

Proposed Electricity Safety Regulations
A Discussion Paper

December 2007

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ISBN 978-0-478-31623-0 (print)

ISBN 978-0-478-31624-7 (html)

ISBN 978-0-478-31625-4 (pdf)

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Foreword from the Minister

In 2006, I was pleased to oversee significant new amendments to the Electricity Act. This was the culmination of many years of hard work to identify and address issues that will lead to safer and more reliable access to electricity for everyday use and for use in industry.

As a consequence of those amendments, changes to the Electricity Regulations are needed to reflect such new initiatives as Safety Management Systems and the introduction of infringement notices. The opportunity has also been taken to update other aspects of the Regulations to improve the overall clarity and to strengthen the focus on public safety and the avoidance of property damage in association with electricity. This focus is reflected in the proposal to amend the title of the regulations to the electricity safety regulations.

Safety regulations help consumers by minimising the risks from electricity when they buy or hire equipment, when they employ someone to do work on their home or caravan, when they holiday at caravan parks or visit a fairground, and even when they walk down the road under powerlines.

The regulations also help industry by providing guidance as to what is expected of their sector from the government, and by providing flexibility so that innovation is not constrained while still achieving safe outcomes.

I am particularly encouraged by the way industry has supported the public safety Safety Management System for electricity with their involvement in producing a Standard.

This discussion paper provides an opportunity for stakeholders and interested parties to comment on specific proposals for new electricity safety regulations.

I welcome your submissions.

Hon Harry Duynhoven
Associate Minister of Energy

Call for Submissions

Submissions on this paper should be sent by **29 February 2008** to:

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PO Box 1473
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email: electricity.safety.regulations@med.govt.nz
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If you require further information please telephone 04-474 2944

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Introduction

Electricity is critical to the economic growth, prosperity and social well-being of all New Zealanders. We use electricity in our everyday lives for lighting, space heating, water heating, cooking and to power all the many types of electrical equipment we rely on for our day to day lives from washing machines to computers to hairdryers to CD players.

Electricity supply is essential for industry, commerce, farming, hospitals, schools, traffic control, street lighting – all facets of our lives.

Just as critical to our lives as having secure and affordable electricity, is electricity being delivered in a way that is safe for people, safe for property and safe for workers, and the availability of electrical appliances and fittings that are safe to use.

The Electricity Act 1992 and the Electricity Regulations 1997 set out the legislative requirements for the safe supply of electricity, electrical appliances and fittings safety and the occupational regulation of workers and who may undertake electrical work.

In 2006, major changes were made to the safety provisions of the Electricity Act. Of particular note were:

- The inclusion of two safety related purpose statements in the Act - to protect the health and safety of members of the public in connection with the supply and use of electricity in New Zealand; and to promote the prevention of damage to property in connection with the supply and use of electricity in New Zealand;
- Changes to the occupational licensing provisions for electrical workers to require registration and licensing classes and competency requirements to be defined by the Electrical Workers Registration Board rather than in regulations;
- Changes to the occupational licensing provisions to provide for competency based licensing of electrical workers as defined by the Electrical Workers Registration Board;
- A new requirement for safety management systems to be in place for larger generation facilities and distribution networks;
- New offence provisions and penalties.

The amendments to the Electricity Act mean that consequential changes to the Electricity Regulations are required.

This discussion paper proposes that the Electricity Regulations 1997 be replaced with new electricity safety regulations, which take into account the new safety requirements in the Electricity Act and are user-friendly.

Wording and definitions used in this discussion paper are intended to indicate the proposed effect of the new regulations, and do not indicate that any particular form of words will or will not be used in the regulations.

The overarching objective of the regulations is to provide for the protection of the health and safety of members of the public in connection with the supply and use of electricity; and to promote the prevention of damage to property in connection with the supply and use of electricity.

The following specific objectives of the regulations have been identified –

- To define the rules for the quality and safe supply of electricity;
- To define the requirements for safety management systems;
- To define prescribed electrical work and what electrical work must be undertaken by a licensed electrical worker;
- To provide clarity to those undertaking electrical work about safety requirements;
- To define requirements for certification and inspection of electrical work;
- To define the requirements for electrical appliances and fittings safety;
- To specify offences for which infringement notices and penalties can be issued;
- To enable the Chief Executive to obtain information and/or documentation to assist with investigations;
- To define requirements of notification and inspection of accidents.

Principles Underlying the Regulations

In developing the proposed regulations, we have been guided by the following principles. These are important to ensure the regulations are consistent with and adhere to core public safety imperatives without introducing extra requirements. The emphasis is on public safety and avoidance of property damage.

Guiding principles of public safety in relation to electricity

- Ensure that consumer access to electricity supply and electrical appliances complies with accepted and up-to-date quality, safety and environmental standards;
- Ensure that electrical workers, electrical regulatory bodies and consumers are clear about their obligations and accountabilities;
- Provide regulations on electrical safety standards that are clear, easy to understand, apply and administer;
- Ensure that electrical workers and homeowners can deliver safe outcomes when undertaking electrical work;

- Provide a transparent and informed decision-making process where decision-makers and those affected by those decisions are informed of the process;
- Ensure the electrical safety regime is compatible with the gas safety regime, as appropriate;
- Provide for regulation where there is benefit to the consumer, the environment or public health and safety;
- Take a conservative approach if a significant amount of uncertainty exists;
- Ensure the regulatory regime must be credible with consumers, industry and international partners;
- Minimise compliance costs where possible and ensure the cost to administer the regulatory regime is reasonable;
- Ensure regulation does not impede innovation and technological updating;
- Ensure regulation is consistent with New Zealand's international commitments and obligations such as those related to trade; and
- Ensure regulation is consistent with international best practice.

The Proposed Electricity Safety Regulations

Preliminary Provisions

Interpretation

The proposal is to provide in the electricity safety regulations that all the existing definitions in the Electricity Regulations continue with the addition of the following new definitions:

It is proposed that there is a new definition of *Accredited Conformity Assessment Body* (CAB) along the lines that an accredited conformity assessment body is:

- (i) accredited by IANZ or JAS-ANZ; or
- (ii) accredited by an accreditation authority that has entered into a mutual recognition arrangement with IANZ or JAS-ANZ; or
- (iii) approved pursuant to any agreement between New Zealand and any other country or countries; or
- (iv) any other equivalent organisation that satisfies the Chief Executive that they can meet the requirements under the regulations.

This new definition has application with respect to the new regulations concerning Safety Management Systems. It is also relevant to the regulations concerning safety of electrical appliances. It will replace the current definition of *suitably qualified auditor*.

It is proposed that there is a new definition of *Electrically Safe* which cross-references to the discussion on the safety of electricity general safety requirements regulation.

It is proposed that there is a new definition of *Electrical Safety Certificate* along the lines that an electrical safety certificate is a certificate issued by a person approved by the Board that certifies that any inspection, testing, and checking has been completed in compliance with the general safety requirement.

This certificate definition is proposed to replace the definitions of certificate of compliance and certificate of verification. The proposal provides for the form of the certificate to be generic to allow for a variety of uses including certificate of compliance, certificate of verification, certificate of re-verification and warrant of electrical fitness. The electrical safety certificate is to be accompanied by an electrical safety sticker to affix to connectable installations. It is proposed that the form will be obtained from the Electrical Workers Registration Board (EWRB).

It is proposed that there is a new definition of *Significant Property Damage* along the lines that significant property damage is damage that is greater than superficial, being such that the property is either damaged beyond repair or requires substantial repair or reconstruction in order to restore it to, at a minimum, the condition prior to it being damaged.

This definition has been determined in consultation with industry through work on the draft Safety Management Systems Standard. It complements the definition of 'serious harm' which is already set in the Act and relates to harm caused to members of the public.

The following definitions have references to other regulations and to sections of various standards. It is proposed these are amended to reflect revised numbering of these regulations and any relevant revised sections in the Standards:

- *IEC shock current standard;*
- *Prescribed electrical work*
- *Telecommunication network voltage*

There are also a number of new definitions in the Electricity Act 1992. These do not need to be repeated in the regulations and include *All practicable steps*, *Employer licence*, and *Telecommunications line*.

It is also proposed to amend the references to Electrical Codes of Practice (ECPs) and Standards at subsections (3) and (4) of the Interpretation section. The most recent ECPs and Standards will all be referenced.

Questions

Do you agree with the proposed definitions above? If not, why not?

Are there any other definitions that you think should be included?

Application of the Regulations

Proposal

To provide that the regulations do not apply:

- where there are other acceptable controls over electrical work, and
- to Tasers as they are controlled under the Arms Act 1983.

The Electricity Regulations at Regulation 3 set out the fittings that the Regulations do not apply to.

There is potential for confusion in the current exclusion, in that it refers only to "fittings", rather than to excluding the application of the Regulations as a whole.

It is proposed to continue the current exclusion of road vehicles (Regulation 3(a)) in the electricity safety regulations but to make this exclusion clearer by restating it along the following lines:

These regulations do not apply to caravans, campervans or other vehicles or relocatable buildings containing connectable installations, including any of its fittings) used for propulsion, lighting or heating of the vehicle or used for self-contained lifting or hoisting equipment (provided that those fittings do not receive a supply of electricity from an external power supply and do not supply any electricity to any premises.

This is because these vehicles have separate, but complementary, rules under the Land Transport legislation covering the electrical safety of these vehicles and their electrical components.

Also excluded under the existing Regulations are the fittings of any conveyance being a ship (excluding pleasure vessels containing connectable installations), aircraft, vessel, train, locomotive, tram or trolley bus (Regulation 3(c)).

There is some uncertainty as to the interaction between the existing Regulations and the Civil Aviation Act. There is at present no explicit definition of the boundary between the electrical systems of aircraft, and the electrical systems covered by the Regulations.

As with Regulation 3(a), the conveyances listed in Regulation 3(c) (trains, locomotives, aircraft, trams, trolley buses, ships and vessels) have separate, but complementary, rules covering their electrical safety and their electrical components. It is both unnecessary and inappropriate to duplicate requirements. Excluding these conveyances from the regulations will also allow specialist technicians, who may not fall under the Electrical Workers Registration Board scheme, to continue to do work in accordance with the relevant regime.

Accordingly, it is proposed that the electricity safety regulations will include a regulation similar to 3(c) but revised to clearly exclude aircraft, fittings on an aircraft, or work on an aircraft and fittings of aircraft, except where specified in the regulations. A similar revision is proposed for trains, locomotives, trams, and trolley buses.

It also proposed to exclude all marine craft from the application of the regulations. At the moment the exclusion only covers ships and not pleasure craft. There appears to be no good reason why pleasure craft are not excluded.

Export

It is proposed to continue the current exclusion of fittings or electrical appliances manufactured solely for export or imported solely for re-export (Regulation 3(b)).

Other

It is proposed to additionally state that the electricity safety regulations do not apply to restricted weapons to which the Arms Act 1983 applies. This is to clarify that the Arms Act alone regulates the possession and use of restricted weapons such as Taser guns that convey electricity. Some commentators have suggested Taser guns, recently trialled by the Police, which use 50,000 volts to incapacitate an offender, may be subject to the existing Electricity Regulations.

Questions

Do you agree with the proposals relating to exclusions discussed above? If not, why not?

General Electrical Safety Requirements

PROPOSAL

- To clarify and improve the prominence of the general safety requirement for electricity to be safe (currently Regulation 69).
- To have one overarching regulation to require warning statements and security measures to ensure the public are aware of and protected from electricity, where applicable.

Safety of Electricity

As noted, the overarching objective of the proposed electricity safety regulations is to provide for the protection of the health and safety of members of the public and to promote the prevention of damage to property in connection with the supply and use of electricity.

To underpin this objective, it is proposed that the regulations have a general safety requirement stating along the following lines that electrical fittings are required to be designed, constructed, maintained, installed, *supplied, assembled, connected, tested, repaired* and used in a manner that is electrically safe.

This proposed new regulation is very similar to existing Regulation 69, with words in italics additional to those currently in Regulation 69.

Electrical fittings is defined in the Electricity Act 1992 as everything used, or designed or intended for use, in or in connection with the generation, conversion, transformation, conveyance, or use of electricity.

The existing Regulations define “electrically safe” at Regulation 69(2). Whilst this definition is satisfactory, it does not align with other safety definitions in comparable legislation, for example, the Health and Safety in Employment Act 1992. Accordingly, it is proposed to not continue with this definition and instead to define electrically safe along the following lines (please note this is indicative wording for the purposes of consultation).

Electrically safe requires, having regard to the current state of knowledge, that all practicable steps have been taken within reasonably expected environmental conditions to ensure that the risk of serious harm to any person or domestic animal, or of significant property damage in both normal and foreseeable conditions, is as low as reasonably practicable; -

With the following riders to this definition:

- Currently, electrical equipment that is designed and used for medical treatment, animal stunning, meat conditioning, or fishing is considered as not

electrically unsafe merely because it may cause injury when used for its designed purpose. It is proposed that this will remain unchanged.

- It is also proposed to include that electrical equipment that poses a mechanical risk of injury or death to any person or domestic animal, or of any damage to property, is not considered electrically unsafe merely because it may cause injury when used for its designed purpose. For example, a burn from the hot plate of an iron will not be considered an electrical accident, even though appliance or installation is electrical. In these cases, electricity did not cause the injury.

With respect to the means of compliance set out in Regulation 69A, Regulation 69B and Regulation 69C these will continue to be noted in the proposed new regulations as appropriate to use to establish compliance with the general safety requirements (but not the only means).

Regulation 68 sets out various transitional allowances for meeting the general safety requirements. Industry has advised that these transitional allowances may still be important to retain. On the basis that it is not known what the implications would be of removing these transitional allowances, it is proposed that they be incorporated into the new regulations.

Questions

Do you agree with the proposed general safety requirement? Is it sufficiently clear?

Infringement Offence

It is proposed that there will be a regulation providing for Chief Executive (of the Ministry of Economic Development) to issue a notice to an owner of electrical fittings where satisfied that there are grounds the electrical fittings do not meet the general safety requirement. The process will include Energy Safety issuing a notice to rectify the breach. If this notice is not complied with, then it will be an infringement offence.

Notification to Chief Executive

Present Regulation 50 requires a person who is doing prescribed electrical work, or testing prescribed electrical work to notify the owner or occupier and the Chief Executive if they discover an installation, fitting or appliance that presents an immediate danger to life.

It is proposed that a regulation similar to this be retained in the new regulations but also include that if the person can fix the problem and does so, then the person does not need to notify the Chief Executive. However, if they cannot fix the problem immediately, then the Chief Executive must be notified.

Issuing of Urgent Instructions

Present Regulation 105 allows the Chief Executive to issue orders or instructions for securing the protection of persons from injuries caused by electricity. The

requirement can be directly to a particular person in writing, or if it is general, this can be by notice in the Gazette. The requirement can stay in place for up to 6 months and can be amended or revoked at any time.

It is proposed that this regulation be retained in the new regulations.

Warning Statements and Security Requirements

The Electricity Regulations presently provide at Regulation 34 and Regulation 66 that warning notices must be in place where there is a significant risk to the public from potential exposure to live wires or uninsulated conductors, or the unintentional connection of the supply of electricity. It is proposed that the new electricity safety regulations provide as part of the general electrical safety requirements for warning notices to be used as follows:

- to require durable and readable warning notices to be conspicuously placed where any person is carrying out work on works or installations at the point of disconnection to safeguard against unintentional connection;
- to require durable and readable notices to be conspicuously placed where high voltage electricity is used or is to be used providing instructions on the treatment of electric shock;
- to require durable and readable warning notices to be conspicuously placed to where it is necessary to warn the public, such as the presence of underground lines where these enter dwellings.

It is proposed to also provide for the requirement to lock the disconnection from the power supply if the works or installation has a locking facility.

It is also proposed to also have a new regulation requiring that security arrangements are in place to prevent access by unauthorised persons where there is a need to limit access to installations when electrical work is being undertaken. These regulations are needed in addition to aspects of security arrangements that will be covered by the Safety Management System (SMS) requirements, given not all electricity generating facilities or distribution systems require SMSs. It is proposed to continue the requirements of current Regulation 89 which reads:

All electricity generating facilities of works or electrical installations, and all substations, must be secured against access by unauthorised persons.

Earthing and Protection Measures

In simple terms, earthing protects people by ensuring adequate protection against fault currents and by ensuring that all exposed conductive surfaces are at the same electrical potential as the surface of the Earth, thus avoiding the risk of electrical shock if a person touches a fitting in which an insulation fault has occurred. Earthing ensures that in the case of a short circuit, an overcurrent protection device (such as an RCD or fuse) will trigger and disconnect the power supply. Therefore earthing and protection measures are a vital part of the electricity safety regulations.

The electricity industry has identified significant problems with earthing and protection measures that are not adequately addressed by the current regulations. For example, there is difficulty in achieving the required 10 ohm overall impedance for a multiple earthed neutral (MEN)¹ system in all circumstances, and even if the 10 ohm is achieved for the overall MEN earth resistance, it does not mean an electrically safe earthing arrangement.

In response to these problems, the industry has undertaken a comprehensive review of internationally recognised earthing system standards and has identified international practices and requirements for the control of step, touch and transferred voltages that may be more appropriate than the current MEN requirements for some electrical installations. An Electricity Engineers Association (EEA) Industry Code of Practice (ICoP) is being developed with input from the Ministry of Economic Development (Energy Safety). This ICoP is intended to replace the existing NZ Electrical Code of Practice 35 for Power System Earthing. This ICoP is currently out for consultation.

Based on the outcomes of this work, the ICoP may be adopted and therefore ECP 35 would be revoked and the following requirements may be removed from the Regulations:

- the 10 ohm requirement;
- the reference to the IEC shock current standard in some regulations, which it is proposed will be replaced with an outcome based safety statement, as the current requirement does not practically apply to many situations and is out of step internationally;
- the requirement for the earth fault protection to disconnect the supply in all cases to allow for the uses of resonant earthing;
- the requirement for the earth fault protection to operate within 5 seconds, which is unnecessary if resonant earthing is used.

The review does identify where reference to IEC shock currents standard should remain, such as the regulation for prescribed electrical work, where work done for telecommunications purposes is deemed not to be prescribed electrical work, and for residual current device (RCD) characteristics.

They also recommend that for all other regulations where it appears, the phrase “shock currents and their duration cannot exceed the IEC shock currents standard” be replaced with a phrase like “shock currents and their duration are such that there is no significant risk of serious injury or death to any person”.

The regulator has contributed to the EEA review work and supports the proposals put forward. The EEA consultation document may be found at www.eea.co.nz.

¹ The combined neutral-and-earth conductor to real earth at many locations to reduce the risk of broken neutrals.

Questions

Do you agree that ECP 35 should be revoked in favour of the industry code of practice?

Residual Current Devices (RCDs)

An RCD constantly monitors the current flowing along a circuit. If it senses any loss of current, where electricity is diverting to the ground rather than through the circuit, it will immediately shut off. If a person's body is providing the path for the electricity to divert to the ground, they could be seriously injured, burned, severely shocked or electrocuted. An RCD will prevent the shock being fatal by shutting the system down instantly.

Currently, the use of RCDs is mandatory for domestic and residential installations. It is proposed that the use of RCDs be extended to include all socket outlets up to and including 20A as required by AS/NZS 3000:2007. This provides protection against electrical shock in commercial and industrial locations.

Questions

Is the proposed mandatory RCD use adequate?

Should we be considering requiring existing connectable installations to be RCD protected within the next 4 years?

Supply

Quality of Supply

Proposal

- To continue existing Regulations (53) Voltage, (55) Frequency, (56) Quality of Supply, (57) Change in supply characteristics, and (59) Keeping records and plans.
- To continue existing Regulation 58, with some clarifications.

New Zealand has a supply voltage of 230 V. Variances can come from interferences from nearby installations, the operation of the electricity supply network, and from environmental factors, such as weather. As such, there can be no guarantee of a variance free supply. However, it is important that the variances are kept within tolerance levels to minimise any safety risks that may arise.

Accordingly, it is proposed to carry forward to the electricity safety regulations similar regulations to:

- Regulation 53: which specifies the voltage of electricity supplies to electrical installations, and the margins of variability that may be allowed;
- Regulation 55: which specifies the frequency of electricity supplied;
- Regulation 56: which addresses situations where equipment unduly directs major levels of harmonics into the supply system, and these harmonic voltages interfere with the satisfactory supply of electricity to, or impair the safety or operation of electrical fittings of, other electricity users.
- Regulation 57: which specifies that no person supplying electricity or line function services may alter the electrical characteristics of the supply in a way that may cause danger, and must ensure they take reasonable steps to ensure the prospective fault currents are limited to reasonable levels.
- Regulation 58: which specifies that every owner of works must keep records and plans in order to enable that owner to readily locate any fittings of those works.

It is also proposed to carry forward Regulation 58 (Electrical Interference with Telecommunications lines, etc) but to clarify its intent along the lines:

- that in addition to construction of telecommunication lines and electrical works and installations, the alteration and maintenance of these structures can also produce electrical hazards; and

- by inserting the appropriate descriptor (either 'telecommunication' or 'power') before the phrase "lines, structure, device or thing". Currently there is confusion as to which lines are being referred to.

The existing Regulations also include in the quality of the supply of electricity section other regulations that it is proposed are better addressed under other parts of the new regulations or in other forum as follows:

- Regulation 52 (3): which allows for a 10 ohm maximum for total system neutral impedance to earth, yet 52 (5), allows that maximum to be exceeded where it is impractical. The level of 10 ohms does not guarantee a safe earthing arrangement. It is proposed to require earthing arrangements to be safe, rather than specify any particular requirement. (See discussion under General Electrical Safety Requirements.)
- Regulation 54: which specifies the margins of error for meter accuracy. Meter accuracy is covered by the Electricity Commission Rules and it is not appropriate to have duplicate requirements in regulations.

Questions

Are these the right quality of supply matters to cover in the regulations?

Are there any other quality of supply matters that should be covered?

Safety Management Systems for Electricity

Introduction

As a result of amendments to the Electricity Act in 1986, every person generating more than 10MVA is required to have in place a safety management system (SMS). Specifically section 61A of the Electricity Act requires that every electricity generator and every electricity distributor that owns or operates an electricity supply system must implement and maintain a safety management system in accordance with the regulations.

In relation to a generator², an electricity supply system is defined as assets, either individually or as a whole, that have a rated electricity generating capacity equal or greater than 10 MW. In relation to a distributor, an electricity supply system is defined as assets that either individually or as a whole are used or designed or intended for use, in or in connection with the conversion, transformation, or conveyance of electricity at a capacity equal to, or greater than, 10 MVA.

The concept of safety management systems is relatively broad and can cover a variety of aspects from public safety to environmental safety and worker safety. The Electricity Act's requirements are specifically with respect to public safety. The SMS provisions require that all practicable steps be taken to ensure the supply system does not present a significant risk of serious harm to the public or significant damage to property. The discussion of the proposed SMS regulations is thus from this position and aspects such as environmental safety, worker safety and damage to assets within the supply system are not included in the regulations because they fall outside the scope provided for in the Act.

This does not prevent a company from having a SMS which addresses more than public safety matters. The SMS will need to satisfy the requirements of the proposed regulations but can also include other matters as considered relevant by the company, for example, with respect to worker safety.

Scope of Safety Management Systems

The Act requires the regulations to include some specified elements for public safety and provides scope for the regulations to include other elements, where necessary, to meet the Acts intention.

Section 169A of the Electricity Act 1992 requires that the SMS regulations **must** provide for requirements relating to:

- Systematic identification of new and existing hazards
- Taking of all practicable steps to eliminate, isolate or minimise those hazards
- Regular assessment of each hazard identified

² Generation covers an isolated generating plant, a standby generating plant and any generating plant that can back feed into the network.

- Documentation of the SMS, and
- Audit of the SMS.

In addition, the Act provides that the SMS regulations **may** provide for additional requirements, for example, relating to:

- The design, construction, operation, maintenance, and inspection of the system;
- Security and control of access to the electricity supply system;
- Skills, knowledge and experience of persons who do, or assist in doing, work on or in connection with the electricity supply system;
- Implementation and management of contingency situations that may affect the system;
- Processes for the on-going improvement of safety in connection with the system;
- Investigation of accidents that involve or affect the system;
- Who may conduct audits;
- How often the audits must be conducted; and
- Outcomes and objectives of audits.

The discretionary items listed above are not restricted and further requirements may be included.

Background to the Proposed SMS Regulations

The SMS provisions outlined in this section are based on a risk management approach and rely on the identification, risk assessment and the adequate control of hazards. SMSs that meet the Act's requirements place an obligation on electricity generators and distributors to identify hazards, assess their risks and then take all practicable steps to control each hazard such that the residual risk of serious harm to members of the public or significant damage to property is as low as reasonably practicable.

The proposed regulations set the minimum SMS requirements. They will be performance based, rather than prescriptive, to enable scope for compliance in, what can be, variable situations.

A SMS is intended to provide a systematic process for identifying and managing safety risks associated with electricity. The level of risk for which preventative action is required can vary considerably and the Act requires measures to be taken to prevent any electricity supply system to which the Act applies presenting a significant risk of serious harm to members of the public and/or significant property damage.

Industry, as a whole, appears to have a number of systems in place to manage aspects of safety. It is the intent of these regulations to formalise critical safety requirements and provide for increased confidence in the identification and assessment of hazards associated with electricity and overall public safety in relation to electricity generation and supply in New Zealand.

It is intended that only one SMS for public safety and property protection be in place for any particular part of the electricity supply system. Multiple SMSs for public safety and property protection are neither desired nor considered to adequately address the public safety requirements.

The following discussion is presented as a combination of both the regulatory requirements and the essential elements defined in the SMS Standard. This approach has been taken because the two are intrinsically linked and solely setting out the regulatory requirements does not provide a complete picture.

The Proposed Safety Management System (SMS) Regulations

It is proposed that the regulations will provide that every owner or operator of an electricity supply system, as defined in section 61A of the Electricity Act, will be required to implement and maintain a SMS in the following manner.

- 1. Description of the System:** it is proposed that the owner or operator of an electricity supply system will be required to document and describe their supply system including all the assets within that system that they own or are otherwise in control of. The asset description must list the location, physical description (including state of repair), operation and other detail necessary to determine the associated risks and the development of mechanisms for mitigation.

The system description will enable identification of what assets are included in the SMS, allow for identification of the associated hazards and enable the risks presented to the public and property to be assessed.

- 2 Hazard Identification:** it is proposed that the owner or operator of an electricity supply system will be required to demonstrate that the following processes have been undertaken:
 - systematic identification of all hazards posed by the supply system in relation to public safety and property protection, including hazards arising during commissioning, operation, maintenance, and decommissioning of the supply system;
 - identification of the points at which the hazards occur; and
 - Identification of geographic/environmental factors that may affect the magnitude of the hazards.

The identification of hazards presented by particular assets, their locations and associated activities is vital in the prevention of “serious harm” to the public and significant damage to property. This is because it defines the areas

where risks present themselves, enables their magnitude to be established and allows for the development of measures to mitigate those risks.

A particular asset or operation may pose certain hazards; however, the surrounding conditions can affect the level of risk posed. For example a power line conductor contact with ground in a remote field does not present the same level of risk as the same conductor contacting ground in a residential area simply because there is a greater change of people coming into contact with it.

The definition of “hazard” is set in the Act as the presence (or absence) of assets, activities or events that may present a significant risk of serious harm to any member of the public or significant damage to property owned by a person other than the generator or distributor.

It is noted that the electricity industry considers such hazards as being within the “significant hazard” subset of hazards in general. It is intended that an essential part of the SMS process is for electricity generators and distributors to separate these “significant hazards” from hazards in general by examining the risk associated with each hazard that is identified. Control, appropriate to the circumstances, must then be applied to the “significant hazards” such that the residual risk of serious harm to members of the public or significant damage to property is as low as reasonably practicable.

3 Hazard Assessment: it is proposed that the owner or operator will be required to demonstrate that the following has been undertaken:

- systematic assessment of the risks of serious harm to members of the public;
- systematic assessment of the risks of significant damage to property.

After the hazards have been identified they will be assessed to determine whether they pose significant risks of serious harm or significant property damage. The definition of ‘serious harm’ is set in the Act and relates to harm caused to members of the public. It is proposed that the definition of ‘significant property damage’ will be along the following lines.

Significant property damage (as mentioned under the Interpretation section) is proposed to be damage that is greater than superficial, being such that the property is either damaged beyond repair or requires substantial repair or reconstruction in order to restore it to, at a minimum, the condition prior to it being damaged

The identification and assessment of hazards will be required to be done to the extent practicable.

Question

Have the requirements for hazard identification and assessment be adequately addressed; if not, in what respect?

4 Risk Mitigation:

- A. the owner or operator of an electricity supply system will be required to demonstrate that they have taken “all practicable steps” to mitigate the associated significant risks to public and property from the identified significant hazards to as low as reasonably practicable. We note that the steps required are likely to be different in each case.
- B. the owner/operator must demonstrate that systems, processes and documentation are in place to manage the significant risks by either elimination, isolation or minimisation of the hazards to the extent practicable in the circumstances.

It is noted that the regulations will require only the significant risks to public safety and property to be addressed. Although the legislation does not require the lesser risks to be addressed in the SMS it may be prudent to do so.

- C. To demonstrate that “all practicable steps” have been taken to mitigate the significant risks posed by the electricity supply system the SMS must contain evidence that:
 - acceptable processes and procedures have been established and are being maintained;
 - monitoring procedures have been established and are being maintained;
 - actions that need to be taken in situations where the processes, procedures or monitoring are not adequate are defined.
- D. Evidence of acceptable processes and procedures is proposed to include, but not be limited to:
 - establishment of the requirements for persons carrying out work on the system, for example skills, knowledge, competence, supervision requirements and training provisions;
 - the setting of standards for the equipment and materials used within the supply system;
 - establishment of indicators for reporting on the health, effectiveness and adequacy of the SMS;
 - establishment of response plans for remedial actions and emergency situations.

It is not proposed to regulate the type of evidence that may be provided for mitigation. The intent of this is to provide flexibility in the options that may be taken to achieve the fundamental safety concepts established in the Act.

Referring to industry best practice and standards (New Zealand or international) may meet some of the requirements; however, it is noted that the certification process will ultimately confirm whether the system has adequately identified and assessed the hazards and mitigated the significant risks posed.

Question

Have the steps for mitigation been adequately addressed? If not what areas should be considered?

5 Processes for monitoring the on-going effectiveness of the SMS: it is proposed that the owner or operator of an electricity supply system will be required to have in place documentation that sets out procedures for;

- monitoring the effectiveness and health of the SMS, for example by establishing performance indicators and mechanisms for collection of relevant data; and
- identifying and addressing areas of concern, within their SMS, industry wide and from international experience; and
- the investigation of accidents, reporting and utilisation of lessons learned; and
- implementing improvements or updates to the system.

It is not proposed that the regulations specify an interval for the regular assessment of the identified hazards and mitigation measures put in place. The assessment process is expected to be somewhat of a continual process. In addition to regular on-going reviews it is expected that assessments will be triggered by certain events, such as accidents involving parts of the supply system.

The audit certification process (discussed in detail on page 25) will review the effectiveness of the on-going maintenance measures in place for a particular SMS and should identify areas where further attention is required.

6 On-going Maintenance of a SMS: it is proposed that the owner or operator of an electricity supply system will be required to regularly update the SMS to incorporate, but not limited to, the following aspects including the following:

- audit findings; and
- changes to the supply system that may change the nature or scale of hazards; and
- changes to the environment in which the supply system operates; and

- accidents, incidents and other experience from elsewhere in the supply system, from other supply systems, and from anywhere else that might be relevant; and
- the passage of time.

It is noted that some hazards for public safety or property may be identified through other processes, for example, hazard identification and risk assessments for worker or environmental safety. Where hazards are identified in these other processes they should be incorporated into the public safety SMS.

Question

Are the further aspects for on-going monitoring and maintenance of an SMS that should be considered?

7 Performance Indicators: It is proposed that, as a minimum, the owner or operator of an electricity supply system will be required to include the following performance indicators in the processes for monitoring the on-going effectiveness of the SMS:

- Accidents/incidents involving members of the public and damage to property;
- Education programmes undertaken;
- Vandalism incidents;
- Asset entry by the public.

Performance indicators are an important aspect in determining the overall effectiveness of a SMS. While it will be up to the individual owner/operator to establish the majority of performance indicators within their SMS, it is proposed that the above key performance indicators (KPIs) be set in the regulations.

These KPIs are intended to provide the basis for demonstrating that the principles of public safety and property protection are being addressed in connection with the supply system.

It is not proposed that any minimum or maximum numbers be set around the KPIs. This is because they are only intended to serve as a mechanism for identifying that these important aspects are being monitored and/or addressed.

Data on accidents and incidents involving public safety and property is considered important because it allows the owner or operator and auditor to identify areas within the SMS that may require further attention.

The undertaking of educational programmes and monitoring incidents of vandalism and public entry to assets is considered important because they can provide a measure of the effectiveness of the actions being taken to increase public awareness and reduce exposure to the hazards posed.

It will be the owner or operators responsibility to instigate programmes and collect data against these indicators, which will in turn form a key part of the independent audit process.

Question

Are there any other performance indicators that should be mandated in the regulations?

8 Contingency plans for unexpected supply outages: it is proposed that the owner or operator of an electricity supply system will be required to include, in the SMS, processes for:

- identifying supply outage events that may pose significant risks of serious harm to members of the public or significant damage to property; and
- managing those risks (i.e. through elimination, isolation or minimisation of the hazards to the extent practicable in the circumstances (contingency planning)).

It is noted that some of these elements may be addressed under other legislative requirements, such as that for Civil Defence emergencies, or the Electricity Commission guidelines for vulnerable consumers. This information should be included in the SMS where the hazards identified pose significant risks to the public and/or property.

It is noted that there will be no requirement to duplicate risk assessment and mitigation work that has been carried out under other legislation.

Documentation of the SMS

The documentation requirements for a SMS are vital to ensure it has addressed the necessary elements. Without some sort of formalised documentation requirements auditing of the SMS could not occur.

Documentation in this context does not necessarily require the production of a single document with all the elements contained therein. The documentation may be spread over a number of documents that are referenced and can be brought together for the purpose of auditing. This approach is recognised in the proposed SMS regulatory requirements 1 to 8 that set out a number of documentation requirements.

The documentation forming an SMS is not limited to policies, processes and procedures. It may also include maps, plans, photographs, electronic images and knowledge of staff. It is a repository of criteria to be met and actions required to maintain public safety and protect property.

The SMS documentation must contain records of the essential elements as provided under proposed regulatory requirements 1 to 8 and includes:

- an up to date description of the system including assets, infrastructure and processes involved;
- the hazards identified;
- the risk assessment for the identified hazards;
- mitigation measures (both in-place and proposed);
- records of on-going maintenance of the system (i.e. periodic assessments);
- records of incidents involving the system.

It is proposed that the regulations will specify that all documentation associated with a SMS must:

- be written clearly and unambiguously;
- have established sign-off procedures;
- be communicated to all relevant staff;
- be regularly reviewed and updated; and
- be kept and maintained to be available to auditors when undertaking an audit.

The auditor, through the audit process, will review the documentation for the SMS as to its adequacy for the supply system described. Detail regarding the audit requirements and processes is discussed below.

Audit Certification of the SMS

It is proposed that the regulations will require every SMS to be audited by an independent third part at least every three years. The auditor will be required to certify that an adequate SMS is in place. The adequacy of the SMS will be based on their meeting the general safety requirements and SMS requirements set out in the regulations. Evidence from performance indicators, set in the regulations and those defined by the owner or operator of the electricity supply system will also be used to determine the adequacy of a SMS.

It is proposed the regulations will provide that audits conducted on a progressive basis over a period not exceeding three years will be considered to meet the required audit timing. The core objective of the audit process is to provide an independent assessment of the adequacy of the SMS in preventing significant risk of:

- serious harm from occurring to any member of the public; and

- significant damage occurring to property not owned by the owner or operator of the supply system.

Due to the specialised nature of the auditing process, it is proposed that the qualification requirements for auditors be managed under the Joint Accreditation System of Australia and New Zealand (JAS-ANZ). JAS-ANZ will determine the skills necessary to perform the required auditing functions and will establish an accreditation scheme for conformance assessment bodies³ (CABs). CABs will be required to conduct the independent audit of SMSs.

Upon completion of the audit, the CAB will produce an audit report for the owner or operator of the gas supply system. The audit report may indicate areas where further work is required before an audit certificate will be issued or highlight issues that should be addressed before the next audit or within a specified period.

Where the CAB considers that a SMS is satisfactory an audit certificate will be issued along with the audit report. The audit report and audit certificate will become part of the SMS “package”; however, the audit certificate is the document that indicates compliance with the SMS regulations. The audit certificate must be supplied, by the owner/operator, to the regulator as proof of compliance. Any non-compliance will be the responsibility of the owner/operator to remedy.

Implementation and Transition

An asset owner will be required to obtain a SMS certificate 2 years from the promulgation of the regulations. The 2 year period is intended to provide JAS-ANZ sufficient time to establish the audit process, accredit CABs and for owners or operators of electricity supply systems to develop and have their SMSs certified.

Enforcement of SMS Provisions

Section 163B of the Electricity Act makes it an offence for an owner or operator of an electricity supply system not have a SMS when they are required to do so. For non-compliance, a fine of up to \$250,000 will be imposed. An owner or operator does not have an SMS if it does not have an audit certificate.

Regulator’s Role

The regulator’s role in SMS will be minimal. The regulator, under the general provisions of sections 5 and 6 of the Act, will retain their existing ability to audit any aspects to do with electrical safety and compliance with the Act.

Means of Compliance

To provide more clarity for owners or operators of electricity supply systems meeting the SMS requirements, Standards New Zealand has developed the Standard, *NZS 7901 Electricity and Gas Industries – Safety Management Systems for Public Safety*. This Standard has been developed by industry with representation from consumers and the regulator.

³ Refer to the interpretations section for further detail regarding ‘conformance assessment bodies’

It is proposed that the SMS Standard (NZS 7901) will be a means of compliance for the SMS requirements set in the regulations. Whether an owner or operator of an electricity supply system decides to follow the Standard or an alternative means of compliance, the CAB, through the audit process, will ultimately decide whether a SMS meets the obligations and requirements set under the Act.

Prescribed Electrical Work

Proposal

- To carry forward the definition of prescribed electrical work with the addition of provisions concerning design and testing, certification, inspection and supervision.

Only registered and licensed electrical workers may undertake prescribed electrical work (PEW). This aims to increase the safety of the public by ensuring non-competent workers do not attempt to undertake such work. As such, prescribed electrical work is explicitly linked to the electrical worker licence classes defined and administered by the Electrical Workers Registration Board (EWRB).

The Electricity Act provides for the detailed definition of prescribed electrical work to be set out in the regulations. The Act sets out the scope or boundaries for this definition. In 2006, amendments to the Electricity Act extended the scope so that the Act now provides that prescribed electrical work covers:

- **Design**, construction and maintenance of electrical installations;
- **Design**, construction and maintenance of works;
- Maintenance of electrical appliances;
- Connection/disconnection of works, electrical installations, and electrical appliances to or from a power supply, other than by means of:
 - i) a plug; or
 - ii) an appliance inlet; or
 - iii) a pin –
that is inserted into a socket outlet; and
- **Testing, certification, inspection or supervision of the work described above.**

Words in bold are those matters added to the scope by the 2006 amendments.

The existing Regulation 17 sets out in detail what is prescribed electrical work. It is proposed to carry forward these regulatory requirements as below but with a number of amendments and additions in order to more adequately define prescribed electrical work.

It is proposed to carry forward Regulation 17(1) (a) – (c) which outlines what is considered to be prescribed electrical work. In relation to works and installations, this includes the installation of conductors, fittings that are connected or intended to be

connected to conductors, and the maintenance of appliances. In relation to works, installations, and appliances, prescribed electrical work is the connection, disconnection of conductors to or from a power supply other than by means of a plug, an appliance inlet or a pin that is inserted into a socket outlet.

It is also proposed to add to these requirements the design for low voltage installations. Complementing this provision will be an exclusion for when a low voltage installation complies with Part 2 of AS/NZS 3000:2007. This addition addresses the safety risks that such installations potentially create from not following accepted industry best practice.

It is also proposed to add to the prescribed electrical work requirements; testing, certification, inspection or supervision of matters prescribed under the regulations related to works, installations and the maintenance of appliances (covered by (a) – (c)). The intention of this addition is to ensure that testing, certification, inspection and supervision are conducted by registered and licensed electrical workers. This addresses work that has increased safety risks or involves non-standard practices. Testing, certification and inspection increase accountabilities for the worker and provide greater assurances of safety for the public.

Exclusions

Current Regulation 17(2) gives a list of exclusions from the definition of prescribed electrical work. It is proposed to carry forward this list of exclusions with amendments as explained.

- Regulation 17(2) (a): Work on electrical installations and electrical appliances that operate at extra low voltage (ELV). This regulation is proposed to be carried forward. However, there are specialist circumstances, such as extra low voltage electro-medical devices and hazardous areas, where the worker should be required to be competent and the work certified. Additionally, some ELV installations and appliances can amplify the voltage. In these cases, it is proposed that such specialist ELV work is prescribed electrical work and therefore should not be excluded from the definition.
- Regulation 17(2) (b): Repairs or adjustments to works, electrical installations, fittings, or electrical appliances or the replacement of extra-low voltage or mechanical fittings in electrical installations or electrical appliances, provided (in each case) that the work can be undertaken without removing any screens, covers, or the like designed to prevent inadvertent contact with fittings intended to be supplied at voltages above extra-low. This regulation is proposed to be carried forward although it is proposed to be streamlined to read along the lines *work where the safety of the works, installation, fitting or appliance is not affected*. This type of wording is considered to better capture the intent of the regulation.
- Regulation 17(2)(c): The operation of works, electrical installations or electrical appliances is proposed not to be carried forward, as such operation is already not considered to be prescribed electrical work under the Act and Regulation 17(1).

- Regulation 17(2)(d): Operation or switching of works, installations, appliances, including the manual connection or disconnection of temporary earthing or bonding fittings, for the purpose of isolating and earthing those works, installations, or appliances. This regulation is proposed to be carried forward.
- Regulation 17(2) (e) and (f): The construction of overhead (and for Regulation (f) underground lines) as part of any works when they are not connected to a power supply, the work is done by a competent person and the works have been designed to ensure safety during construction. These regulations are proposed to be carried forward. It is also proposed to remove “as part of any works” as these matters also apply to installations.
- Regulation 17(2) (g): The permanent removal, dismantling or demolition of any works or any electrical installation that has been permanently disconnected from a power supply. This regulation is proposed to be carried forward.
- Regulation 17(2) (h): The installation, adjustment, alteration, repair, or removal of conductors, supports, or insulators of any electric fence, and their connection to or disconnection from, an electric fence controller. This regulation is proposed to be carried forward.
- Regulation 17(2)(i): The connection and disconnection of a temporary bonding conductor to or from any metal pipe or tube that forms, whether by design or not, part of the earthing system, where the temporary bonding conductor is for the purpose of maintaining a continuous path to earth during work on the pipe or tube. This regulation is proposed to be carried forward.
- Regulation 17(2) (j): The rewinding of coils and armatures, but not including the reassembly, testing, and connection of any electrical appliance. This regulation is proposed to be carried forward.
- Regulation 17(2) (k): Experimental work on radio transmitters, receivers, and electronic apparatus, provided the work is not carried out for payment or reward. This regulation is proposed to be carried forward.
- Regulation 17(2)(l): Work done on or in connection with any electrical installation, fittings, or electrical appliance, used for telecommunications purposes, where:
 - (i) the electrical installation, fittings, or electrical appliance operates at telecommunications network voltage; or
 - (ii) shock currents and their duration cannot exceed the IEC shock current standard, -

Provided that the work may be undertaken without removing any screens, covers, or the like designed to prevent inadvertent contact with fittings operating at supply voltage in excess of extra-low voltage or telecommunications network voltage, as the case may be.

It is proposed to carry forward this regulation but amended to make it clear that all work on “normal” telecommunications networks is not considered to be prescribed electrical work. Currently, the regulation, by mentioning the removal of screens etc, is a practical impediment to work on telecommunication networks where the risk of harm at normal telecommunications voltage is low.

- Regulation 17(2) (m): Work done on or in connection with any telecommunications line or any telecommunications network equipment (other than that to which paragraph (l) applies) which is associated with telecommunications lines, provided that the work may be undertaken without removing any screens, covers, or the like designed to prevent inadvertent contact with fittings operating at supply voltage in excess of extra-low voltage or telecommunications network voltage, as the case may be. It is proposed to carry forward this regulation.
- Regulation 17(2)(n): Work done on low voltage fittings, where –
 - (i) the work consists of –
 - (A) the replacement of a fuse link with a fuse link or a miniature circuit breaker of an appropriate rating; or
 - (B) Affixing a fitting (being a plug, an adaptor, a cord extension socket, or an appliance connector) of an appropriate rating to a flexible cord that is designed to have such a fitting affixed to it; and
 - (ii) there is in force in respect of the work a standard set by the Chief Executive for the purpose; and
 - (iii) the work is done in a competent manner, without payment or reward, and in accordance with that standard.

It is proposed to not carry forward (2) (n) as homeowner work is prescribed electrical work by definition. Additional controls for homeowner work to ensure the safety of the person doing the work and of the work done can be found under the homeowner exemptions proposed for the new regulations.

- Regulation 17(2) (o): The assembly and repair of radio apparatus, fire control equipment, or searchlights, where the apparatus, equipment, or searchlights are used solely for defence purposes under the control of the New Zealand Defence Force, and an officer or a non-commissioned officer having control of the apparatus, equipment, or a searchlight has directed the conditions of security that must be observed in the assembly or repair. It is proposed to carry forward this regulation.
- Regulation 17(2)(p): The installation of any temporary conductors between fittings, or between electrical appliances, or between fittings and electrical appliances are used for experimental testing, demonstration, teaching, or research purposes in any electrical engineering workshop, electrical test room,

laboratory, hospital, research project, or teaching institution. It is proposed to carry forward this regulation.

It is also proposed to add to the exclusions an exclusion for when a low voltage installation complies with Part 2 of AS/NZS 3000:2007 (complementing the proposed inclusion of design related to low voltage installations as prescribed electrical work).

Who can undertake prescribed electrical work

The 2006 amendments to the Electricity Act established a new registration/licensing scheme for workers. The Electrical Workers Registration Board is responsible for the classes of registration and licensing. They will specify the prescribed electrical work that each of the classes are authorised to do.

Anyone who undertakes an aspect of prescribed electrical work that their class doesn't include (and which their licence/registration doesn't specify) will be in breach of the legislation.

The Board can impose limitations on the classes of registration and can exempt a person or class of person from being authorised to undertake prescribed electrical work. Accordingly, existing Regulations 18-22 that outline restrictions on prescribed electrical work will not be carried forward, as the Board will set the classes of registration and specify what prescribed electrical work each class can undertake.

Questions

Are you satisfied with the definition of prescribed electrical work? Can you suggest other work that should be excluded?

Specific Safety requirements for Works, Installations, and Appliances

As outlined, it is proposed to provide for a general safety requirement stating that electrical fittings must be designed, constructed, maintained, installed, supplied, assembled, connected, tested, repaired and used in a manner that is electrically safe.

In addition to this general requirement, there will still need to be specific safety requirements for works, installations and appliances. Each area has safety requirements unique to its needs. This section discusses how these specific requirements are achieved.

Protection against direct and indirect electrical contact

Regulation 94 (Protection against direct and indirect electrical contact) is proposed to be retained in the new regulations as a general requirement covering works, installations and appliances.

Works

Works is defined in the Electricity Act 1992 as any fittings that are used, or designed or intended for use, in or in connection with the generation, conversion, transformation, or conveyance of electricity; but excludes any fittings that are used, or designed or intended for use, by any person, in or in connection with the generation of electricity for that person's use and not for supply to any other person; and any part of any electrical installation.

For the most part, Safety Management Systems (SMS) will address safety associated with works. However, not all works will be covered by an SMS. Therefore it is proposed to include in the new regulations safety provisions for works that are not the subject of a SMS.

With respect to construction of works, it is proposed to carry forward an equivalent to Regulation 87(2) and (3). Regulation 87 at the present covers requirements for works and installations. The proposal is to separate the requirements for works from the requirements for installations. This separation will improve the clarity of the regulations around the different requirements for works and installations. It is proposed that 87(4) will not be carried over as its substance can be adequately captured under the general safety requirements.

Regulation 65 (Isolation fittings for works), Regulation 70 (Cables and conductors) and Regulation 93A (Interference with, or movement of, works) are proposed to be carried over to the new regulations unchanged.

It is proposed to also carry forward Regulation 92 (Conductor insulation for overhead electric lines) but to remove the words "other than neutral" as there should be no bare wires on overhead electric lines. This requirement is not intended to be retrospective, but in the future there should be no bare wires.

Installations

Electrical installation is defined in the Electricity Act 1992 as all fittings that form part of a system for conveying electricity and that form part of such a system at any point from the point of supply to a consumer to any point from which electricity conveyed through that system may be consumed. This also includes any fittings that are used, or designed or intended for use, by any person, in or in connection with the generation of electricity for that person's use and not for supply to any other person; but does not include any electrical appliance.

It is proposed to amend the regulatory provisions concerning installations, mainly due to the recent completion of a revised version of the AS/NZS 3000 Wiring Rules.

AS/NZS 3000:2007

Two current regulations reference AS/NZS 3000. Those regulations that have 3000 as a mandatory requirement are Regulation 37 (3) (Testing of prescribed work) where only part of 3000 is referenced, and Regulation 69A (1) and (3) (Electrical installations). Regulation 69A (2) refers to AS/NZS 3000 as a means of compliance.

It is proposed to carry forward Regulation 69A and the references to AS/NZS 3000.

AS/NZS3000:2007 has moved more towards a performance-based approach. This means that a system of alternative approaches (chosen by the electrical worker) rather than the present system of meeting fundamental requirements supported by “deemed to comply” solutions is the preferred method of achieving compliance. The reference to Standards is still proposed to be retained in the regulations but with amended provisions on how the implementation of the Standards can be achieved.

It is proposed to provide that if an installer chooses not to apply prescriptive requirements, the installer will be required to comply with the additional performance-based requirements set out in AS/NZS 3000:2007 and the installation will be subject to third party inspection/verification.

It is proposed that current third party verification, special competencies and periodic re-verification will be carried forward to the new regulations.

Other Amendments

Consistent with the proposal to split the carry forward of Regulation 87, it is proposed to introduce a new regulation for construction of installations. It is proposed, however, that any aspects of Regulation 87 for installations that are contained in AS/NZS 3000 will not be carried forward. Additionally, some of the references to Electrical Codes of Practice are out of date and need to be updated or removed.

Regulation 72 (Position of switches and protective fittings) is mainly covered by AS/NZS 3000, although some is relevant to works. It is proposed that any part of this regulation that can be found in AS/NZS 3000 will not be carried forward and that the part relevant to works will be moved to a new regulation under the Works section.

Plugs, Connectors and Socket outlets

Plugs, connectors and socket outlets need to be able to be used in a safe manner. One way of achieving this is to ensure that they are appropriate for New Zealand conditions and are of a consistent form. Regulation 74, which controls the properties of plugs, connectors and sockets, is a mandatory requirement in the existing Electricity Regulations. It is proposed to carry forward the intent of this regulation but with amendments to recognise that extra amperes are now available and the new AS/NZS 3000:2007.

Connectable installations

Connectable installations⁴ such as caravans and recreational vehicles are recognised as posing a higher risk from both electric shock and fire, and as a consequence these installations are subject to additional safety provisions, such as ongoing safety re-verification⁵.

There is concern that some imported connectable installations contain wiring systems and appliances not designed to the New Zealand electricity system. For instance, fittings may be designed to operate at 110 volts, 60 Hz for the American or Japanese markets. This therefore creates a safety risk and the nature of connectable installations, such as confined conditions, expanses of conductive materials, use of the vehicle as sleeping accommodation, means that the electrical hazard is more extreme.

An additional problem with these imported installations is that conversion to 230 volts may be deficient to ensure safety. Therefore, it is proposed the regulations provide that to be acceptable as a safe installation, the caravan or recreational vehicle must demonstrate (by way of third party inspection) that it is designed, constructed, and installed in accordance with the new general electrical safety regulation, AS/NZS 3000 and AS/NZS 3001. It is also proposed that all the appliances that form part of the connectable installation must comply with AS/NZS 3820 and the declared article and supplier declaration regulations.

Appliances

The safety of electrical appliances is important due to their common use in everyday life. The Electricity Regulations currently require high risk appliances (declared articles) to obtain approval from the Chief Executive before their placement on the New Zealand market.

⁴ Connectable installation is defined in the Electricity Act 1992, in relation to a vehicle, a relocatable building, or a pleasure vessel, as an electrical installation of that vehicle, relocatable building, or pleasure vessel that is designed or intended for, or capable of, connection to an external power supply that operates at or above such voltage as is prescribed for the purposes of this definition by regulations and includes any electrical appliance that is connected, or intended to be connected, to any such installation

⁵ The Regulations allow for alternative systems to be used, but these departures are only expected to be made as a result of new technologies.

The Ministry has become aware that there are increasing problems with compliance, due in part to difficulties suppliers have in understanding the regulatory requirements for appliances. Accordingly, it is proposed that the regulatory requirements for appliances be enhanced to reflect industry and regulator concerns regarding clarity and enforcement capability.

It is proposed that the regulations provide for a performance based regime but be underpinned by a more analytical application of risk management techniques and the adoption of international Standards. The proposals reflect New Zealand’s World Trade Organisation Technical Barriers to Trade (WTO-TBT) commitments.

The following table outlines the proposed regime. It is based on two mechanisms for indicating safety of appliances:

- Compliance with recognised Standards; or
- Compliance with general safety requirements. This includes using non-standard practices or alternative Standards. This route will require a higher level of evidence of compliance than the recognised Standard route.

The proposed base document for the regime is the Supplier Declaration of Compliance (SDoC). It is proposed that the SDoC is a statement by the supplier that the product they are supplying into New Zealand is safe and that the supplier accepts responsibility for the safety of that product. It is proposed that the SDoC must be in accordance with ISO/IEC 17050 and must include a statement of the quality control system applied

Risk Level	SDoC to Applicable Recognised Standard (including mandatory technical requirements)	SDoC to General Safety Regulation (including mandatory technical requirements)
High	Module 3	Module 4
Medium	Module 2	Module 3
Low	Module 1	Module 2

Module 1

- SDoC with applicable recognised standard

Module 2

- SDoC; and
- Test Report (Conformity Assessment Body (CAB) accreditation not mandatory).

Module 3

- SDoC; and
- approval by regulator; or
- certification from JAS-ANZ accredited CAB; or
- certification pursuant to Government MRA (mutual recognition arrangement).

Module 4

- SDoC; and
- documented quality assurance of manufacture by surveillance (market, factory inspection, production process etc); and
- certification from JAS-ANZ accredited CAB; or
- certification pursuant to Government MRA (mutual recognition arrangement).

It is proposed that documentation to support the SDoC must be made available on the demand of the regulator within 10 working days.

It is proposed that categorisation of products to risk categories will be made by Gazette Notice.

Additionally, it is proposed that the Chief Executive may, by notice in the Gazette:

- prescribe the requirements to be met for labelling or marking of appliances;
- prescribe the requirements to be met for the security and availability of declarations of compliance, test reports, certificates and other associated documentation;
- require that documentation be submitted to the Chief Executive through a website;
- recognise an organisation, agency, or regime of compliance (such as JAS-ANZ or IANZ);
- prescribe the form of declaration of compliance.

Currently, the Chief Executive may, in regard to any approval impose conditions on the approval, revoke the approval within 7 days in writing or vary, revoke or add conditions to the approval within 7 days in writing. In some circumstances, it is desirable for the imposition of conditions or revocation of an approval to take immediate effect. It is proposed that the Chief Executive is required to Gazette any variation to the approval but that these can have immediate effect.

Question

Do you agree with the proposed new structure for appliance regulation?

Supervision, Testing, Inspection and Certification

Supervision

The Electricity Act provides for work, within the limits prescribed in regulations, to be done under supervision. This exemption allows prescribed work to be undertaken by a trainee provided the certification is by a licensed electrical worker or a person automatically licensed. It is consistent with the approach taken in the Building Act. In line with the new definition of prescribed electrical work under the Electricity Act, supervision is now prescribed electrical work.

It is accordingly proposed to carry forward to the new regulations a regulation equivalent to existing Regulation 23.

As noted, it is proposed to extend the definition of prescribed electrical work to cover testing, certification, inspection or supervision where specifically required by the regulations. This proposed supervision regulation will fall into this category.

Testing

Testing is necessary to ensure that electrical work has been completed safely and that the work will be left in a safe condition.

It is proposed that the regulations continue to require periodic testing of high voltage electrical installations, construction sites, and connectable installations (equivalent to Regulations 46 and 97) and testing after an electrician has completed work on wiring or appliances (equivalent to Regulation 37).

As noted, it is proposed to extend the definition of prescribed electrical work to cover testing, certification, inspection or supervision where specifically required by the regulations. These proposed testing regulations will fall into this category.

It is proposed not to include in the new regulations the periodic testing for equipment that is hired, used in schools, and where the connection is plug and socket. Currently, persons testing such equipment are expected to be competent and undertake a half-day course in using special testing equipment. Whilst these people need a certain level of competence, the skill needed is not extensive or complex. This arrangement has been developed through the consensus Standards process and is widely followed within industry. Those who currently do this work will still be able to do so as long as they meet these competency requirements.

Inspection

Higher risk electrical work must be inspected by a third party, particularly work on the main switchboard, the main cable and the main earth. Inspection should be carried out by an inspector. Any such inspections need to be done by persons who are competent to do inspections. Such inspections require a degree of competence beyond that necessary for most electrical work.

It is proposed the new regulations continue the provision that a worker cannot inspect their own work and carry forward provisions equivalent to Regulations 41 and 42.

As noted, it is proposed to extend the definition of prescribed electrical work to cover testing, certification, inspection or supervision where specifically required by the regulations. These proposed inspection regulations will fall into this category.

There is some confusion over whether inspectors should be required to test certain work by licensed electrical workers according to Section 4 (testing) of NZS 3019 as well as Section 3. It is the intention of the inspection regime that inspectors only verify the high risk components of prescribed electrical work, not for inspectors to test self-certified work by licensed workers.

Certification

Certification is a means of verifying safety. Note that certification is not periodic inspection.

Currently, only certain prescribed electrical work requires a Certificate of Compliance (CoC) to be completed to detail that certain safety checks have been carried out. A CoC achieves safety outcomes, accountability and is a statutory requirement. There are two forms of certification: a CoC can be issued by the electrician who did the work (self-certification) or, for more hazardous work, such as high voltage electrical installations, only an electrical inspector must also certify the work.

Existing Regulations 39-43, which outline this distinction, are very difficult to follow. It is proposed to carry forward the equivalent of these regulations but to clarify this process. It is proposed that no additions be made to these regulations, and amendments will only be for clarification.

Major Prescribed Electrical Work and Self-Certification

Regulation 43A outlines the steps to be taken when a person connects or reconnects an electrical installation to a supply of electricity when either prescribed electrical work has been carried out or which has been disconnected for 6 months or more. These steps are verifying the:

- safety of mains (if overhead);
- polarity of mains;
- adequacy of rating of protection; and
- presence of MEN earth.

However, persons doing major prescribed electrical work for a CoC which doesn't require inspection are not currently required to verify general safety of the installation.

A recent survey on wiring by Energy Safety revealed that although installation prescribed electrical work had been carried out, there was in fact no MEN earth on the installation. To ensure that verification is done and for consistency of required work, it is proposed to add to Regulation 43A that people who undertake major prescribed electrical work and self-certify should be required to verify that the main earthing systems and the mains protection system is correctly rated. This verification could be achieved by including a statement of verification on the CoC.

Periodic Inspection

The Electricity Regulations at Regulation 46 provide for periodic inspection of installations and appliances where the risk of public harm is greater than normal. All owners of electrical fittings must ensure that those fittings have a warrant of electrical fitness certificate resulting from a periodic inspection. The inspections are carried out only by inspectors. The warrant of electrical fitness certificate is issued to indicate compliance with the general safety requirement and any mandatory technical requirements.

It is proposed that the existing group of electrical fittings subject to periodic inspection, such as caravans, animal stunning and hazardous areas continues.

It is also proposed that the periodic inspection regime covers other areas where the risk of public harm is higher than normal, such as schools, rest homes and public swimming pools with respect to appliances in common spaces. The proposed additional inspection requirements, however, would not apply to appliances owned by rest home residents.

At present, the interval for periodic inspection can range from 1 year for carnivals, fair grounds and animal stunning appliances to 5 years for caravan parks. We have been unable to identify a clear reason for the range of intervals, and therefore invite feedback on whether intervals should be standardised and if so, what would an appropriate interval period be?

Questions

Do you agree with the proposed additional inclusions for periodic inspection?

Do you agree with the current intervals for periodic inspection?

Electrical Safety Certificates

To confirm that testing and inspection has occurred, it is necessary to produce certificates to document that the work or electrical fitting is certified and in compliance with the general safety requirement and any other technical requirements.

- For prescribed electrical work, this is achieved by Certificates of Compliance (CoCs).
- For re-verification of existing installations following disconnection for greater than 6 months, of a caravan park, boat marina or on which no work has been done, a certificate of re-verification (or certificate of verification) is required. It is proposed that verification should also apply when substituting like for like and like for better.
- For connectable installations, this is currently achieved by Warrants of Electrical Fitness (WEOF). Any WEOF must be issued in accordance with NZS 3019 (Electrical Installations – in-service testing).

It is proposed that these certificate documents are replaced by one document that can be completed to indicate compliance with the general safety requirement and any relevant technical requirements. It is suggested that this document would be called an Electrical Safety Certificate (ESC) and would apply to:

- (a) Prescribed electrical work, upon completion of the work;
- (b) Low voltage installations upon reconnection if disconnected for more than 6 months;
- (c) For high voltage electrical installations, hazardous areas in electrical installations (such as spray booths, animal stunning, and medical-electrical installations and appliances);
- (d) Periodic electrical inspections on schools, rest homes, public swimming pools, caravan parks and boat marinas; and
- (e) Connectable installations, including caravans and campervans.

It is proposed that situations c, d and e the ESC would be required at intervals not exceeding 5 years.

The ESC achieves several outcomes. Firstly, the suggested name of the certificate ensures that safety is the primary driver of the certification process. Secondly, it reduces compliance costs by enabling workers and inspectors to use a single document that can be customised.

It is proposed that a person who issues an ESC must give a copy to the person requesting the certificate. It is proposed for connectable installations, that an electrical safety sticker must be completed and affixed to the installation. It is proposed that a copy of the ESC should be submitted to the EWRB along with the required fee within 10 working days of issuing the certificate. It is proposed, however,

if the ESC is for re-verification of existing installations, there is no need to submit to the Board and no fee to pay.

It is proposed that the Chief Executive may, by notice in the Gazette or in writing to the person, exempt electrical fittings from any or all of the requirements that apply to ESCs, and can advise the form and content of the ESC and the sticker.

It is proposed that every person who hires out, leases, sells or otherwise supplies a connectable installation would be required to ensure that the connectable installation has an ESC, issued by an electrical inspector (or other suitable person). For importers, it is proposed that they must also ensure they have covered these requirements prior to first connecting the connectable installation to the electricity supply system.

Questions

What do you think of the proposal to have one form that can be used for in place of CoCs, CoVs and WOEF?

Electrical Work that May be Undertaken by Unregistered Persons

Proposal

- To prohibit homeowners from working on connectable installations.
- To allow homeowners to replace fuses with a safer alternative.
- To recognise that tradespeople may be competent enough to do certain electrical work.

The Act provides that unregistered people can undertake certain types of electrical work. This work is not excluded from the Regulations under Regulation 3 as the work is actually prescribed electrical work, nor is it exempted from the definition of prescribed electrical work as it needs to be controlled. Specific regulations around the limitations of homeowner work are therefore required.

Homeowners' and tradespersons' work

Existing Regulation 47 specifies what work the homeowner can complete, that they must follow ECP 50 and ECP 51, and they must get the work inspected by an inspector if they have installed, extended or altered subcircuits. It is proposed to carry forward an equivalent regulation but to prohibit homeowners from working on a connectable installation (such as caravans and recreational vehicles). Connectable installations are a high risk area.

It is proposed that in carrying forward the equivalent of Regulation 47(1)(b) the wording be amended along the following lines to say remove and replace fuse links with fuse links or plug-in circuit breakers. This type of wording clarifies that an acceptable and safer alternative to fuse wires may be installed in their place.

Maintenance of domestic appliances

The current Regulation 48 sets out that an owner of an electrical appliance may do prescribed electrical work on that appliance provided the work is carried out according to ECP 50. It is proposed that this regulation is carried forward to the new regulations with no changes.

Limits and requirements of exemption for tradespersons

Currently under Regulation 49, plumbers and gasfitters, as long as they comply with certain requirements, can be given an electrical work certificate. However, other tradespeople, such as paperhangers, GIB fixers, lino fitters, etc are even more restricted than homeowners in what electrical work they can undertake. In the course of their work, they are frequently exposed to electrical appliances and installations, where it would be advantageous for them to mitigate the risk to themselves and the homeowner.

The Ministry is interested in feedback as to whether limits and exemptions for tradespersons regulation are still needed. It may be more appropriate for the Board to issue tradespeople with a form of restricted licences.

Regulation 49 is also the only regulation for which AS/NZS 3760 (In-service safety inspection and testing of electrical equipment) is mandatory (all other regulations refer to it as a means of compliance). If an equivalent of Regulation 49 continues AS/NZS 3000 may be a more suitable replacement.

Questions

Do you agree with restricted licences for other tradespeople?

Should AS/NZS 3760 continue to be a mandatory requirement for Regulation 49 (8)?

Offences and Infringements

Proposal

- To reflect the new offences.
- To provide details on the new infringement offences and notices.

Introduction

Amendments to the Electricity Act in 2006 allow for regulations to prescribe infringement notices and infringement offences. The 2006 amendments also changed the level of fines that may be imposed for offences prescribed in regulations.

The following proposals for offence and infringement offence provisions are intended to provide more options for enforcement of the Act and regulations.

Offences under the Regulations

Amendments to the Act have raised the ceiling on the maximum fines for offences prescribed in regulations, from \$10,000 to \$50,000. It is proposed that the maximum penalty specified in the regulations be amended to reflect the new provisions.

Current regulations 51, 67 and 100 define a range of offences from the failure to certify work where certification is required to the manufacture, design, construction, installation, sale, hire or lease of any works, installations, fittings or electrical appliance that is not electrically safe. It is proposed that this list of offences be revised and expanded to cover, where appropriate, new regulatory requirements and to update the existing offences to take into account identified issues.

Infringement Offences and Notices

Infringement offences are intended to deal with low level breaches of the regulatory requirements. Infringement offences typically are for clear, but minor, breaches of the legislation and intended to quickly address behaviours that should be changed to avoid harm from electricity. The regulations will prescribe infringement offences and notices.

The maximum infringement fee that may be specified is \$1,000 for individuals, and \$3,000 for corporate bodies.

Worker and Public Safety

Proposal

- To maintain worker safety components in the new regulation until they are incorporated into the HSE Act legislative framework.

There are several provisions in the Electricity Regulations where there are references to worker safety. These include Regulation 28 (work on live high voltage overhead electric lines), Regulation 29 (work on live conductors of low voltage overhead electric lines in electrical installations), Regulation 30 (safe approach distances), Regulation 31 (construction of overhead lines on existing poles or other supports), Regulation 32 (temporary earthing requirements), Regulation 35 (responsibility of employers for the safety of employees), Regulation 36 (safety responsibilities of person who carries out work), and Regulation 93 (safety distances from electric lines).

The Department of Labour is working on how best to incorporate the worker safety components of the Electricity Regulations 1997 into the Health and Safety in Employment (HSE) Act framework, the primary legislation for governing worker safety when electrical and gas work is being carried out.

It is proposed to maintain the worker safety components in the electricity safety regulations until they are incorporated into the HSE Act legislative framework.

Registration and Licensing

Proposal

- To remove regulations related to the registration and licensing of electrical workers as they are now the responsibility of the Electrical Workers Registration Board.

The 2006 amendment to the Electricity Act introduced a new system for registering and licensing workers and for employer licences, with the Electrical Workers Registration Board (EWRB) having full responsibility for licensing matters.

Accordingly, licensing will no longer be covered by the regulations and the current Regulations 4 to 16 will not be carried forward to the new electricity safety regulations.

The EWRB will continue to licence people for certain classes. It will designate the classes of registration and will specify what kind of work may be carried out by a person who holds that class. The EWRB will also be able to impose limitations on the circumstances in which a licensed person may do that work.

The EWRB will, by notice in the Gazette, prescribe the minimum standards and conditions for each class, competency requirements (including competency programmes), and can recognise overseas qualifications. The EWRB also controls how to become registered, the issuing of the registration, specifies terms and conditions as well as exemptions to those terms and conditions. A registered worker cannot do prescribed electrical work if they do not have a current practicing licence. The EWRB can also suspend or cancel a registration, licence or provisional licence.

The EWRB has responsibility for:

- Examinations
- Courses that will need to be undertaken to maintain competency
- Certificates, including conditions and replacements
- Acceptability of persons qualified overseas
- Requirements for employer licences

It is proposed that safety tuition for electrical workers will remain in the regulations as some people covered by safety tuition, e.g. trainees and persons who may assist (such as labourers), are not covered by the EWRB.

Miscellaneous

General Changes

Standards Referred to in the Regulations

All Standards and codes connected with the regulations will be reviewed for relevance. This will not involve any changes to the Standards and codes (unless stated in this discussion document) but will attempt to ensure the most relevant Standard or code is referenced either in whole or in part.

Building Industry Authority's exemptions

The Building Industry Authority has been incorporated into the Department of Building and Housing. It is proposed to retain this regulation with the appropriate name change.

Details to be provided in reporting accidents

Procedures regarding accident notifications were amended in the Electricity Act. These changes included that accident information should be reported to only one point (i.e. Department of Labour or Energy Safety) and this information would be shared between the agencies, rather than the reporting person having to report separately to each agency.

Regulation 106 outlines the details to be provided when reporting accidents. It is proposed that these requirements be carried forward, and also provide for email contact details along with telephone numbers and facsimile numbers.

Transitional Provisions

It is proposed that transitional provisions (Regulation 108) be carried forward but with revisions as appropriate.

Fees

Regulation 109 outlines the fees payable under Schedule 9. Schedule 9 provides for licensing processes, certificates of compliance, tradespersons certificates, warrants of electrical fitness and arbitrators. It is proposed to carry forward Schedule 9 but to reflect any amendments as appropriate. There is no proposal to change the existing fees.

Schedules

Schedules 1 to 7 of the Regulations relate to a group of regulations that are proposed to no longer exist in the regulations as they become Rules of the Electrical Workers Registration Board. This includes Schedule 1 (qualifications for registration as an electrician) that relates to Regulation 4, Schedule 5 (Conditions to be fulfilled by applicants for practicing licences) that relates to Regulation 15.

It is proposed that Schedules 1 to 7 are no longer continued.

Summary Table of Proposed Changes

Regulation	Summary of Reg	Proposed Action
1	Title	Amend title to Electricity Safety Regulations
2	Interpretation	Carry forward existing definitions plus new definitions and amendments
3	Exclusions	Carry forward with some clarifications
4	Requirements for registration and provisional licence	No longer to be included in the regulations as will be addressed by Rules of the Board
5 to 16	Examinations, Conditions for issue of practicing licence, Replacement Certificates, Persons qualified overseas	No longer to be included in the regulations as will be addressed by Rules of the Board
17	Prescribed electrical work	Retain in new regulations but with a number of amendments proposed
18-22	Restrictions on Prescribed electrical work	No longer to be included in the regulations as will be addressed by Rules of the Board
23	Prescribed electrical work trainees may do	Carry forward into new regulations
25-26	Competency requirements for electrical workers	No longer to be included in the regulations as will be addressed by Rules of the Board
28 - 29	Requirements in relation to work on or near overhead electric lines	Retain in new regulations under proposed requirements in relation to worker safety section
30	Safe approach distances	Retain in new regulations
31	Construction of overhead lines on existing poles or other supports	Retain in new regulations under proposed requirements in relation to worker safety section
32	Temporary earthing requirements	Retain in new regulations under proposed requirements in relation to worker safety section
34	Warning notices, safety locks, and safety instructions	Retain in new regulations under proposed general safety requirement
35 and 36	Responsibility of employers for safety of employees; Safety responsibilities of person who carries out work	Retain in new regulations under proposed requirements in relation to worker safety section

Regulation	Summary of Reg	Proposed Action
37-43	Testing, Certification and Inspection	Retain in new regulations but with a number of amendments proposed
43A - 45	Connection of electrical installations to electricity	Retain in new regulations under proposed safety requirements with respect to installations
46	Safety checks for particular electrical installations and electrical appliances	Retain in new regulations under proposed periodic inspection requirement
47	Home-owners' electrical wiring work	Retain in new regulations under proposed homeowners' work section, amended to exclude a homeowner from working on a connectable installation.
48	Maintenance of domestic appliances	Retain in new regulations under proposed homeowners' work section
49	Limits and requirements of exemption for tradespersons	Feedback sought on whether needs to be included in the regulations or will be addressed by Rules of the Board
50	Notification to Secretary	Retain in new regulations under proposed general safety requirement
51	Offences	Proposed revised offences will be set out in the regulations
52	Systems in general	Retain in new regulations under proposed supply requirements
53	Voltage	Retain in new regulations under proposed supply requirements
54	Meter accuracy	No longer to be included in the regulations as addressed in Electricity Commission Rules
55-58	Frequency and Quality of supply	Retain in new regulations under proposed supply requirements
59	Keeping records and plans	Retain in new regulations under proposed supply requirements
60	Earthing requirements for works	Retain in new regulations under proposed general safety requirements
61	Protective fittings	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
62	Protection against fault currents	Retain in new regulations under proposed general safety requirements
64	Residual current device	Retain in new regulations under

Regulation	Summary of Reg	Proposed Action
	characteristics	proposed general safety requirements
65	Isolation fittings for work	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
66	Strength of works and warning notices	Retain in new regulations under proposed general safety requirement
67	Offences	Proposed revised offences will be set out in the regulations
68	Works, electrical installations, fittings, and electrical appliances in existence on 1 April 1993	Retain in new regulations under proposed general safety requirement
69	Electrical safety	Retain in new regulations under proposed general safety requirement
69A, 69B, 69C	Electrical installations; Compliance with Reg 69(1); Compliance with design, construction, and installation requirements of regulation 69(1)	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
70	Cables and conductors must be safe and be adequately identified	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
72	Position of switches and protective fittings. What to do if have (or do not have) earthed conductors	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
74	Socket outlets. 3-pin flat socket outlets. No-one can sell certain plugs or sockets	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
76 - 77	Electrical appliances.	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
84 -86	Earthing requirements	Retain in new regulations under proposed general safety requirements
87	Construction of works and	Retain in new regulations under

Regulation	Summary of Reg	Proposed Action
	electrical installations	proposed specific safety requirements for works, installations and appliances section.
89	Electricity generation facilities and substations	Retain in new regulations under proposed general safety requirements
90	Damp situations	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
91	Extra-low voltage installations	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
92	Conductor insulation for overhead electric lines	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
93	Safety distances from electric lines	Retain in new regulations
93A	Interference with, or movement of, works	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
94	Protection against direct and indirect electrical contact	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
97	Connectable installations	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
98	Supply of electricity to connectable installations	Retain in new regulations under proposed specific safety requirements for works, installations and appliances section
99	Arbitrators	Retain in new regulations.
100	Offences	Proposed revised offences will be set out in the regulations
101 - 103	Electrical appliances	Retain in new Regulations under proposed electrical

Regulation	Summary of Reg	Proposed Action
		appliances section
104	Building Industry Authority's exemptions from requirements	Retain in new regulations with name change to Department of Building and Housing
105	Issuing of urgent instructions	Retain in new regulations under proposed general safety requirements
106	Accident Reports	Retain in new regulations
107	Offences	Proposed revised offences will be set out in the regulations
108	Transitional Provisions	Carry forward with revisions as appropriate
109	Fees	Retain in new regulations with amendments as appropriate. Please note no new fees or changes to existing fees are proposed.
Schedules 1 to 7		No longer to be included in the regulations as will be addressed by Rules of the Board
Schedule 9	Fees	Retain in new regulations with amendments as appropriate. Please note no new fees or changes to existing fees are proposed.
Addition of Safety Management Systems		Addition of provisions for Safety Management Systems

Making a Submission

This discussion document has been produced to give an opportunity to interested parties to express their views on the proposals for new electricity safety regulations. You are encouraged to make a submission to ensure the policy development process takes account of the widest possible range of views and experiences.

The questions throughout the discussion paper are there to help you think about some of the specific issues. You do not need to comment on all the questions and they should not restrict the topics on which you might want to comment. All views on matters in the discussion paper are welcome.

Please note the publication and Official Information Act 1982 information on page 2.

The closing date for submissions is 29 February 2008.

Your submissions should be sent to:

Electricity Regulation Discussion Paper
Ministry of Economic Development
33 Bowen Street
PO Box 1473
Wellington
Email: electricity.safety.regulations@med.govt.nz
Fax 04-473 9400

Next Steps

There will be a summary of submissions produced which will present information in an aggregated form. Please indicate whether you would like to receive a copy of the summary as hard copy or email.

Following the consideration of submissions a paper will be prepared setting out specific proposed new electricity safety regulations.