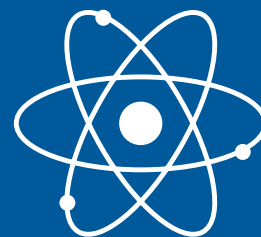


# ELECTRON

EMPOWERING TODAY'S ELECTRICAL WORKERS



## ISSUE NO 24

This is the last issue of ELECTRON for 2005, a year in which the Board has seen a considerable increase in the number of complaints lodged against registered people. Further detail on the administration of the complaints process is included in this issue of ELECTRON.

Also In this issue of ELECTRON the present series on Reported Accidents is completed and it is anticipated that a further series will commence in 2006.

- Please remember that the draft Code of Practice for the supervision of trainee electricians is available for comment and further information on that document is available in issue 23 of ELECTRON.

I would like to take this opportunity to thank the many people from throughout the country who provided support and assistance to our work during the year and on behalf of the Board and the EWLG I wish you all the very best for the festive season.



**John Sickels**  
Registrar/Group Manager EWLG

DECEMBER 2005



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*Safety • Competency*

ELECTRON is published by the Electrical Workers Licensing Group, the service unit of the Ministry of Economic Development for the Electrical Workers Registration Board. If you have any enquiries or comments on this newsletter please contact:

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# Accidents

As reported in issues 21, 22 and 23 of ELECTRON the Energy Safety Service has published its summary of reported accidents.

As part of the Board's strategic goal to make all information available the Board is reproducing the summary of reported accidents that relate to registered electrical workers and trainees in this and future issues of ELECTRON.

The Board wishes to advise that any conclusions related to accidents reported are conclusions of the Energy Safety Service.

The following reported accidents are the fourth and final in the series.

## Accident 16 – Electric shock to trainee

A trainee electrician was working alone to remove fuses from a live 230 volt domestic switchboard after his supervisor left the site. As the trainee electrician removed the last porcelain fuse from the live switchboard the trainee electrician received a hand-to-hand electric shock and fell to the ground.

## Accident 17 – Burns to hand

A new 400 volt supply cable in an existing service pillar had been left capped as installed without separating the cores.

Some days later, a cable jointer removed the cap to perform a polarity and earth loop test before commissioning. The cable jointer's test probe slipped and touched the blue phase and neutral, causing a flashover and burns to the cable jointer's hand.

The cable jointer was not wearing protective gloves at the time of the accident and he was admitted to hospital overnight for observation.

## Accident 18 – Burns and fire

An "electrician" working on a live 400 volt switchboard drilled into a busbar and received burns from the resultant flashover and fire.

A new socket outlet was to be installed in a workshop and there were no spare room on the existing neutral bar of the switchboard for the new neutral conductor.

The "electrician" decided to save time by using an electric drill to make the hole in the neutral bar for the new neutral connection to be fitted later, when the switchboard was to be isolated.

The drill bit passed through the neutral bar and into a live phase busbar, causing a short to the neutral bar.

Severe arc damage to the switchboard resulted, as well as burns to the "electrician's" hand and face.

The "electrician" had been told not to work on the live switchboard, as an isolation time had been arranged out of

business hours. The company found a number of deficiencies in its procedures.

The "electrician" had been working unregistered for some time, and there was no written procedure for the work.

## Accident 19 – Burns to wrist

An electrician was adding fuses to an old 400 volt switchboard in a building. To utilise some spare fuse switches on the board, an apparently suitable old fuse carrier was loaded into the carriage.

As the electrician closed the switch door to engage the carriage, the switch blew up in a flashover.

The electrician received burns to the wrist, and a circuit breaker tripped, cutting power to much of the building. It transpired that the fuse carrier that was loaded into the carriage was not compatible with the old switch, so it would not engage and lock correctly.

## Accident 20 – Electric shock

A line mechanic climbed a power pole to check that three fuses could be accessed before an organised shutdown. As the line mechanic changed position a street light bracket was grasped with one hand, and the other hand was put around the pole and touched a 230 volt cable where the insulation had failed. The line mechanic received an electric shock and fell back into the safety belt which was being used.

Visual inspections had not spotted insulation cracked by UV exposure. The company reviewed its procedure, as the line mechanic should have been wearing insulating gloves.

## Accident 21 – Burns to face and neck

A line mechanic was removing a broken fly-arm from a transformer structure pole. Working in an elevated platform vehicle, the line mechanic untied one insulator, and then relocated the remaining phase pin insulator on the undamaged cross-arm. At this point, the line mechanic noticed the LV sheathed neutral conductor was threaded through a hole in the fly-arm, a practice intended to keep it tidy and maintain clearances.

The line mechanic pulled on the conductor to remove it, and as it passed through the hole in the fly-arm, PVC tape came off the cut end of the conductor. On exiting the hole, the bare conductor end flicked up and contacted a live phase conductor, causing a flashover.

The line mechanic received burns to the face and neck, but was spared from serious injury by the use of protective clothing. The line mechanic was given first aid, and returned to work the next day.

The redundant neutral conductor should have been cut away on either side of the fly-arm before the insulators were moved.

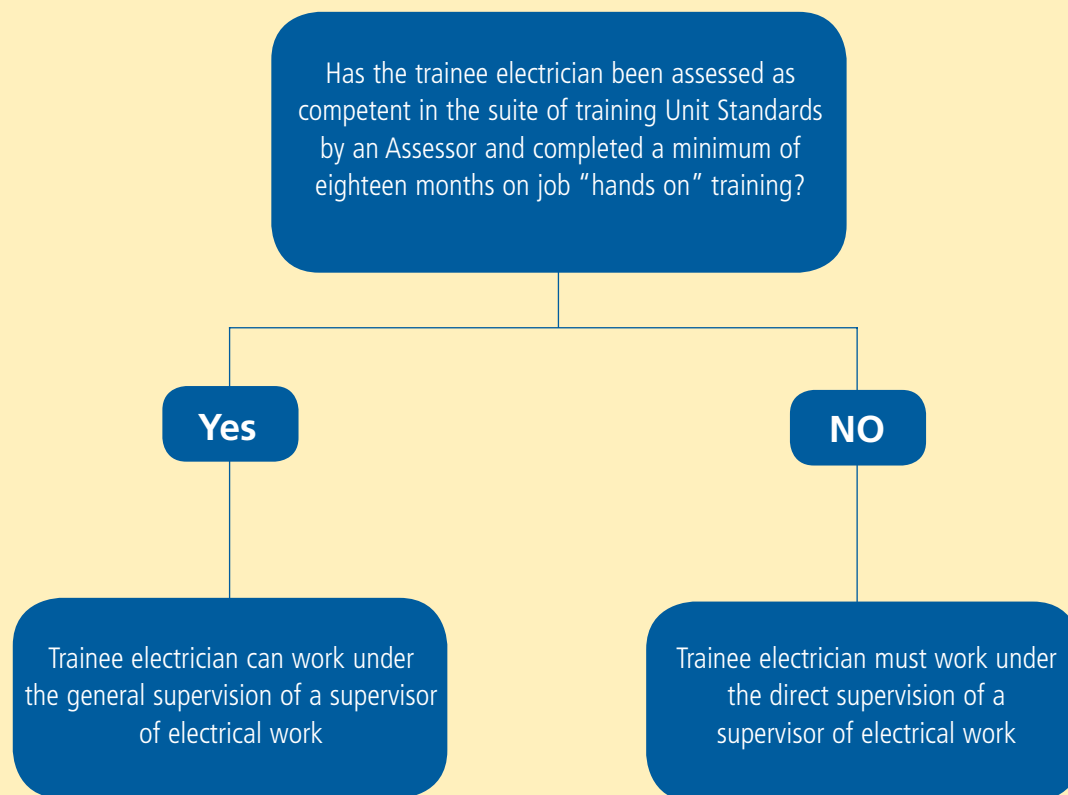
## TECHNICAL AND GENERAL QUESTION CORNER

**Q In the proposed Code of Practice, what are the “bottom line” requirements for supervising a trainee electrician?**

A The basic requirements proposed in the draft Code of Practice for the supervision of trainee electricians are that any trainee must work under the direct supervision of a supervisor of electrical work until such time as the trainee has passed a suite of training Unit Standards and completed a minimum of eighteen months on job “hands on” training.

Chart A of the draft Code of Practice shows the proposal and it is as follows:

### CHART A – BASIC REQUIREMENTS FOR THE SUPERVISION OF TRAINEE ELECTRICIANS



# Examinations

The conducted another round of registration examinations in September 2005 and a summary of the results of those examinations are as follows:

	Number of candidates	Number of candidates who passed	Percentage passed
EST "A"	279	249	89
EST "B"	99	88	89
TEWC*	8	6	75
ES**	1	1	100
<b>Totals</b>	<b>387</b>	<b>344</b>	<b>89 (average)</b>

\* Tradespersons Electrical Work Certificate

\*\* Electronic Security Installer

## Administration of Complaints Process

The EWLG has recently released details on the administration of the complaints process for the period ending 30 June 2005.

The number of complaints the Registrar received under the Electricity Act 1992 increased to eighty for the year up to 30 June 2005. This is an increase of 31% over the number for the previous year and an increase of 43% over the 2002/2003 figures.

Of the eighty complaints received, Complaints Assessment Committees referred fifty seven registered people to the Board for

complaints hearings and of those fifty seven thirty nine were found guilty of disciplinary offences.

In 2003/2004 twenty five hearings into complaints against registered people were held by the Board and this figure more than doubled to the above stated fifty seven in the year to 30 June 2005.

However the average time taken for hearings reduced from 17.4 to 12.3 weeks. This represents a 30% decrease in the time required for hearings.

## Standards – *The following two articles have been provided by Standards New Zealand*

### AS/NZS 3000 Australia/New Zealand Wiring Rules

AS/NZS 3000 is being revised and the Public Comment draft is expected to be published early December with a closing date for comments late February 2006.

Standards New Zealand is seeking feedback from the industry to ensure that the final Standard is as complete as possible.

Whilst there are few major technical changes the layout of the Standard has been changed significantly to improve readability and usability and additional material such as common cable tables have

been added.

The Public Comment draft will be available from the Standards New Zealand web site from early December and people wishing to review the document should follow the following link

<http://www.standards.co.nz>

and look for the draft titled "Australian/New Zealand Wiring Rules".

### Further Draft Standards

Standards New Zealand will be issuing Public Comment drafts of the following new Standards in December. If you wish to comment please go to the SNZ web site, <http://www.standards.co.nz> and search for the appropriate draft:

**DZ6114 Electrical Installations** – Requirements for the safe supply of electricity to installations and equipment operating at non-standard voltages and frequencies.

**DZ6115 Electrical Installations** – Mobile Electro-medical Connectable Installations

**DZ6116** Safe application of electricity in the meat processing industry