



ATTENTION COMPANY MANAGERS

Please ensure your nominated manager and electricians see this circular.

1. DISCIPLINARY PANEL RECOMMENDS SUSPENSION OF ELECTRICIAN

The Disciplinary Panel's recommendation to suspend an electrical technician's licence for 28 days has been accepted by the delegate of the Regulator. The electrician is also required to work under supervision and can't sign EINs until he returns to TAFE and successfully completes two skill improvement courses.

These penalties were imposed after the electrical technician was found to have:

- Failed to ensure his electrical work was in accordance with AS/NZS 3000:2000: and
- Been responsible for defective electrical work.

The delegate also accepted the Panel's recommendation to require the same electrician, in his capacity as a licensed electrical contractor, to engage someone else as his nominated manager until he successfully completes three quarters of the electrical contractor's course at TAFE. If he doesn't comply, his contractor's licence will be cancelled.

The statutory appeal period has not yet expired.

2. THE IMPORTANCE OF THE MAIN NEUTRAL

A recent fatality and recent shock reports have highlighted the importance of maintaining continuity of the main neutral to the link on the main switchboard.

The MEN system relies heavily on the integrity of neutrals and that they are effectively grounded at all appropriate points. If a connection in the main neutral fails (eg. at the point of supply) it can result in shocks being received from taps and anything connected to the earthing system as the current tries to find an easier return path.

When choosing the location of an earth electrode ensure that the surrounding soil is likely to remain moist. This will reduce the earth potential rise at times when the neutral fails or begins to fail.

RCDs may have considerably reduced serious electric shocks from equipment connected to final subcircuits, however, they cannot protect against most up stream faults such as the loss of a main neutral.

It is recommended that all old style mains boxes be replaced whenever major electrical works are undertaken or if there appears to be evidence of burning around terminals. Checking the mains box must also form part of the inspection required when an installation has not been connected for six months or more.

Do not dismiss complaints of "tingles" (minor shock) from taps as just another job on your list as the customer's next shock may be their last. One of the first checks should be the condition of the mains box. You have permission to take action in an emergency such as the safe removal of an overhead service fuse. Replacement of service fuses must not be done without permission from Aurora Energy.

Call Aurora Energy on 132004 to report any electric shocks. An Electrical Compliance Officer (Inspector) will attend at any time of the day if the situation appears life threatening.

Refer to the diagrammatic representation of a broken main neutral on the back page.

3. PROXIMITY TO OTHER SERVICES

Many contractors may not be aware of the requirements of other regulators for separation distances from particular services. Building Standards and Regulation (BSR) have provided the following advice.

The Building Standards *and* Regulation section of the Department of Infrastructure Energy and Resources advises that the Tasmanian Plumbing Code (TPC), under the *Local Government (Building and Miscellaneous Provisions) Act 1993*, calls up AS 3500 National Plumbing and Drainage Code for on-site plumbing installations as a means of verification to meeting the performance requirements of the TPC. AS 3500 series of standards covers water supply, sanitary plumbing and drainage, stormwater drainage and hot water supply installations. This series has been amended over the years and in doing so, Standards Australia has removed some of the prescriptive requirements which set the separation from other services such as electrical and gas and replacing them with performance solutions such as:

Above and below ground sewerage services shall be installed so that -

- (a) no potential safety hazard is created when in close proximity to other services
- (b) access for maintenance and potential branch insertions is not impaired by other services.

These requirements have led to disputes on construction sites, especially where a separation has not been given in the initial design or, where a contractor was not aware they needed to provide for separation.

BSR advises that the TPC amends AS 3500 series by requiring the following separations:

Sewer and Stormwater

Below ground - Electrical cables and gas pipes. The separation between below ground drains (sewer & storm water) and electrical cables and gas pipes shall be maintained at 600 mm. Where this separation cannot be achieved, the distance may be reduced to no less than 300 mm provided that the electrical cables or gas pipes are marked

and mechanically protected along their length within the exclusion zone.

Note: For the purposes of the above, 'exclusion zone' means "600 mm either side of the wall of a drain"

Water supply

Below ground - Electrical cables and gas pipes. The separation between water services (cold and hot) and electrical cables and gas pipes shall be maintained at 300 mm. Where this separation cannot be achieved, the distance may be reduced to no less than 100 mm provided that the electrical cables or gas pipes are marked and mechanically protected along their length within the exclusion zone.

Note: For the purposes of the above, 'exclusion zone' means "300 mm either side of the wall of a water supply pipe"

In AS/NZS 3000:2000 Wiring rules, the "Note" to clause 3.11.4 states "Regulatory authorities, such as water and gas suppliers and electricity distributors, may require their services to be spaced at a greater distance from underground wiring systems".

BSR informs that the Plumbing Code requirements stated above apply to sewer and stormwater services as well as water supply.

BSR reminds installers of any service that they have a duty of care to identify the appropriate separation and install their services accordingly.

Should you have any doubt when it comes to installing electrical services in the proximity of water, stormwater, hot water or sewer installations contact Alan Humphreys on (03) 6233 6638.

4. ELECTRICAL EQUIPMENT CHECK TESTING PROGRAM

Due to the number of fires involving electrical portable outlet devices (power boards), electricity regulators are about to commence a new check-testing program to cover every available brand on the market. The portable outlet devices will be subject to the test of resistance to heat, fire and tracking.

5. INSURANCE CERTIFICATE OF CURRENCY

As a result of the new regulation 17a of the Electricity Industry Safety and Administration Regulations 1999 being introduced, ESS has decided that there is no longer a need for a certificate of currency to be forwarded with the electrical contractor application form each year.

Details of your insurance policy and a declaration by the applicant on the application form will cover the requirement that public liability insurance is currently in place.

ESS will make regular spot checks on a selection of electrical contractors to ensure public liability insurance is current.

A contractor found without insurance will be in contravention of the Electricity Industry Safety and Administration Act 1997 and liable for prosecution.

6. AUSTRALIAN STANDARDS HANDBOOKS

HB 300—2001

Electrical installations—Guide to using the Wiring Rules

This Handbook is a good practical guide for new entrants into the electrical industry or for those wishing to refresh their basic understanding of aspects to be considered before commencing an electrical installation, such as designing and planning, selection and installation of equipment, and inspection and testing. It contains many worked examples, informative figures and drawings, and specifically explains various clauses of the Wiring rules, including new terms.

HB 301—2001

Electrical installations—Designing to the Wiring Rules

This Handbook provides guidance on designing electrical installations to AS/NZS 3000:2000. It contains seven documented design solutions for electrical installations for townhouses and office buildings (on one level or up to three storeys), retail complexes and small industrial estates (on one level). As an added bonus, a pro forma design document is included to allow the adaptation of the documented design methodology to any similar project.

7. TEMPERATURE SYMBOL FOR OVEN DOORS

At the recent Standards Australia electrical equipment committee EL/2 meeting, a decision to introduce the marking of oven doors with the following warning symbol and the words HOT SURFACE, will be inserted into the relevant Australian Standard.



The operating instructions will also include the following:

WARNING – Accessible parts will become hot when in use. To avoid burns and scolds children should be kept away.

This is the first step in a program of implementing changes to the relevant electrical standard for the reduction of temperature rise on oven doors to prevent children receiving burns.

Before technical changes can be made to the standard, more research will need to be conducted and this will require time. It still remains the responsibility of all parents and guardians to provide suitable supervision of children around electrical appliances.

8. ELECTRICAL SAFETY ON FISHING VESSELS

The Standards Australia electrical equipment committee EL/2 recently discussed the issues surrounding two fatalities in Queensland involving the use of household electrical appliances on fishing boats.

Australian Standard AS/NZS 3350.1 *Safety of household and similar electrical appliances* does not apply to appliances used in this environment.

Electricity Standards and Safety intends to take steps to promote the use of Residual Current Devices where appropriate on fishing vessels within and around Tasmanian waters.



The Importance of the Neutral Conductor

A broken or high resistance joint in a main neutral, as shown here, can have fatal implications as dangerous voltages may appear on any conductive material connected to the earthing system.

RCD's fitted to final subcircuits will not detect a broken or high resistance main neutral

