EEA SAFETY RULES NEWSLETTER

DECEMBER 2002

Safety Rules Newsletter Number 4

CONTENTS

1 Introduction

This Safety Rules Newsletter is the second for 2002 and is the fourth newsletter issued since the start of 2001. It provides an update on safety rules requirements, issues and interpretations, as well as an update on publications referred to in SR-EI and GSG-EI. This and previous newsletters are available on the EEA website (www.eea.co.nz).

The newsletter is a communication channel between the EEA and the industry practitioners. Any questions, suggestions and points for consideration are always welcome. Thank you for the comments received after the last newsletter.

2 Safety Strategy & Policy Group Happenings

Remember that all inquiries regarding safety should continue to be made to the EEA (admin@eea.co.nz).

Two changes have occurred to the membership of the Safety Strategy & Policy Group. An additional new member, Bryce Preston from Transpower, Christchurch, has joined, and Dave Sanders has resigned and is replaced by Dave Worsnop, also from Alstom. In addition the EEA Executive has approved a proposal that the chairman of the ESAA Health & Safety Network Group become a corresponding member of the Safety Strategy & Policy Group. At this time this is Mark Rogers from ETSA Utilities in Adelaide.

The Group would like to wish all readers a pleasant and safe Christmas break.

The terms of reference for the group have recently been reviewed and agreed. These are available from admin@eea.co.nz.

The key issues which the committee is addressing at this time, in addition to inquiries and interpretations of the rules, include:

- Development of the next issue of the safety rules, which are due for release in 12 months time.
- Managing the development of the Guide for Electrical Safety (equivalent to the 'Green Book').
- Recognition of live work standards.
- Development of EEA Technical Guides.
- Co-ordination with Australia, particularly the ESAA.

3 EEA Technical Guides

3.1 Supervision for Safety

This Guide is on the EEA website. The Guide is being promoted by OSH to other industries, therefore ESI participants must ensure they are familiar with it. Any issues or comments should be sent to the EEA.

3.2 Published Guides

The following guides have been published by the EEA and are available from the EEA website:

- Harness and Lanyard Purchasing
- Personal Fall Arrest Systems
- Climbing Steel Structures
- Reclosing of Feeder Circuit Breakers
- Supervision for Safety
- Use, Inspection and Testing of Low Voltage Electrical Appliances, Cords, and Protective Devices
- Transmission and Distribution Line Earthing (Q&A)

3.3 Draft Guides

At present there are three draft guides on the website. All three are for live work, and are at post comment stage.

3.4 Proposed Guides

The EEA has a schedule of Technical Guides which will be prepared. Some of these will be to cover the topics in the Appendices of SR-EI so that the Appendices do not have to be included in the next version of SR-EI.

At its September meeting the SS&P Group approved the preparation of a guide on portable equipment used on HV lines. This will cover equipment used for isolation, testing, and earthing, and associated equipment as identified by the Electricity Regulations. The scope will be the terminology, care, maintenance, inspection, testing and use of the equipment.

In addition the following Guides will be, or are in the process of being, prepared:

- Prevention of public access to electricity network equipment
- Temporary earthing
- Polarity checking
- Climbing in Switchyard Gantry Structures
- Climbing of Wood Poles (includes checking prior to climbing)
- Marking in Switchyards
- Safety management systems
- Electricity Safety Handbook for Emergency Personnel
- Line Mechanics Handbook

4 Line Mechanics Handbook

The EEA has completed the first stage in a major review of its Lineman's Handbook, which was last published in 1984.

A PDF copy of the peer review draft for the Line Mechanics Handbook (2003) and a Microsoft Word version of the comments template are now available on the EEA website (www.eea.co.nz) and we are seeking industry comment on the draft by Wednesday, 29 January 2003.

Please circulate this notice to appropriate staff within your organisation and provide your comments back to Marg Coleman (margaret.coleman@standards.co.nz), the EEA Line Mechanics Handbook Project Coordinator, using the electronic format on the Comments Template.

If, for some reason, you are unable to download the document and would like a CD of the material, please contact admin@eea.co.nz.

Please note that there are still drawings to be redrawn and black and white photos to be replaced by colour photos. These will be contained in the final draft.

If you require any further information on the Handbook, please do not hesitate to contact admin@eea.co.nz.

5 Safety Workshop

The EEA Safety Workshop was held in Wellington on October 3rd and 4th. Over 70 local people attended and heard a number of excellent presentations, as well as being able to network with

other attendees. The workshop was also attended by about 10 members of the ESAA H&S Network Group, who also gave presentations on Australian perspectives and key issues.

The workshop was presented with updates on programmes such as EnergySafe, Safety Management Systems and the HSE Amendment Bill. All those who submitted for the EEA Safety Award made a presentation on their submission. Other topics covered include stress management, fitness for work, alcohol and drug abuse issues, and contractor management. General safety issues such as earthing, PPE, confined spaces, and general rules issues were also covered.

The workshop is an annual event, held in October in Wellington. If you did not attend the workshop and want to ensure you are notified of future workshops send your details and requirements to the EEA at admin@eea.co.nz.

6 Liaison with the ESAA

Prior to the EEA Safety Workshop in October the ESAA Health & Safety Network Group held their meeting in Wellington, and later attended the workshop. During the meeting representatives of the SS&P Group met with them to discuss the role and function of each group, and items of mutual interest. The groups have confirmed a policy of co-operation and sharing of information. Each group will be represented on the other. (Bernard Healy represents the EEA)

Guides currently being prepared by the ESAA include:

- Guidelines for Safe Vegetation Management Work Near Power Lines
- Low Voltage Protection Guidelines
- Guide for Electrical Safety for Emergency Services Personnel
- Guide for the Prevention of Unauthorised Access to Electricity Networks
- Guide on “Use of Aircraft for Aerial Surveillance of Power Lines”
- Guide to Personal Protective Clothing and Equipment

7 Legislation Update

7.1 Electricity Regulations

An amendment to the Electricity Regulations 1997 is scheduled to be enacted in December. The main reason for the amendment is to mandate AS/NZS 3000 for use on electrical installations. The opportunity has been taken to make amendments to various other regulations to make them more performance based in readiness for EnergySafe. (See also article on live work guides – section 14 of this newsletter).

The amendments will also mandate the 2001 version of ECP 34 for safe distances.

7.2 Health and Safety in Employment Amendment Bill

The HSE Amendment Bill has been reported back from its Select Committee. It is expected to be enacted before Christmas, and come into force in May 2003.

7.3 Gas Amendment Regulations

An amendment to the Gas Regulations 1993 was enacted in September, with most amendments coming into force in October, and some in November. The amendments affect gas distributors and gas users, with the main changes being to introduce a system for ‘supplier declarations’ for appliances and ‘specified fittings’, and additional requirements for certification of gasfitting.

7.4 EnergySafe

The Bill to introduce the legislative changes required for EnergySafe is expected in March/April 2003, with the Bill passed in December 2003. Consequential changes to regulations are expected to be made during 2003.

8 Electricity Industry Strategic Safety Plan (EISSP)

Over the past 12 months representatives of all sectors of the electricity industry have been developing a strategic safety plan. The plan projects out over the next five years, and includes the already decided elements of the EnergySafe programme. The plan is to reinforce the general industry's long term commitment to safety, and to provide for the safe supply and use of electricity, appliances and equipment in a reliable and economic way.

Underpinning the delivery of the plan is the need to have an appropriate legislative framework. For the ESI, this will be provided through a performance based legislative framework, as is proposed for EnergySafe.

Copies of the plan are available from the Energy Safety Service at www.ess.govt.nz

9 Coroners Inquest into Fatality on Pole

9.1 Background

In April 1999, a line mechanic was part of a team transferring high voltage power lines from an old power pole to a new concrete power pole. The power lines consisted of an 11kV line and a 400V line, with the work being scheduled to be completed within a set time frame. A permit was issued for the work, and all permit requirements were satisfied. As the time for completion neared it was obvious that all the work would not be completed, but that it would be possible to complete the work on the HV and re-liven it, and then continue with the work on the LV. The HV work was subsequently deemed to be completed, and declared ready for re-livening. The three workers had descended below the LV lines, but were still on the poles, one on the old wooden pole and two on the new concrete pole. When the HV line was re-energised the two workers on the concrete pole received an electric shock, one fatal. It was later found that a binding wire on an HV line had not been fully wound around the conductor and was contacting the crossarm.

At the time of the accident, the April 1995 version of SR-EI was in force, and rule 526 was quoted as being applicable to this situation. Rule 526 required the permit recipient to confirm to the issuer that 'all employees under their control are clear of the equipment'.

9.2 Key Factors

In this incident the primary cause of the fatality was the failure to recognise that the binding wire had not been tied off correctly prior to the return of the access permit.

The two employees who received an electric shock did so because the binding wire was connecting the live conductor to the crossarm of the new concrete pole, and the concrete pole is itself conducting.

9.3 Implications for Safety Rules

The coroner's findings were released on 6 June 2002. One of the coroner's recommendations is that SR-EI rule 526 be amended to clarify the meaning of the word 'clear'.

The SS&P Group, when reviewing SR-EI prior to issuing the July 2000 edition of the rules, amended rule 526 (now rule 506) to say that the recipient shall state to the issuer that 'all employees working on the equipment have been instructed that the equipment is no longer

safe to work on'. This amendment was to clarify the intent of the rule. Note that in SR-EI the equipment is the conductor, not the pole or structure which is supporting it.

The coroner made a recommendation that the meaning of the word 'clear' be defined in a specific way, the wording for which was provided. The SS&P Group discussed the recommendation and identified the course of action which it believes is appropriate, but which does not adopt the suggested meaning, or re-instate the word 'clear'. The coroner's recommendation focussed on the employees being required to be away from the pole carrying conductors which are to be re-livened. The SS&P Group determined that this requirement would not be practicable. The EEA has written back to the coroner with the decisions of the SS&P Group. These are that there is no need to amend the rules themselves, but that further guidance will be provided for work on poles. (This is to be included in a Technical Guide for Work on Poles, which is in draft form)

9.4 Recommended Practices for Work on Poles

The Safety Strategy and Policy Group recommends that:

- There is always a need for all work to be checked upon completion to ensure that the completed work is safe to be re-livened.
- The supervisor of the work-party must consider any risks when re-livening, including those to persons in the vicinity, and require appropriate actions to be taken.
- Employees should be required to get off a pole when equipment is to be re-livened, unless there is a good reason for them to stay on it, eg where the employee is involved in the re-livening, or when further work is to happen after re-livening.
- Any employee who remains on the pole must take adequate precautions for their safety, as there is a change in the status of the work from isolated and earthed to re-energised. The appropriate work procedures and personal protective equipment are therefore to be used commensurate with the risk, e.g insulating gloves, full cover overalls, helmet, glasses.

9.5 Conclusions

The Safety Strategy and Policy Group has concluded that a change to the rules is not required. The EEA Guides for work on poles and structures will include the above recommended work practices which are additional to those already required. ESI asset owners and contractors should ensure they follow these practices.

This case is also a reminder that concrete poles should be treated as conductive.

10 Incidents

Reports of incidents are posted on the EEA website. Reports include a number from Australia. Readers need to ensure they review the posted reports to identify any hazards that affect their assets or methods of working.

10.1 Ring Main Units

A cable jointer received an electric shock whilst removing a busbar end cap from a ring main unit (RMU), which was stated to be isolated and earthed, ie an access permit was issued. This work was being carried out to enable the connection of a new extension fuse unit.

Because the RMU bus cannot be earthed internally, the earthing was to be carried out by closing the CB for one of the incoming cables, opening its CB at its other end, and using the integral earth switch to provide the temporary earth to the bus. Due to an incorrect drawing the

incorrect cable was identified, and due to the particular configuration a live cable was connected to the bus.

The asset owner has suggested as a result of its investigation that safety would have been achieved by not requiring the bus to be earthed in this type of configuration, ie where all connected cables can be isolated and earthed, but not the bus itself.

The SS&P Group has considered this incident and the suggested changes to the rules, and concluded as follows:

- The earthing requirements for HV conductors as specified in section 6 of SR-EI are confirmed.
- There are no circumstances in which exceptions from the requirements of section 6 are permitted.
- Work of the type which was being carried out may need to be treated as construction work, and the feeder cables actually disconnected from the RMU.
- As a minimum the bus would need to be treated as live until it had been proven de-energised at the work position, and earthed.

10.2 Harnesses in EWP's

The Department of Labour has successfully prosecuted an employer over the failure to use a harness in an EWP bucket. The case involved employees working for an electrical contractor and for a signs company (both owned by the same person). The EWP bucket was in excess of three metres from the ground.

The Department's prosecution was successful as it quoted the Approved Code of Practice for EWP's, and its requirement that full body harnesses with attachment be used by all persons in an EWP. The employees had been provided with lineworker's body belts and lanyards, but neither employee was wearing these. It was held that the body belts would not have been sufficient as the Standards and the ACOP require the full harness.

In their prosecution the Department submitted that the most common cause of hazard with EWP's is for a person to be catapulted out due to equipment malfunction, or if the EWP is hit by another vehicle.

The judgement has fully supported the requirement for persons working in an EWP to be restrained. The judgement has also supported the use of a full body harness, and rejected the suitability of a lineworker's body belt.

The EEA Guide on Personal Fall Arrest Systems (PFAS) recognises the suitability of a lower body harness for use in an EWP. The SS&P Group has discussed this with the Department of Labour, and within the Group. The SS&P Group position is now that only full fall arrest harnesses are acceptable for use in an EWP. The PFAS Guide will be revised over the Christmas period to incorporate this requirement. The Group has decided not to provide an extended transitional period as indications of the move to full harnesses has been around for some time. In the meantime attachment must be used when working in an EWP, and preference must be given to a full fall arrest harness.

11 Temporary Earthing

11.1 Temporary Earthing Working Group

Following the preparation of the Q&A Guide to temporary earthing now on the EEA website, the Temporary Earthing Working Group has been asked to prepare a Guide on temporary earthing

on distribution system equipment. The group will specifically consider the earthing of LV overhead lines.

11.2 Use of LV Neutrals as Temporary Earthing Points

The previous newsletter (June 2002) contained a quotation from Tony Mitton regarding the application of temporary earths to LV neutrals. A reader questioned one of Tony's statements.

In the Safety Newsletter Tony Mitton commented on temporary earthing (item 10.3), saying "The most important safety feature (after proper isolation & proving dead) is to ensure that the three phases are properly bonded together & then earthed at one point". The reader commented that the usual practice would be to earth one phase at a time, with the three phases ending up being bonded together at the junction of the three earth leads."

This was passed to Tony who responded as follows:

"My comments referred to by [the reader] could be seen as misleading. The point I was trying to make is that equipotential bonding is important from a safety point of view. The portable earths (earth end) should be connected together and earthed (to neutral, a driven earth, the metal structure or a combination of these). Then the portable earths (line end) can be connected on the phase conductors as [the reader] correctly says."

12 Interpretations Issued

The Safety Strategy & Policy (SS&P) Group has issued the following interpretations since the last newsletter. These interpretations are issued to provide guidance in response to questions on a specific circumstance, and the interpretation is given for that circumstance. Application of the interpretation to a different circumstance may not be valid. (Note that interpretations may also be covered under separate specific topics)

The full interpretation is available on the EEA website, with the following being a description of the key elements of the interpretation.

12.1 Rule 703 and Minimum Approach Distances (MAD)

Background

The specific issue involves working on the de-energised contact of a DDO when the line termination is energised. In this circumstance the de-energised contact is only 270mm from the energised contact, whereas rule 703 requires a MAD (for 11kV) of 300mm.

Interpretation

MAD's as prescribed in rule 703 are minimum distances within which an employee must not encroach. The rule applies to any part of the body of the person, and to anything which is in contact with the person, other than a live work tool rated for the voltage. (Note that a temporary earth is not a live work tool).

DDO's

The Safety Strategy & Policy Group has recently considered the MAD as applied to DDO's as a result of an issue brought to its attention which involves the application and/or removal of temporary earths to lugs fitted to DDO's. Such application or removal of the earth would require encroachment within the MAD if one terminal is live. The SS&P Group confirmed during its considerations that the MAD's provided in rule 703 are the minimum to be applied.

This matter is dealt with in the June issue of the Safety Rules Newsletter.

Conductors Connected to DDO's

The MAD applies only to the distance of the employee (and any tool held) from the nearest live conductor, or live part. Work on a conductor which has a termination within the MAD is safe provided the break between the live and de-energised conductors meets the minimum distance for electrical flashover purposes, and the conductor being worked on is isolated and earthed.

12.2 Regulation 28 and SR-EI Rule 703

Background

The specific issue involves use of a 'Tele-Pole' for taking measurements on live HV conductors. Regulation 28 permits the taking of electrical measurements without needing to use a standard set by the Secretary, provided that the work is carried out in accordance with safe procedures and with associated equipment designed specifically for the purpose. Rule 703 specifies that MAD's apply to distances to any part of the employees body, and to anything in contact with the employee, except for live line tools and voltage detectors.

Interpretation

The Safety Strategy & Policy Group advises:

- The Hastings stick (a 'tele-pole' type live measuring stick) is a live line tool and must be maintained for the purpose.
- Regulation 28 permits taking electrical measurements provided the work is carried out using safe procedures and with 'associated equipment' designed for the purpose.
- SR-EI rule 703 should include measuring poles in its list of exceptions, and this will be included in the next revision of the rules.

12.3 Rule 712 and MAD for Mobile Plant

Background

The specific issue involves the replacing of pole mounted transformers using knuckleboom cranes when live 11 and/or 22kV circuits are situated above the transformer position. This practice is reported to involve placing the knuckleboom within 1 metre of the live conductor.

Interpretation

The Safety Strategy & Policy Group advises:

- The MAD specified in part ii of the table in rule 712 for mobile plant (1m for voltages below 66kV) is the minimum permissible.
- When using mobile plant up to the MAD of 1m, a safety observer should be appointed.
- Work practices must be developed which enable safety requirements to be met, including full compliance with rule 712.

Advice

The SS&P Group has received information on the methods which can be used to lift transformers into place. These include:

- Lifting the conductors out of the way.

- Use of insulated transformer gin, and capstan hoist.
- Use of a fully insulated lifting boom.

Appropriate equipment for these methods can be obtained from ESI equipment suppliers.

12.4 Temporary Earths

Background

The Safety Strategy & Policy Group, was asked to clarify whether temporary earths are live line tools.

Explanation

The SS&P Group considers that a temporary earth is not a live line tool for the following reasons:

- The traditional wooden earthstick has no specific insulating properties, but does provide a relatively high impedance path in parallel with the earth lead to guard against the possibility of high instantaneous voltages if the earth is inadvertently applied to live equipment.
- A temporary earth is not required to be designed, tested or maintained as a fully rated insulating tool in the way that live line tools must be.
- Many temporary earths have wooden handles (varnished), which is a material not permitted for use as an insulating component on a live line tool.
- Temporary earths are supposed to be applied to isolated circuits only (the safety rules now require voltage testing to ensure that the circuit is de-energised), whereas a live line tool is to be applied to a live circuit (A VDD is a live line tool).
- When a temporary earth is applied its tail end is already attached to an earth point, which in addition to triggering a flashover if connected to a live circuit, also prevents full circuit voltage being applied across the earthstick handle.
- Temporary earths can remain in place for days/weeks, and are subject to all weather conditions. Live line tools are used for short durations, are not normally left in place for extended periods, and are usually used in fine weather.
- Temporary earths carried on vehicles should be properly cared for, but live line tools must be transported in dedicated trailers or containers, with specially designed protection.
- Temporary earths are recognised in the Electricity Regulations as ‘associated equipment’.

The application of a temporary earth to a live conductor will cause a flashover which will probably cause a flash burn to the eyes of anyone looking at the point of contact, and may cause burns to anyone in the vicinity from molten metal. This is a prime reason why the application of a temporary earth must be kept outside the MAD.

12.5 Temporary Earths and Permit Issue

Background

The issue arises over when a permit can be issued, or should be issued, in relation to the

application of issuer applied earths, and recipient applied, or workparty, earths.

Interpretation

The Safety Strategy & Policy Group advises that SR-EI requires the following:

- For the issue of a permit there must be the minimum isolations applied. (Section 4 Background).
- Prime responsibility for safety lies with the recipient. The issuer and recipient must agree on safety measures to be applied for the issue of a permit. (Rule 405).
- Rule 602 requires:
  - Prior to applying any earths the conductors to be earthed shall be isolated.
  - Any installed earth switch or other dedicated earthing device shall be used as the first earth to be applied.
  - Prior to the application of the first portable earth, the conductor must be proved to be de-energised on all phases.
  - Earths shall be applied and removed by competent employees.
  - Earths shall be applied to HV conductors so as to eliminate hazard from any cause that could liven the equipment.
  - One set of earths shall be visible from the work position.
- Appendix A clause 7 Notes 1 and 2 give guidance on the application of earths on transmission and distribution circuits. Note 1 states that earths (normally earth switches) at circuit terminals are normally applied by the issuer, and worksite earths are normally applied by the recipient. Note 2 states that for distribution circuits without installed earthing, the earthing normally consists of worksite earths applied by the recipient.

In addition to the requirements, it is implied that:

- It is not necessary for any earths to be applied for permit issue.
- Before the first set of temporary earths is applied at any location the conductors to be earthed must be tested.

With respect to the specific interpretation requested the SS&P Group advises:

- The sequence of actions given in rule 601 is not prescriptive with respect to when earthing needs to be applied. It is a requirement that conductors must be isolated before any earths can be applied, but the permit may be issued before or after the application of earths. The permit may also be issued after the application of some earths, eg conductor terminal earths, but before the application of worksite earths.
- The intent of the rules is that the permit will be issued with earths applied at one or both terminals, particularly if they are installed earths.
- If there is an installed earth then it must be the first earth applied. This should therefore be closed by the issuer, as they will be in the location to operate and tag the disconnector or other means of isolation. The workparty may be working outside the switchyard, and should not be expected to identify its existence, or go to the switchyard to operate it.
- Worksite earths are typically applied by the workparty, as they know where they are to work, can move several times in a work period, and need to manage their own worksite safety.

Principles of Permits

For clarification, a permit is a "contract" between the issuer and the recipient under which control of the equipment is passed from the issuer to the recipient with the equipment in a defined state. (For clarity, the defined state of the equipment does not mean that it is safe to work on, eg hazardous voltages may exist on a line remote from the terminals even though it may be isolated and earthed at those terminals.)

Rule 405 states that the recipient has prime responsibility for safety under a permit. The recipient can require the issuer to take particular actions to ensure safety, and during preparation for permit issue, the issuer and recipient shall agree on the safety measures to be applied for the issue of the permit.

13 Publications Referenced in SR-EI and GSG-EI

GSG-EI makes reference to over 70 external publications, and SR-EI makes reference to 25, most of which are the same as those in GSG-EI. From time to time these references are amended. Listed below are the references which have been identified as having changed. Also listed are some references not stated in the rule books, but which may have relevance.

The following publications have changed since June 2002:

(a) OSH Publications (available at www.osh.dol.govt.nz)

(i) The Approved Code of Practice for the Management of Noise in the Workplace (2002). This ACOP is referred to in Rule G 1004.

(ii) OSH Publication *A Guide to Safety with Underground Services* has been updated by the EEA and other parties and is now published on the OSH website. Rule G 904 refers to this Guide.

(b) Standards

(iii) No amended referenced Standards identified.

(c) Miscellaneous

(iv) Safe Working Practices for Electricians and Electrical Workers – MoC – 1990. A draft of an equivalent document is being prepared by the EEA.

(v) National Radiation Laboratory Codes of Practice. For current codes refer to the NRL website www.nrl.moh.govt.nz/publish.

(vi) ECP 34:2001 *New Zealand Code of Practice for Electrical Safe Distances* was issued in December 2001.

(d) Other Relevant New Publications Which are Not Referenced in SR-EI or GSG-EI:

(vii) BS 7981 : 2002 *Code of Practice for the installation, maintenance, thorough examination and safe use of mast climbing work platforms (MCWPs).*

(viii) BS EN 353, 354, 355, 360, 361, 363 *Personal protective equipment against falls from a height.* Set of Standards.

(ix) BS EN 1263.2 : 2002 *Safety nets – Safety requirements for the positioning limits.*

(x) BS EN 50340 : 2001 *Hydraulic cable cutting devices – Devices to be used on electrical installations with nominal voltage up to AC 30kV.*

(xi) BS EN 61478 : 2001 *Live working – Ladders of insulating material.*

(xii) BS IEC 61942 : 1997 *Live working – Gloves and mitts with mechanical protection.*

(xiii) PD IEC TR 61278 : 1997 *Live working – Guidelines for dielectric testing of tools and equipment.*

(xiv) IEC 61477 : 2002 *Live working – Minimum requirements for the utilization of tools, devices and equipment.*

(xv) IEC 61479 : 2002 *Live working – Flexible conductor covers (line hoses) of insulating material.*

(xvi) IEC 61481 : 2002 *Live working – Portable phase comparators for use on voltages from 1kV to 36kV a.c.*

(xvii) AS/NZS 60479 Parts 1, 2 and 3. *Effects of current on human beings and livestock.* It is reproduced from, and is technically identical with IEC 60479.

(xviii) AS/NZS 2211 *Safety of laser products.* Parts 3, 4, 6, 7, and 9 have been released. They are reproduced from IEC 60825.

(xix) AS 1418.5-220 *Mobile cranes.* Specifies requirements for mobile cranes, as defined in AS 2549, and includes the tests necessary to verify the quality of design and the structural integrity of the cranes. It is intended for use with AS 2550.5.

(xx) AS 1418.8-2002 *Special purpose appliances.* Covers special purpose cranes, platform hoists, etc.

(xxi) AS 2550.1 *Cranes – Safe use – General requirements.* Specifies the minimum requirements for the safe use of cranes. It also specifies requirements for planning, selection, siting, erection and dismantling, operation, maintenance, inspection and repair of cranes.

(xxii) AS 2550.3 : 2002 *Cranes – Safe use – Bridge, gantry, portal (including container cranes), jib and monorail cranes.* Specifies the minimum requirements for the safe use of bridge, gantry, portal (including container cranes), jib and monorail cranes. It also specifies requirements for planning, selection, siting, erection and dismantling, operation, maintenance, inspection and repair of the above types of cranes.

(xxiii) AS 2550.5 : 2002 *Cranes – Safe use – Mobile cranes.* Specifies requirements for the safe use of mobile cranes. It includes sections on planning, selection, siting, erection dismantling and operation together with a section on load limiting and indicating devices.

(xxiv) NZS 3019 (Int) : 2002 *Electrical installations – In-service testing.* This interim NZ Standard provides guidance for the in-service inspection, checking and testing of electrical installations – pending the development of a joint AS/NZS Standard. This interim Standard specifies how verification by in-service inspection, checking and testing of in-service electrical installations can be achieved.

14 Contractor Management for Health and Safety

The Safety Strategy & Policy Group considered a proposal from the Australian Civil Contractor's Federation (CCF) during late 2001 for them to market a health and safety system

which they had developed for civil contractors in Australia, to help them meet their obligations under HSE legislation and their contractual requirements.

As a result of the considerations the EEA decided not to promote any one particular system, but instead to promote the requirement for contractors and principals to ensure that adequate health and safety management systems are in place for all contracts. The large contractors in the industry already have established systems, and these are well recognised, and in many cases audited. The CCF package was aimed at small contractors who need to obtain a generic system which they can appropriately customise.

The EEA has established the following principles for asset owner's in their management of contractor's:

All asset owners and contract principals in the ESI:

- **Require as a precondition of tendering, that contractors shall have a documented and auditable health and safety management system,**
- **Require tenderers to provide a generic project health and safety plan,**
- **Require contractors to provide the project specific health and safety plan before work commences,**
- **Satisfy themselves that the health and safety management systems are effective.'**

The coroner, when inquiring into a fatality within the ESI which occurred in Nov 1998, recommended that OSH, assisted by the EEA, ensure that small contractors in the ESI have effective management of health and safety. The EEA position, as outlined in the principles, is that all contractors must have an effective H&S plan. Consistent with this is that it is a principal's duty to ensure that it's contractors are effectively managing H&S. All contractors, therefore, need to ensure they have an effective system, which can be a customised commercially available system such as that from CCF.

Contractors need to use a system which best meets their needs, and the needs of the principals for whom they work. Some contractors have attempted to implement systems which are too big for their needs, and this situation should be avoided. Systems implemented should be auditable, but not necessarily externally audited.

15 From EEA Live Line Guides to ECP46

After wide consultation with industry, unions and other interested parties on the three EEA Guides on Live Work (Glove and Barrier: Barehand; Stick) and having got Government agreement to amendments to the Electricity Regulations which would see the adoption of these three guidelines as best industry practice documents under the HSE Act, the changes "struck rocks" when the EPMU (NZ Engineering, Printing and Manufacturing Union), the CTU (Council of Trade Unions) and the RMTU (Rail Maritime and Transport Union) wrote directly to Ministers opposing any regulatory changes impacting upon live work. The unions' objections primarily related to the removal of the Secretary of Economic Development's third party "control" of live work in NZ.

At a meeting chaired by Hon Harry Duynhoven, Associate Minister of Energy, involving officers from the Unions, MED, OSH and the EEA, a compromise position was negotiated to allow the changes in the Electricity Regulations to go through with an amendment to enable the Secretary of the MED to require the EEA Guidelines to be followed under the Electricity Act. To "adopt" the guidelines, the only process open to the Government was through the recognition of the EEA Guides as an Electrical Code of Practice (ECP). Accordingly, the EEA has offered the three guidelines to the Secretary as the basis for ECP46. The adoption of an ECP was agreed as an interim position until the implementation of EnergySafe, which will move all workplace

safety from the Electricity Act to the HSE Act. During the implementation, there will be further discussion on how the live line industry workplace safety requirements will be recognised under the HSE Act.

At the moment, the MED is reformatting the EEA Guides into an ECP document. The EEA is actively involved in this reformatting to ensure the content of the three documents is accurately reflected, and we have provided details to the Minister on the EEA consultation process in finalising the Guides.

The EEA has also suggested to the MED that there be a jointly hosted fora in 2003 to launch the Live Line ECP.

16 OSH Guide for Safety with Underground Services

The EEA, on behalf of OSH, has just published the "Guide for Safety with Underground Services."

The Guide is a key document in managing hazards in the underground services work environment. Damage to underground utilities appears to be increasing and utility companies need to actively work with those undertaking excavations to minimise damage and notes to workers and the public. The costs of repairing underground services is high so having the Guide readily accessible to utility contractors and their staff will assist in reducing underground services damage.

The Association would like to thank those utility companies and utility associations that supported the review and publishing of the new Guide.

If you wish to order copies of the Guide, please complete and return the attached order form to the EEA office.

EEA SAFETY STRATEGY AND POLICY GROUP
DECEMBER 2002

OSH GUIDE FOR SAFETY WITH UNDERGROUND SERVICES (2002)

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