



Electricity Industry Bulletin No: 49 December 2002

FOR THE ATTENTION OF ALL ELECTRICAL WORKERS

1. ELECTRICAL CORDS – HOW LONG IS TOO LONG?

Electrical contractors are reminded that requirements for the maximum length of flexible cords used on construction sites are set down in Australian/New Zealand Standard AS/NZS 3012, Electrical Installations - Construction and Demolition sites.



AS/NZS 3012 also sets down requirements for distribution boards with socket outlets for flexible cords.

When a contractor is installing a temporary electrical installation for a builder – and if it's obvious long leads will be required – it is expected the contractor will comply with the requirements. Contractors should install the switchboard and/or necessary distribution switchboards with socket outlets to allow for compliant length cords to reach to the furthest part of the building or structure under construction.

Where an electrical contractor is responsible for both the temporary electrical work on the construction site and the electrical installation in the building or structure under construction or alteration, there is no excuse for not installing the switchboard/distribution boards with socket outlets in locations to meet the requirements of AS/NZS 3012.

2. ENERGY EFFICIENCY IN HOUSES

From January 1 2003 mandatory energy efficiency requirements will be applied to **new houses and extensions** through the Building Code of Australia (BCA).

Electrical contractors should be aware that new building work will now usually include wall and ceiling insulation.

Where cables are installed either partly surrounded or completely surrounded in thermal insulation, they will need to be rated accordingly.

Where down lights are installed, it is **imperative that dissipation of heat from the down light is not impeded by insulation** (clause 4.3.6.3 AS/NZS 3000:2000).

Another requirement that will affect electricians is that extractor fans in habitable rooms (including kitchens, but not toilets or bathrooms) will require an automatic damper (shutter) to restrict air leakage.

The energy provisions generally will be met by good building orientation, wall and ceiling insulation, floor insulation when the sub-floor perimeter is not enclosed, careful window design, draft proofing, and some insulation on hot water service pipelines.

For further information, the requirements can be found at www.abcb.gov.au/energy

NEW WEB ADDRESS

Electricity Standards *and* Safety's web address has been modified – please update your bookmarks to www.wst.tas.gov.au/electricity

ELECTRICAL LICENSING BOARD OF TASMANIA (ELB)

The ELB's Annual Report 2001-2002 is expected to be released mid December 2002. Copies will be available by downloading and printing from the Electricity Standards *and* Safety internet site at www.wst.tas.gov.au/electricity

3. SUPERVISION OF APPRENTICES

A recent incident has highlighted the issues surrounding adequate supervision of apprentices. The *Service and Installation Guide* available from Aurora Energy gives guidance on what Electricity Standards and Safety consider to be the minimum levels of supervision.

We are no longer living in the seventies when 2nd, 3rd or 4th year apprentices were often given several job cards and a vehicle to perform unsupervised electrical work.

The *Electricity Industry Safety and Administration Act 1997* section 20(2) states that the holder of an electrical technician's licence, who is supervising electrical work by a trainee, must give any directions necessary to ensure that the work is carried out correctly and must personally ensure that the work is correctly carried out.

Failure to comply may result in disciplinary action or fines against the supervisor and/or the electrical contractor.

When determining the level of supervision required, the nominated manager or electrician shall take into account the training, knowledge and skills previously acquired by the apprentice. We are particularly concerned that the level of supervision is adequate when apprentices are testing on, or working near live parts.

4. CONNECTION OF PANEL ROOM HEATERS

An electrician performing maintenance on panel room heaters recently received an electric shock due to an interconnected active wire between circuits.

This incident highlights the fact that installing these heaters with only one master control for two or more circuits (protected by separate circuit breakers) does not comply with AS/NZS 3000:2000 clause 1.11.2.5 (c).

An interconnection of conductors between different circuits can create a serious electrical hazard.

With only one master control interconnecting a number of circuits, all isolating switches including circuit breakers shall be multipole.

If individual circuits are used that incorporate their own master control, then single pole circuit breakers can be installed.

It should be noted that all panel heaters must be installed according to manufacturer's requirements.

5. DISCIPLINARY ACTION TAKEN

After a September Disciplinary Panel hearing, the delegate of the Regulator, Steve Hyam, reprimanded a licence holder for leaving unsafe electrical work at a residence late at night and after long periods of overwork.

The electrical technician and contractor, who had a good record, admitted his error and fully cooperated in the disciplinary process.

He had licence conditions imposed that required him to prove his competence or be retrained.

"I consider it to be serious to have left exposed live wires in an occupied residence for any period of time", said Mr Hyam. "This life-threatening risk was left unresolved to the hazard of the home's occupants and their domestic pets, in several places and for a matter of days".

With this reprimand, Mr Hyam left the licence holder to reflect on the seriousness of the defective electrical work which was due to a lack of knowledge or to inadequacies of his training, experience or attitude to electrical work in this instance.

The delegate encourages all licence holders to reach the highest possible standard of electrical work.

6. HEAT PUMPS AND AIR-CONDITIONERS

The issue of whether heat pump outdoor units need to be secured in position has been the subject of recent debate. In an effort to resolve the matter Electricity Standards and Safety have explored a number of areas.

Discussions have been held with manufacturers, industry representative groups and the Aurora Energy compliance inspectors. The requirements of Australian Standards, in particular AS/NZS 3000 clause 1.10, have also been considered in forming the following viewpoint.

First and foremost: as heat pumps and air-conditioners are clearly items of fixed wired electrical equipment, all outdoor units should be secured in position. Fastening points are provided in the legs or base of the unit.

If the manufacturer's installation instructions require units to be fixed then there is no alternative but to comply with clause 1.10.1.

The manufacturers contacted took the view that outdoor units should be fixed in place.

The approval and test specification standard for these units is AS/NZS 3350.2.40 which in turn refers to AS/NZS 60335.1 for the stability requirements. Using these standards as a guide, the following criteria for outdoor unit installations will be accepted as the minimum requirement:

- the unit shall be installed on a flat, stable surface (eg. 300 x 300 concrete slabs or treated timber battens 75 x 50 would be permitted; **house bricks or untreated timber battens would not**) and
- the unit in normal operation is not likely to be tilted beyond 10 degrees from the vertical plane. This includes the foreseeable future where the platform or base may become unstable or the ground is back-filled land and
- the electrical supply to the unit is via a flexible conduit, anchored appropriately at both ends or
- the unit is held in position by virtue of the location, eg the feet or base of the unit is fitted into a close fitting rigid recess and the unit will not be subjected to impact, wind or excessive vibration.

Units installed in elevated or high-risk areas (eg subject to wind, impact or excessive vibration) shall be secured in position.

We are aware that often the heat pump installation company is different to the electrical contractor. However, it is the electrician working for the contractor, who chooses to connect the electricity supply. Consequentially, compliance inspectors will issue defect notices (NDIs) to the electrical contractor for any installations that do not meet this minimum criteria.

Merry Christmas

John Hammersley and all the staff at Electricity Standards and Safety wish you all a safe and Merry Christmas and a Happy New Year.

Office Hours over Festive Season

Closed 3.00pm Tuesday 24th December
Reopen 9.00am Thursday 2nd January

7. LEGISLATION FURTHER DEFINED

This is the first in a series of articles explaining a number of sections of the Act and Regulations in plain English.

Nominated Manager

An electrical contractor's licence may only be issued to a business that has a suitably qualified nominated manager. This person is responsible for managing and supervising all electrical work carried out by the business.

Being responsible for managing the business (as far as all electrical work is concerned) means the nominated manager:

- oversees all safety issues in relation to electrical work
- has the technical knowledge to ensure the work meets mandatory Australian Standards (that is, AS/NZS 3000 and related standards)
- has a system in place for supervising apprentices in the most appropriate way
- ensures all electrical work is carried out by licensed electrical workers or supervised apprentices and that the business and employees comply with the Act and the Regulations
- advises management and workers of industry changes that may affect the business.

The nominated manager must be an individual who:

- holds a current Tasmanian electrician's licence and has done so for at least one year
- can competently work out the technical requirements when contracting for work and make the appropriate arrangements to carry out that work safely
- is the nominated person named under the licence
- has successfully completed the contractor's course through TAFE or
- has been a nominated manager for a licence within 3 years of the application.

However, the Regulator may recognise other qualifications and experience.

A nominated manager may operate from a remote location, provided policies and systems are in place that will be administered by another person (such as an electrical supervisor) who has control on behalf of the nominated manager.

8. ELECTRICAL CONTRACTOR AUDITS

Electrical contractors please note: in early 2003 Electricity Standards and Safety (ESS) will be conducting audits on a number of businesses to determine compliance with relevant sections of the *Electricity Industry Safety and Administration Act 1997* (the Act) and *Electricity Industry Safety and Administration Regulations 1999* (the Regulations).

In these audits, ESS will be determining compliance with the following sections of the Act:

- s18 Obligation to ensure that electrical contractors business is properly managed
- s19 Obligation to hold technicians licence
- s20 Obligation of holder of electrical contractors licence
- s21 Register of electrical workers
- s37 Production of licence
- s45 Licence number to be shown in advertisements
- s72 Notification of serious electrical accidents.

and with these sections of the Regulations:

- r8 Requirement to hold insurance
- r16 Standard of electrical work.

How will the audits work?

- ESS intends to take a light-handed approach. The audits are about helping contractors achieve compliance in any areas they are found to be deficient.
- In the first year only a few contractors will be audited, as this will be a learning exercise on both sides. The first few audits will be reviewed and refinements to the auditing process made if necessary.
- Selected contractors will be advised at least two weeks before an audit is to take place and told the areas the audit will cover.
- Initially the audits will be undertaken jointly by authorised officers of ESS and Aurora Energy (They have a Memorandum of Alliance whereby Aurora Energy carries out specific roles of the Act for ESS).
- The audits will be in the form of a desktop audit. Only if serious deficiencies are found will inspections of work be carried out or result in further consequences.

- Poorly performing contractors will be case managed.
- Only blatant breaches will attract disciplinary action in the first instance.
- Auditors will follow a documented process using a set of guidelines.



Solahart Brand Solar Hot water System

Model Black Chrome XII and Alice Springs XII.

These systems were first available for sale in 1997.

A fault can develop in the jacket fluid level monitor, which could result in the metal roof being energised. For further information contact Solahart Industries Pty Ltd on 08 9458 7640.

Ozito Multi-Sander

Model MSH-125, Approval Number V01201

Batch number 01L

The balance fan in the plastic casing suffers from metal fatigue during use which can result in the fan breaking into two pieces with a risk of injury or property damage.

Owners can return the product to any Gunns Mitre 10 or Kemp & Denning Limited stores in Tasmania. For further information contact (03) 9558 3999.

Makita Circular Saw

Models 5606B, 5806B, 5740NB

Recall applies to stock manufactured since 1997.

It is possible that the inner saw blade guard could be improperly jammed in the fully retracted position and subsequently expose the user to the rotating blade.

Owners should cease using these models immediately and contact Makita Australia on 1300 361 690 to arrange modification by the nearest service agent.

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