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2004 has commenced with a further agreement having been negotiated with industry partners.

After extensive consultation, agreement has been reached on a new approach for the electrical industry in relation to Site Safe and Board requirements.

Details of the agreement are in this issue of ELECTRON.

I would like to acknowledge the support I received during this project from Iris Clanachan and Pauline Edwards from Site Safe and thank Peter Rushworth from the Electrical Training Company for all his time and effort. I would also like to thank Ian Butturini and Mike Bakker for their much-valued support.

The Electricity Regulations 1997 were amended on 9 January 2004 and further details are in this issue of ELECTRON. A circular on the amendments also accompanies ELECTRON.

The first full round under the new examination processes has been completed with over 1,400 candidates attempting Board examinations during November 2003.

With the exception of answer scripts where irregularities had been identified by markers all results left the Board's offices by 8 January 2004.



A full report on the examination will be available by the end of January 2004.

This issue of ELECTRON contains details on *EnergySafe* programme and you should expect a Bill on the programme to be considered by Parliament this year.

John Sickels
Registrar

GORDON CREIGHTON FORGIE

It was with great sadness that at the end of 2003 I learnt of the sudden passing of former Deputy Presiding Member of the Board Gordon Forgie.

Gordon contributed an enormous amount in terms of strategic thinking and planning during his time on the Board and was keenly interested in matters relating to electricity supply and distribution.

Gordon's friendship, knowledge, and dedication to the industry will be sorely missed.

Our heartfelt condolences go out to Gordon's family both in New Zealand and Canada.

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Safety • Competency

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TECHNICAL AND GENERAL QUESTION CORNER

Q When considering earth fault impedance, how are the values for the maximum length of a circuit supplying socket outlets determined when the circuit is protected by a combined RCD and MCB (RCBO) that has an earth fault threshold of 30 mA? The MCB is a type C.

A The central issue surrounding earth fault impedance is the need to disconnect the circuit within the safe time for the touch voltages likely to occur.

It has been determined that where an earth fault could give rise to a voltage in excess of 50 volts AC the circuit must be disconnected within 400 milli seconds for socket outlets.

To ensure the circuit breaker operates within the 400 milli seconds its time current characteristics must be analysed, however on average the instantaneous portion of a Type C MCB will be in the order of 7.5 times rated current..

Using the current and an operating voltage of 230 volts the impedance required to produce that can be calculated.

The calculated impedance represents the maximum allowable circuit impedance, which then can be translated into a maximum length for a circuit.

When an RCD is fitted to a circuit the operating time of the RCD is independent of the time current characteristic of the MCB and also invariably much shorter. Therefore in such circumstances there is no

need to calculate the earth fault impedance of such a circuit or determine a maximum circuit length.

However the earth loop impedance value may be useful for determining the earth resistance required to ensure that the earthing system is correctly connected and the circuit satisfies the voltage drop requirements relative to its length.

Q What is touch voltage?

A Touch voltage is the voltage between the frame of equipment and other parts a person can touch. Clauses 1.4.87, 1.4.4.1 and 1.7.4.3 of AS/NZS 3000:2000 refer to touch voltages.

Q I am an electrician and if I ask for and receive advice from an electrical inspector on how I should carry out prescribed electrical work on an installation is that inspector responsible for the work I do when the work is done in accordance with the inspector's instructions?

A The seeking advice from another person on how you should do your work does not absolve you from your responsibilities as an electrician.

If an inspector gives you advice which subsequently makes your work non-compliant, that may be grounds for mitigation but in general you are accountable for all work you carry out. You are also accountable for the work a trainee carries out while the trainee is assisting you.

New agreement with Site Safe

After extensive consultation between senior staff of the Board, Site Safe, and the Electrical Training Company agreement has been reached on a new approach for the electrical industry in relation to Site Safe and Board requirements.

The agreement is summarised as follows:

- The Board and Site Safe will issue a combined Practising Licence/Passport (the licence) to those electrical workers who satisfy a prerequisite tuition course.
- Holders of the licence will have satisfied the requirements of the Electricity Act 1992 and will be permitted access to sites covered by the Site Safe Commercial, Residential, Maintenance and Civil Passports.
- The licence will be issued in the form of a Board practising licence endorsed with a Site Safe Logo.
- No photograph will be required on the licence.
- The licence will be issued by the Board through its practising licence systems.
- People wishing to uplift the licence will be required to make application in the same manner as other practising licences are applied for.
- The fee for the licence will be the same as other practising licence fees set by the Board.
- The Electrical Training Company will conduct the tuition course for a trial period of one year and after that time the course would be reviewed with the view of making it available to all suitably qualified Site Safe Instructors.
- The Electrical Training Company tuition course will not cover first aid or CPR and those subjects would need to be undertaken separately.
- The Electrical Training Company and Site Safe will set the fee for the tuition course.
- The Electrical Training Company will administer the tuition course in areas such as registration, collection of course fees, recording of attendance and assessment of results.
- Site Safe will maintain its funding streams.
- Site Safe will carry out the accreditation of tuition course instructors.
- Site Safe will carry out the moderating of tuition course instructors.
- All parties to the agreement will develop one combined application form and further develop electronic systems to accommodate the new approach.

Ammendments to the Regulations

On 9 January 2004 the Electricity Regulations 1997 were amended.

The amendments are summarised as follows:

- Regulation 39 now provides for the exemption from certification for metering and load control equipment.
- Regulation 90 has had an incorrect reference in it deleted.
- The latest amendments to AS/NZS 3000:2000 are recognised.
- Cited Standards for medical safety, electric fences and construction and demolition sites are revised.

A circular on the amendments from the Energy Safety Service accompanies this issue of ELECTRON.

SITUATIONS VACANT



A new position has been established in the Electrical Workers Licensing Group for a Senior Technical Advisor reporting to the Group Manager/Registrar.

The purpose of this position is to provide technical, policy and systems advice relating to the delivery of electrical registration, licensing, competency and disciplinary services.

Due to the nature of this role applicants must be able to demonstrate:

- the ability to liaise, negotiate and gain agreement and commitment with others in the public and private sectors,
- high level communication, interpersonal and relationship management skills.

- The ability to motivate oneself and work constructively with others.

Applicants for the position are required to hold electrical registration and additional qualifications such as NZCE (Electrical) or REA (Electrical) are preferred.

Further information on the position can be obtained from John Sickels telephone (04) 470 2250.

To apply for the position please send your CV, and covering letter to Sarah White at Challenger Consulting at mail@challenger.co.nz or alternatively call Sarah on (04) 568 2982 to obtain a job description.

Applications close on **27 February 2004**.

The C-TICK: Electromagnetic (EMC) compliance awareness

This article has been provided by the Radio Spectrum Group

The Radio Spectrum Management Group (RSM), a business unit of the Ministry of Economic Development, administers the radio spectrum under the provisions of the Radiocommunications Act 1989 and the Radiocommunications Regulations 2001.

RSM is committed to maintaining a clean radio spectrum and preventing interference, thereby ensuring that everyone derives maximum benefit from wireless communication technologies and services.

In part, this depends on ensuring electrical and radio products comply with electromagnetic compatibility (EMC) standards which exist to reduce the potential for interference to both radio and non-radio equipment.

Non-compliant products may interfere with the consumer's radio and television reception and, potentially, communication systems of emergency services such as fire, police and ambulance.

A recent survey to assess the current understanding of the EMC compliance regime revealed the need for greater education of consumers, retailers, importers and manufacturers. In order to increase the awareness of the industry and the public, RSM has published an information brochure about EMC compliance and the C-tick, which, is available at most electrical retailers nationwide.

A copy of this consumer-oriented brochure is enclosed in this issue of ELECTRON.

There is also a special section on compliance and the C-tick on RSM's website www.rsm.govt.nz/c-tick.

Most electrical and electronic equipment must be C-tick labelled and RSM now wants to assist manufacturers and importers of electrical and radio products to ensure their products meet the EMC compliance and labelling requirements.

RSM values the role of electrical workers in contributing to the EMC awareness campaign.

Some of you may have direct experience of the effects of radio frequency interference in your work. Non-compliant equipment can impose costs in terms of both time and money and prevention is better than cure.

You can help increase EMC awareness by advising your clients to look for the C-tick when purchasing electrical or radio equipment.

If you want to obtain more information about C-tick or register interest in attending a seminar about the C-tick:

- phone: 0508RSM info
- e-mail: info@rsm.govt.nz
- website: www.rsm.govt.nz/c-tick

The following article has been provided by the EnergySafe Service

EnergySafe – Where it's got to



As we begin the new year, it's time for an update on the *EnergySafe* programme.

What is *EnergySafe*?

EnergySafe is programme to review and amend the safety regime for electrical and gas work. Main features of relevance to electrical workers are:

- The Health and Safety in Employment Act is to be more clearly the primary legislation for safety in the workplace (*but the required standards to be met will still be set under the Electricity Act*).
- The licensing regime will continue for most electrical work, but there will be greater flexibility in defining licence categories and stronger emphasis on licence holders maintaining competence in the work they do.
- Certificates of Compliance will required in more situations, but will be cheaper and easier to complete.

Government made a number of decisions based on *EnergySafe* in October 2001, and since then a lot of work has been done on sorting out the detail of legislation changes to implement the decisions. There has been a delay in progressing *EnergySafe* during the last year as other work took priority, but we hope to make major progress during this year.

Changes will be made through to the relevant Acts through the "Energy Safety Review Bill" Expect that Bill to be considered by Parliament and submitted to the Select Committee process during this year.

Registration and Licensing:

Changes in the Wind

One of the changes proposed in the *EnergySafe* programme is the removal of "Registration" as a term recognised in law. Not surprisingly, this has raised a lot of eyebrows. The following looks at how the *EnergySafe* proposal is intended to change the use of the terms "registration" and "licensing" for electrical workers, explains why the changes are being made, and what it will mean for workers and the public.

Background

Under the current law, in general people doing gasfitting, plumbing, drainlaying and prescribed electrical work must

currently be both registered and licensed by the Plumbers Gasfitters and Drainlayers Board or the Electrical Workers Registration Board respectively. (*There are some exceptions, but they are not relevant to the registration / licensing question.*)

To become registered, the applicant must demonstrate competence, through having relevant qualifications and experience. It is an important recognition of the person's competence, and (with few exceptions) once registered, a person remains registered for life.

Workers must also hold a current licence, which acknowledges the holder is up to date in their competencies.

Changes planned through *EnergySafe*

"Licensing" will be the focus

The main purpose of the law controlling gas, plumbing, drainlaying and electrical work is to provide protection for consumers against any incompetent workers. Consumers need to be able to clearly identify workers who have been recognised as competent.

In addition, *EnergySafe* will increase the importance of current competence - that workers are up to date with developments in

equipment, techniques, Standards, and the law. This will, in turn, increase the importance of the licence as the recognition of current competence.

For these reasons *EnergySafe* is placing the focus on licensing, rather than registration, as the means of recognising competent workers and authorising them to practise their trade. The concept of "registered" will be removed from legislation to provide consumers with clarity around the term "licensed".

Concerns relating to the removal of the term “registration”

When the idea of removing “registration” was first proposed, many people raised concerns and the proposals have been changed as a result of those concerns. These are the main points that were raised.

What if a licence lapses?

There would be a real concern if registration information were not retained, and a worker whose licence had lapsed had to “start all over again”.

The legislation will however ensure that information on workers who have been registered, and workers who have been licensed, will be retained.

The two Boards will be required to keep a register of:

- those currently licensed,
- those who have been previously licensed,
- those previously registered or otherwise recognised as entitled to gain a licence (*subject to evidence of current competence*).

This record will ensure that, for example, any person who does not hold a licence for a period (*e.g. because they have been working in a different field*) will still have their previous qualifications recognised if they apply for a new licence. (*They may however still need to update their competencies before receiving the new licence.*)

Recognition of previous registration

There has been considerable concern that removal of registration would mean taking away a hard-won qualification (*akin to a degree*).

Original *EnergySafe* proposals were amended following this concern, so that although “registration” will no longer be a formally recognised status in the legislation, people who have

been registered in the past may still commonly be referred to as ‘registered’. The respective Boards may choose to recognise the attainment of a person’s first licence by issuing an appropriate certificate, and the EWRB has already been looking into this.

The fact that a person has attained registration as an electrical worker will remain, just as the attainment of School Certificate remains even though School Certificate is no longer available as a qualification.

(Note however that it would be an offence, as it is now, to do work that requires a licence without holding a licence, and it would be illegal to misrepresent one’s authority to do work.)

Transition period

It will be necessary to ensure that there is time to make any changes necessitated by the removal of the term “registration” from the law. For example, in some instances, the registration status of a person may be written into documents that will need to be amended.

For this reason, a 12 month transition period is to be proposed, during which the term “registration” will continue to be recognised in the law.

Consistency with the Building Act

Proposed amendments to the Building Act will introduce occupational licensing for some classes of building practitioners. In these cases, the term “licensing” will also be used, with licences lapsing after specified periods and new licences subject to current competency requirements. The regime under the Building Act will not provide for any “recognition for life” as registration has done under the Plumbing, Gasfitting and Drainlaying Act and the Electricity Act.

To provide clarity for consumers, the regime under the Building Act, Electricity Act, and Plumbers Gasfitters and Drainlayers Act will all use consistent terminology for competence requirements for workers.

