

electrical focus

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Electrical Safety Awards 2004

It is with pleasure that Energy Safety and co-sponsor Siemens acknowledge the winners of this year's Electrical Safety Awards for electrical contractors, as announced at the Excellence Awards Gala Dinner held on Friday 13 August 2004.

In the category of ten or more employees, the winner was Downer RML P/L. The award was received by Bob Hatherley, Divisional Manager WA of Downer RML.

Downer RML P/L was presented with an Award Certificate and a voucher to the value of \$1,500, generously sponsored by Siemens.

It is noteworthy that this is the third consecutive year that Downer RML P/L has won the Electrical Safety Award – an excellent achievement, given the significant and demanding projects that have been undertaken by this company!

In the category of less than ten employees, the selection panel determined that none of the submissions sufficiently addressed the selection criteria. However, the selection panel considered that K9 Electrical of Geraldton was worthy of a 'special commendation' for its submission. K9 Electrical strives for excellence in the area of safety and is developing safety management processes to deliver very good safe work outcomes.

Energy Safety encourages all electrical contractors to nominate for future safety awards so that their commitment to safe work and outcomes is as visible as possible.

However, irrespective of whether or not electrical contracting companies nominate for safety awards, they are encouraged to develop and maintain a company-wide structured approach to safety, in which every member of the business embraces

and promotes safe work concepts, principles and actions.

A structured approach to safety includes:

- safe working procedures for specific tasks;
- contribution and commitment to "safety first" by management and all employees; and
- strict adherence to the processes and procedures that are in place – that is, "zero tolerance" to non-compliance.

Larger companies generally have a structured approach to managing safety that delivers successful results. This was evident in the quality of the submissions that were received.

Smaller organisations tend to have less formal programs but still need to commit some resources to develop and promote a safety focus tailored to their specific fields of work.

Energy Safety takes this opportunity to acknowledge Siemens' contribution to and participation in the Electrical Safety Awards.



Bob Hatherley, Divisional Manager of Downer RML (on right) accepts the Electrical Safety Award 2004 from Norman Daffen, State Manager Siemens

Energy Safety



Carrying out assessments of existing electrical installations

The article "Carrying out assessments of existing installations" in Electrical Focus No 32 (July 2004) addressed Energy Safety's recommendation that electrical contractors carrying out an assessment of an electrical installation should provide a comprehensive and detailed report to accurately reflect the condition of the electrical installation.

Several enquiries have subsequently been received concerning this issue. The following is provided to supplement the previous article.

It is acknowledged that rules and regulations are silent on the minimum requirements applicable to the inspection of an electrical installation. Electrical contractors have a regulatory obligation to carry out electrical work in a competent and non – negligent manner (regulation 46(1)(c)(ii) of the *Electricity (Licensing) Regulations 1991*). This obligation extends to checking and testing of existing installations.

The key issue is that generally, consumers who engage electrical contractors to carry out electrical inspections, even if clearly stated as a 'visual inspection', naturally draw safety conclusions from reports provided by contractors. On this basis, it is imperative that the inspection report be comprehensive and detailed (as outlined in the Electrical Focus No. 32 article) to truly reflect the condition of the electrical installation.

As mentioned in the previous article, the electrical contractor who was the subject of a complaint and was subsequently investigated, failed to identify all of the installation defects. The assessment

report was not comprehensive or adequate for the intended purpose. In essence, persons who carry out electrical inspections need to make reasonable efforts to identify all significant defects and provide a meaningful report.

A related issue is a situation in which an electrical installation is identified as neither dangerous nor unsafe but which may require remedial work to align with current standards. Installation owners are not compelled to have remedial work carried out. However, the inspecting electrical worker needs to be satisfied that the installation will not become dangerous or unsafe.

Finally, in relation to an installation owner (or vendor) who seeks an inspection as part of offering premises for sale, it has come to our attention and concern that some vendors do not want faults reported when they commission such an inspection. The Electrical Licensing Board will take a dim view of an electrical contractor or worker who deliberately fails to report installation defects in order to satisfy a vendor's request.

Insulation resistance testing

Energy Safety's Inspection Branch is often asked about acceptable practices for insulation resistance



testing of installations, equipment and appliances.

The enquiries focus on whether the downstream insulation resistance testing with switches or contacts in the open position necessarily provides an appropriate and effective test.

It is important that all parts of circuitry are tested to ensure the integrity of all parts of an installation, equipment or appliance.

Clause 2.3.3 of Australian/New Zealand Standard AS/NZS 3760:2003 "In-service safety inspection and testing of electrical equipment" states:

"The purpose of testing is to detect the unobservable faults not found by the visual inspection process, and forms an integral part of the inspection/testing process."

From an electrical safety perspective, it is necessary to test all parts of electrical installations, equipment and appliances. Clause 2.3.3.2 of the Standard notes:

"NOTE Insulation resistance tests shall be performed with the switch in the "on" position. If the equipment must be energised to close or operate a switching device, then a leakage current test shall be performed."

The purpose of this 'Note' is to ensure that downstream circuits, which may be not be subject to an insulation test by virtue of an open switch or contacts, are in fact tested.

New Australian Standard to improve the safety of electrical test equipment

Following industry concerns around the safety of multimeters, clamp meters and voltage testers, Standards Australia has released a new Australian Standard to help improve the level of safety for electricians and others who use electrical test equipment.

The new Australian Standard, AS 61010.1 "Safety of Electrical Equipment for Measurement, Control and Laboratory Use (for voltages up to 1,000V)" specifies minimum design safety and testing criteria for equipment connected to a circuit being measured or controlled.

In announcing the new standard, the Group Manager Electrotechnology, Standards Australia, Mr Warren Miller, said: "It is vital that all those using electrical test equipment can make an informed decision as to the safety of the device they propose to purchase".

"The electrical industry needs to be aware of the changes and electricians need to remember that when purchasing electrical test equipment, price is not always the best guide".

"With prices of products varying from \$20 to \$900, it is difficult to make an informed choice of the most appropriate meter" Mr Miller said.

The new Australian Standard sets out equipment labelling guidelines, which give each product a measurement category from I-IV (one to four). The categories, ranging from one to four, relate to the prospective fault current levels in the circuit to be measured and a voltage level (150, 300, 600, 1000V) that the test equipment is designed to safely withstand.

The higher the category rating, the more robust the equipment needs to withstand the higher fault currents.

The following is provided for guidance.

Selecting the category according to the application

Category I – low energy circuits	Electronics use (not on 240V circuits)
Category II – medium energy circuits	Domestic use, vehicles
Category III – high energy circuits	Industrial use
Category IV – very high energy circuits	Industrial use

When selecting the voltage level, it is also important to consider the voltage level above that of which is being measured. For example, for 240V circuits, select 300V or higher. For 415V circuits, select 600V or 1000V. Therefore, a multimeter required for industrial use that needs to measure 415V will be a "CAT III 600V" meter.

One way of helping to ensure a safer product is to look for conformity to the Australian Standard AS 61010.1 or IEC 61010.1 and ask the supplier for any supporting certification details. As well as looking for compliance with the Australia Standard, always use the product in accordance with the manufacturer's operating and maintenance instructions.

It is hoped that AS 61010.1 will be referred to in the pending revision of the NSW OHS Regulation 2001. Safety regulators in the other states may also reference the Standard in their respective OHS legislation. Standards Committee EL-01 has also been approached to include reference of the Australian Standard in the next revision of AS/NZS 3000 Wiring Rules.

This article is reproduced with acknowledgement to SAI Global Limited's "The Global Standard".

Product Safety Recall – Dynalink generators

The following product safety recall has been advised by Product Recalls Australia:

Dynalink generators, models:

- 190+30-03010, 2200 watt
- 190+30-03015, 3600 watt
- 190+30-03020, 4800 watt
- 190+35-03025, 5500 watt
- 190+30-03030, 5500 watt

These items were imported into Australia from December 2003 by Dynalink Hardware Australasia, incorporating the companies Electaserv Trading, Newcombe Sales Pty Ltd and Kaylock (Australia) Pty Ltd.

The above generators do not comply with Standards AS/NZS 3350-1, AS/NZS 3010-1987 and AS 2790-1989. There is concern that these units connected to a Multiple Earthed Neutral system can cause severe electric shock. Also, these generators may have faulty connections.

Further details on this product, as well as other products that are subject to recall, are available from Product Recalls Australia's website at <http://www.recalls.gov.au>.

Prosecutions for breaches of the *Electricity (Licensing) Regulations 1991* 1 July 2004 to 30 September 2004

<i>Breach</i>	<i>Name (and suburb of residence at time of offence)</i>	<i>Licence No. (\$)</i>	<i>Fine</i>	<i>Court Costs (\$)</i>
<i>Carried out electrical work without holding an electrical workers licence Regulation 19(1) E(L)R</i>	<i>Nathaniel Murray James (Albany)</i>	NA	1,000.00	278.45
	<i>Scott MacKenzie (Esperance)</i>	EW 119049	*	
<i>Carried out substandard electrical work Regulation 49(1) E(L)R</i>	<i>Simon Atkinson (Karratha)</i>	EW 132161	500.00*	428.45
	<i>Mark Berkelmans (Connolly)</i>	EW 135320	2,000.00*	322.45
	<i>Ronald Costen (Joondalup)</i>	EW 109887	2,500.00	144.20
	<i>Michael Gorton (Kelmescott)</i>	EW 114241	500.00	310.15
	<i>Bradley Hotker (Albany)</i>	EW 135120	*	
	<i>Scott MacKenzie (Esperance)</i>	EW 119049	3,000.00*	523.45
	<i>Simrat Singh (Willetton)</i>	EW 133294	750.00	332.45
	<i>Travis Stephens (Leeming)</i>	EW 131205	1,500.00	299.70
<i>Submitted a Notice of Completion to the relevant supply authority in respect of the electrical installing work not completed Regulation 52(3) E(L)R</i>	<i>Bradley Hotker T/As Brad Hotker Electrics (Albany)</i>	EC 007109	1,500.00*	278.45
	<i>Lorrans Electrical Services (Joondalup)</i>	EC 002065	1,500.00	144.25
	<i>Mark's Electrical Contracting Service (Connolly)</i>	EC 006726		
<i>Employed/instructed an unlicensed person to carry out electrical work Regulation 53(2) E(L)R</i>	<i>Western Mining Corporation T/As Leinster Nickel Operations (Leinster)</i>	IH 050280	200.00	257.70

Legend

E(L)R *Electricity (Licensing) Regulations 1991*

* Global Penalty (more than one offence)

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