 2.20.05 Electrical Safety

Contact for Additional Information

For additional information, contact your local Work Health and Safety Manager/Coordinator, or the UQ OHS Division: Phone: 336 52365, Email: ohs@uq.edu.au