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This issue of ELECTRON contains extracts from two reports received from the Coroners at Wellington and Christchurch.

The reports are about the deaths of two young men who worked in the industry one as a trainee electrical fitter and the other as a trainee electrician.

In his report the Christchurch Coroner has noted the EWLG's intentions in relation to the production of a Code of Practice for the supervision of trainees.

The EWLG has produced a draft Code of Practice for the supervision of trainee electricians with what is considered to be fundamental easy to understand requirements.

Earlier this year the Associate Minister of Energy approved the release of the EWLG draft document for consultation and the closing date for comments is 16 December 2005.

In the interests of the important subject of electrical safety I would encourage all people and organisations to consider and comment on the draft Code of Practice for the supervision of trainee electricians.



John Sickels
Registrar/Group Manager EWLG

IN THIS ISSUE

Editorial

Accidents

Letter to the Editor

Results of Disciplinary Hearings

Cost of Complaint Hearings

Electricity Regulations 1997

12 Complaints Received in Two Months

Board Comment on Complaints

EWLG Investigations into Unregistered Workers

Coroner's Reports

Code of Practice For the Supervision of Trainee Electricians

Closing Dates for Submissions

OnLine Bookshop

New Practising Licence Refresher Courses for 2006

Inland Revenue



Safety • Competency

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Accidents

As reported in issues 21 and 22 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 third in the series.

Accident 11 – Burns to eyes

Two electricians were working in the switchroom of a hospital connecting a submain cable to a recently installed switchboard.

Before bolting the submain cable to the load side of a new circuit breaker, the submain conductors had been stripped, the lugs crimped and heat shrink covering fitted. The blue and yellow phases were connected with no problems.

To adjust alignment for the red phase, a screwdriver was inserted through the submain lug hole and through the circuit breaker tag hole.

A flashover occurred, and one of the electricians received arc burns to his eyes.

No obvious cause was found. The short circuit apparently occurred between phases at the connection point of the line side of the busbars and the circuit breaker.

Interphase barriers were not fitted, and possibly moisture affected the circuit breaker, which had been stored under a tarpaulin at an open construction site.

The circuit breaker was replaced and sent for inspection. The inspection found some evidence of tracking on one terminal.

Shrouds were provided to mechanically isolate the phase busbars during live work, and a heater was installed to dry the switchroom.

Accident 12 – Burns to hand

An electrician received an electric shock from a service main he was preparing to terminate into a meter for a new residence.

A temporary builders supply had been disconnected and the service main livened in the meter box although the new residence was incomplete.

The electrician was hospitalized with severe burns to his hand.

The installation may have been inadvertently livened in mistake for another.

The lines company subsequently instigated a system of ensuring isolation of cables.

Accident 13 – Electric shock

A line crew was working on a 33 kv structure in pouring rain, when one of the linesmen received an electric shock and sprained his shoulder.

Seconds later, thunder was heard and the linesmen descended from the structure until the storm had passed.

Circuits were isolated and earthed.

It is assumed that lightning struck the overhead line.

Accident 14 – Burns to hand

A line mechanic received an electric shock and a burn to his hand when he was working on isolated low voltage conductors.

The line mechanic touched a water heater pilot cable which had a taped joint.

The tape had partially come off, and one of the line mechanics fingers made contact with the live joint.

The line mechanic was not wearing insulating gloves at the time of the accident.

Accident 15 – Electric shock

A fuse carrier was being remounted on a live switchboard in an office by an electrician.

As the electrician attempted to fit the carrier onto the mounting brackets, the carrier slipped and made contact with live terminals. The electrician received an electric shock and was knocked to the ground.

The electrician was sent for an ECG check.

The fuse carrier was heavy and the electrician found it difficult to align the mounting holes in the switchboard.

The work should have been carried out with the switchboard isolated.

Letter to the Editor

Motivation – Pleasure or Pain

I have been told that there are two things that motivate people, pleasure and pain, with pleasure producing enthusiastic cooperation and pain producing only sullen compliance.

Why then are our legislators and regulators focusing on the pain option with the Energy Safety Review Bill.

In my opinion the New Zealand electrical industry has never been in better shape.

Electrical apprentice accident rates are almost half what they were five years ago. In 1999 there was a reported accident every 540,000 work hours. By 2004 the rate had dropped to one every 806,000 work hours. (Accident statistics provided by the ESS, Apprentice data provided by the ETITO).

I attribute this improvement to a number of things which all relate to the pleasure end of the scale, education and prevention rather than punishment:

- More focus on safety matters in the apprentice training regime both off and on-job,
- The introduction and adoption of the EWRB Supervision Guidelines. The stats above confirm that the guidelines are working so obviously there is no logical need for a mandatory code of practice.
- The improvement in the quality of safety refresher courses with the provision of the Electrical Passport course.
- The quality of the workmanship and the safety consciousness of electrical workers.

Unfortunately, at the time of writing I was not in possession of stats for other electrical workers. I will try and get them before the next issue. I suspect though that they too will show a similar improvement. Current ACC levies, carpenters \$2.71, plumbers \$1.53, electricians \$1.05, substantiate my claim.

Many of these improvements have been driven by individuals within our regulatory bodies.

Why then aren't they hanging from the rafters shouting about their successes.

Why then, on the front page of the last EWLG publication, did the Registrar express concern about the number of trainees having accidents and then quote case studies that are years old. When in reality, as shown above, he should be congratulating the industry for doing much better, and patting himself on the back as well.

Why then are they purporting that we electrical workers have the skills, knowledge and competence to identify unsafe equipment, in

many ways on their behalf, and then threatening to inflict pain on us should we get it wrong.

They should be applauding the tens of thousands of electrical workers who get it right, day after day, year after year, and gaining enthusiastic cooperation through re-education and encouragement from the few who transgress. Not by threatening pain of up to \$50,000, enough to cripple most average sized contracting companies.

Or maybe we should just let them continue, let them pass the legislation. I am not worried, I know that on the job, where the work is done, we get it right. The stats say so.

Peter Rushworth

General Manager
ETCO

Registrar's response

It is unclear why a link is being made between accidents reported in ELECTRON and the proposed provisions of the Energy Safety Review Bill.

As stated in issues 21 and 22 of ELECTRON the Energy Safety Service recently published its summary of reported accidents and that summary is being reproduced in ELECTRON as part of the Board's strategic goal to make all information available.

The Energy Safety Service states in the general trends section of its latest summary:

- There is no significant change in the number of notifiable fatal and injury accidents occurring to electrical workers over the last eleven years.
- In the last five years, there has been a significant reduction in electrical accidents to line mechanics (from an average of about 17 per year during 1993-98 to about 10 per year during 1999-03).
- During the last five years, there has been a significant rise in accidents to trainee electricians and trainee line mechanics, as compared to the previous six years (from about 2.5 to 7 per year).

The Energy Safety Service further states that "the accident information does not explain the reasons behind the above mentioned trends. It may be due to a reduction in the amount of work undertaken, more use of a trainee workforce, a reduction in accident reporting, or a real improvement in safety. The actual reasons for these changes have not been investigated."

Results of Disciplinary Hearings

Creating a hazard and no Certificate of Compliance

A complaint was laid against Bruce Edward George Horo (I 2529), an electrical inspector from Rakaia, by a homeowner. The complaint alleged Mr Horo had installed two socket-outlets and supplied them from a meter box which meant the socket outlets were not able to be isolated at the house's main internal switchboard.

The complaint also alleged the Mr Horo had failed to issue a Certificate of Compliance when he subsequently remedied the work.

The Board considered the complaint and found Mr Horo guilty of a disciplinary offence in that he:

- Contravened regulation 69 of the Electricity Regulations 1997 by creating an installation that was not electrically safe because of the risk of electric shock for anyone who reasonably attempted to isolate the entire installation at the main internal switchboard; and
- Contravened regulation 39 of the Electricity Regulations 1997 by neglecting to furnish a return.

The Board fined Mr Horo \$1,500 and ordered him to pay costs of \$1,500.

Comment: The Board notes workers should bear in mind that, once a Certificate of Compliance has been issued for work, any remedial work subsequently carried out may require a new Certificate of Compliance.

Unsatisfactory work

A complaint was laid against an electrician from Christchurch by another electrician regarding work carried out at Cromwell. The complaint alleged the Christchurch electrician had connected the earth terminal of an external switch socket outlet directly to an earth electrode and failed to adequately protect cables.

The Board considered the complaint and found the electrician guilty of a disciplinary offence in that the electrician:

- Carried out prescribed electrical work in an unsatisfactory manner, by driving a separate earth electrode for a fitting. Doing that contravened clause 5.6.6 of AS/NZS 3000:2000.

The Board censured the electrician and ordered the electrician to pay costs of \$500.

Inadequate identification of conductors

A complaint was laid against Woo Seok 'Andrew' Kim (E 19166), an electrician from Auckland, by a homeowner from Auckland. The complaint alleged Mr Kim had left live exposed conductors, failed to use the correct colours for conductors used for two-way lighting straps, failed to provide earthing for a light and had not issued a Certificate of Compliance.

The Board considered the complaint and found Mr Kim guilty of a disciplinary offence in that he:

- Contravened regulation 70(2) of the Electricity Regulations 1997 by failing to adequately identify conductors, and
- Carried out work in an unsatisfactory manner by contravening clause 3.8.1 of AS/NZS 3000:2000.

The Board censured Mr Kim and ordered him to pay costs of \$1,500.

Recording test results

A complaint was laid against an electrical inspector from Auckland by a homeowner from Auckland. The complaint alleged that the electrical inspector had failed to properly inspect a new switchboard, as the switchboard was subsequently found to be missing its earth-neutral link.

The Board considered the complaint and found the electrical inspector not guilty of a disciplinary offence as the Board was satisfied that an earth-loop impedance test result (which had been erroneously recorded on the Certificate of Compliance as an Insulation Resistance test result) supported the electrical inspector's evidence that the link had been in place when the switchboard was inspected.

The Board did not direct the Inspector's name to be published

Comment: The Board notes that this case demonstrates the value of recording test results on a Certificate of Compliance (though preferably on the right part of the certificate).

Defective work, no Practising Licence

A complaint was lodged against an electrician from Auckland by a homeowner. It was alleged the electrician had left live exposed cables and failed to provide RCD protection for socket outlets in a bathroom/laundry; failed to furnish a Certificate of Compliance, and worked with out a current practising licence.

The Board considered the complaint and found the electrician guilty of a disciplinary offence in that the electrician:

- Contravened regulation 90 of the Electricity Regulations 1997 by installing standard socket outlets in a bathroom and failing to protect them against the ingress of moisture; and
- Contravened section 95 of the Electricity Act 1992 by carrying out prescribed electrical work while not being the holder of a current practising licence.

The Board fined the electrician \$1,500 (\$750 for each offence) and ordered the electrician to pay costs of \$1,000.

Comment: The standard socket outlets were installed by the electrician's trainee because he had been trained in an environment working on new installations where all domestic circuits are RCD-protected. It is important to remember to teach trainees about the way things were done, so they have an understanding of what they may encounter in older installations.

No Certificate of Compliance

A complaint was laid about Ian Charles Merrylees (E 1721), an electrician from Auckland, by a homeowner. The complaint alleged Mr Merrylees had failed to provide a Certificate of Compliance more than two years after completion of the work despite two requests during that period.

The Board considered the complaint and found Mr Merrylees guilty of a disciplinary offence in that he:

- Contravened regulation 39 of the Electricity Regulations 1997 by neglecting to furnish a return.

The Board fined Mr Merrylees \$250 and ordered him to pay costs of \$500.

Costs of complaint hearings

The EWLG has carried out an evaluation of the costs associated with the hearing of complaints against registered people and it has been determined that for each complaint heard by a Complaints Assessment the cost is \$2,175. This cost is paid out of the Electricity Levy.

If the complaint is referred to the Board for hearing there are further costs of \$3,140. These costs are paid out of practising licence fees.

The Board has considered the question of costs and wishes to advise the industry that if a complaint against a registered person is referred to the Board and the person against whom the complaint is made is found guilty of a disciplinary offence costs of at least \$1,500 are likely to be imposed.

The Electricity Regulations 1997

Board Members receive comment from time to time about the appropriateness or otherwise of the regulations.

Whilst Board Members have input into regulatory and legislative amendments through the EWLG and the Board's own submissions

to the Ministry of Economic Development, Board Members would like the industry to know that they are not ultimately responsible for the regulations.

However the Board is always willing to consider industry views and pass those views on to the Ministry where appropriate.

12 Complaints Received in Two Months

Since issue 22 of ELECTRON Complaints Assessment Committees have considered twelve complaints, which had been laid against nine electricians and two electrical inspectors.

The Committees referred ten of the twelve complaints to the Board for disciplinary hearings. The Committees dismissed the other two complaints.

EWLG Investigations into Unregistered Workers

Each year the EWLG receives a considerable number of complaints relating to people who are allegedly working in contravention of the registration and licensing requirements of the Electricity Act 1992. Whilst the EWLG's main objective is to encourage people to comply with the Act's requirements by obtaining a provisional licence or registration there are cases where the EWLG prosecutes.

The following cases summarise two prosecutions recently taken.

False representations and using another person's registration

David Joseph Clancy was convicted in the Lower Hutt District Court on a charge of making a false representation to obtain a

practising licence and fined \$200. On another charge of using a certificate of registration issued to another person Mr Clancy was convicted and fined \$350.

Carrying out prescribed electrical work while not being registered

David Raymond Ashton was convicted in the Auckland District Court and fined \$100 on a charge of carrying out prescribed electrical work while not being registered. Court costs of \$130 were imposed.

Complaints not being heard by the Board

As part of its statutory functions the Board considers all complaints that have been assessed by Complaints Assessment Committees. The Board carries out its considerations irrespective of whether the Committees are recommending the Board hold hearings into complaints.

In light of the important matters raised the Board has directed the Registrar to publish details of the following two cases which it will not be hearing.

Installation of air-conditioning unit by an electrical service technician

A complaint was lodged against an electrical service technician from Auckland by a homeowner. The complaint related to the installation of air conditioning.

A Complaints Assessment Committee recommended the Board should not hold a hearing because the Committee was satisfied the work carried out complied with the regulations and, importantly, the work was within the limits of the electrical service

technician's registration.

The Board directed a summary of the Committee's recommendation to be reported (withholding the electrical service technicians name) because the summary will provide a salutary lesson about the importance of staying within the limits of work for an electrical service technician registration.

Comment

The above case is contrasted with two other Complaints Assessment Committee reports received by the Board at the same time. Each report also arose from a complaint about the installation of air conditioning unit by an electrical service technician.

However in those two cases the electrical service technicians are facing disciplinary hearings to determine whether they are guilty of working outside the limits of their registrations.

Signing blank Certificates of Compliance – Don't Do It

A complaint was laid against an electrical inspector from Auckland by a homeowner from Auckland. The complaint alleged non-compliant work including live exposed conductors and under-rated cable protection.

The Complaints Assessment Committee recommended the Board should not hold a hearing because at its meeting, which was attended by both the complainant and the electrical inspector, it became clear the electrical inspector had not done the work complained about and was not known to the homeowner.

The electrical inspector had mislaid a blank pre-signed Certificate

of Compliance and this had been used by the person who carried out the work.

The Board directed a summary of the Complaints Assessment Committee's report to be published (withholding the electrical inspector's name) to highlight the dangers of pre-signing blank Certificates of Compliance.

If the blank certificate had not been pre-signed the electrical inspector would have been saved from having a complaint lodged and having to go through the Complaints Assessment Committee process and potentially getting a damaged reputation.

Coroner's reports

The Board and the EWLG has considered a report from the Wellington Coroner into the death of Kurt Shane Stott, a trainee electrical fitter.

The Court has recorded, in part, that the cause of Mr Stott's death was due to extensive superficial external (skin) and internal (airways and lungs) flash burns from a high voltage electrical explosion at Upper Hutt.

The Board and the EWLG has also considered a report from the Christchurch Coroner into the death of Stewart Murray Gemmell, a trainee electrician.

The Court has recorded that the cause of Mr Gemmell's death in Christchurch was due to "electrocution when, in the process of

preparing to connect a three-phase 16 mm² neutral- screened underground cable extension to an existing live 400/230 volt three-phase 16 mm² neutral-screened underground cable, of which one phase was live, in order that it could be connected to a nearby meter box, he has accidentally made contact with a live conductor of an electrical cable."

In the conclusions section of the report the Coroner notes the Board's initiatives in relation to practising licence refresher courses and that the EWLG sought the approval of the Minister of Energy to issue a Code of Practice for the supervision of trainees who carry out prescribed electrical work.

Code of Practice for the supervision of trainee electricians

In issue 12 of ELECTRON the Group Manager EWLG advised that acting under delegated authority (pursuant to section 41 of the State Sector Act 1988) from the Chief Executive Ministry of Economic Development and in accordance with the provisions of section 36(1)(f) of the Electricity Act 1992 he intended to seek the approval of the Minister of Energy to issue a Code of Practice for the supervision of trainees who are carrying out electrical work under the Electricity Act 1992.

The EWLG invited comments on the proposed Code of Practice and in particular the subject matter it should contain.

A letter advising of the proposed Code of Practice and seeking comment was also sent to in excess of 30,000 people and organisations on EWLG and EWRB mailing lists.

The proposal was also advertised in an electrical industry magazine.

A total of eight submissions were received and they were mixed in their response. The responses ranged from acceptance of the need for a Code of Practice for the supervision of trainees to rejection.

The EWLG has produced a draft Code of Practice for the supervision of trainee electricians and earlier this year the Associate Minister of Energy approved the release of the draft for consultation.

Copies of the draft Code of Practice for the supervision of trainee electricians are available from Janine Anderson, Executive Assistant, and Board Liaison Officer, telephone 0800 66 1000 or 04 4702 256.

If any person would like to comment on the draft Code of Practice for the supervision of trainee electricians please address correspondence to the Group Manager, Electrical Workers Licensing Group, P O Box 10156, Wellington. The closing date for comments is 16 December 2005.

New Internet service – Bookshop Online

The EWLG is pleased to announce that our latest internet service, Bookshop Online is now available.

From 1 November 2005 the EWLG will only accept bookshop orders via the internet or phone. This will allow us to process bookshop items as quickly and cheaply as possible.

The online service provides payment options by direct debit or credit card.

Orders placed on our phone service will only have the option of paying for fee bearing orders using a credit card.

For further assistance please visit our online training guide in the information library at www.ewr.govt.nz or call our contact centre on 0800 66 1000.

New Practising Licence Refresher Courses for 2006

The Board has passed a resolution in relation to future practicing licence refresher courses.

The Board has agreed to:

- a new format for practicing licence refresher courses for electrical inspectors and electricians;
- continue issuing combination practicing licence/Site Safe Passports to people who complete the above mentioned refresher course which has been conducted in accordance with all SiteSafe criteria;
- modify the above mentioned refresher course for electrical service technicians;
- not preclude electrical service technicians from completing the electrical inspector/electrician refresher course if they wish to do so;
- introduce a selection, moderation and auditing system for both refresher courses and presenters;

- develop a further refresher course for line mechanics;
- seek regulatory amendment to make refresher courses and their delivery subject to Board approval.

In issue 19 of ELECTRON the industry was advised that full details of the new format refresher course will be published in the near future.

A CD has been produced for the new format practicing licence refresher course and this will be forwarded to known training providers in the near future.

Prior to any regulatory amendments which would make practicing licence refresher courses subject to Board approval, the Board would like to give the industry confidence that it wishes training providers to adopt the new format. As such the Board has agreed that it will only publish in Board produced documents and on the Board's website the names of training providers who agree to provide the new formatted practicing licence refresher course.

INCOME TAX

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Industry Partnership is a special service helping electricians with their taxes. You can phone us on 0800 TAX TALK (0800 829 825). Our number is free for landlines and cell phones.



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