

Electrical Safety Outlook

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Electrical danger for insulation installers

Federal Government rebates for installing ceiling insulation are a boost for the industry and the environment, but the Electrical Safety Office (ESO) has warned installers not to underestimate the dangers involved.

Apart from the increased fire risk associated with incorrectly installing insulation around lighting fixtures, installing insulation with metal fasteners such as staples, or working around live cables can result in electric shock injuries or death. If there are any faults in the home's electrical installation, these can also prove fatal when an installer makes contact with them.

A number of recent incidents including a fatality resulted in the Minister for Industrial Relations approving mandatory requirements for installing insulation, contained in the *Electrical Safety (Installation of Insulation) Notice 2009*.

From 1 November 2009, the use of metal fasteners in installing insulation has been banned. The new requirements are available at www.electricalsafety.qld.gov.au.

Even if a shock doesn't result in death, it can have a serious impact on your health, including burns and damage to the nervous system, brain, sensory/motor organs, heart and lungs. A shock can also throw you off balance resulting in fall injuries.

The prospect of such injuries occurring in a ceiling space can make rescue difficult and delay treatment.

The ESO has investigated incidents where inspectors have identified metal staples that have penetrated the PVC sheath of a cable. In some instances the staples had pierced the red PVC inner insulation and made contact with the live conductor.

These incidents could result in the foil insulation being energised at 240 volts. In this situation there is a risk of workers or occupiers of the property receiving an electric shock.

Even more concerning is that these are not isolated incidents.

Extra care must be taken to avoid electric shocks by assessing risk and implementing effective risk controls before starting a job.

The ESO has written to all Queensland-based installers of insulation products reminding them of their legal obligations to carry out their business in an electrically safe manner.

These incidents can be avoided if basic safety precautions are followed. The fact sheet *Insulation – installing ceiling insulation and your health and safety* has been sent out to all known insulation installers in Queensland. The fact sheet is available at www.deir.qld.gov.au/workplace/resources/pdfs/alert-insulation_installing.pdf.



Electrical apprentices safety pilot program a success

The Electrical Safety Office (ESO) is set to expand a successful pilot training program next year to raise safety awareness among Queensland's apprentice electricians.

Executive Director of the Electrical Safety Office Peter Lamont said the fatality last year of an electrical tradesperson who was only nine months out of his apprenticeship and other serious incidents highlighted how vital it was to work more closely with electrical apprentices.

Mr Lamont said safe workplace practices needed to be entrenched at the start of an apprentice's career, to prevent such tragedies occurring.

There have been 28 serious incidents involving electrical workers in Queensland in the last two years, including two fatalities.

Three fourth-year apprentices recently completed a 12-week pilot program which highlighted the work of the Electrical Safety Office in ensuring that the safety message is delivered to those about to start their career in the electrical industry.

During the 12-week program, the apprentices spent time in the field with electrical inspectors assisting with process audits, electrical installation verification and some safety investigations.

When the apprentices return to their workplaces, their experiences will help them to promote a stronger emphasis on electrical safety.

The program, which has industry support, aims to help improve the apprentices' knowledge and awareness of electrical safety and promote the role of the Electrical Safety Office, while offering secure work placements.

The ESO will expand the program next year with six fourth-year apprentices.



Byron Waldburger, Jon Goodfellow and Tim Grant in the Parliament House electrical switch room

Aboriginal and Torres Strait Islander electrical safety awareness initiative

Staff from the Electrical Safety Office (ESO) recently visited Cherbourg Aboriginal community as part of a program to improve awareness of electrical safety issues in Aboriginal and Torres Strait Islander communities.

The ESO is working with the Aboriginal and Torres Strait Islander Program (ATSIP) of Workplace Health and Safety Queensland to build lasting relationships through increased visits and providing up-to-date electrical safety information and advisory support.

A pilot electrical safety information workshop was specifically designed and presented to staff at the *Ny-Ku Byun* Aged Care Hostel at Cherbourg in October.

The workshop presentation was created after face-to-face consultation with hostel management, to create awareness of electrical safety and allow a direct focus of electrical safety elements for staff in the hostel's clinical, operational, residential and management work groups.

The ESO and ATSIP staff also met with Cherbourg Shire Council representatives to discuss and advise on wider community electrical safety matters and are currently investigating possible community housing electrical safety and efficiency projects and planning 'all of community' information forums.

The delivery of the electrical safety workshop is part of the ESO and ATSIP commitment to follow-up on the specific training request from the *Ny-Ku Byun* Hostel and earlier visits to Cherbourg.

New safety switch proposals for public discussion

The Electrical Safety Office is seeking input to proposals for new requirements for the retrofitting of safety switches to lighting and power circuits in all forms of domestic accommodation in Queensland.

The Electrical Safety Regulation 2002 currently requires the fitting of safety switches on both power and lighting circuits in all new residences and in all new residential electrical installations.

In addition, retrospective fitting of safety switches on power circuits in post-1992 domestic residences is required on their sale or rental where a residential tenancy agreement applies. Other residences built prior to 1992 are not at present subject to mandatory safety switch requirements.

A discussion paper outlining proposals for change has been circulated to industry and consumer organisations for their consideration and response.

The move to mandatory safety switch requirements for all forms of domestic accommodation over a five-year period is proposed in three stages.

1. Owners of rental and temporary accommodation premises which are sold or the title transferred, to have safety switches installed on power and lighting circuits within three months of the sale or transfer of the property;
2. Owners of all rental and temporary accommodation premises, to have safety switches installed on power and lighting circuits within two years;
3. All other domestic residences to have safety switches installed on power and lighting circuits within five years (or within three months of their sale or transfer).

The discussion paper estimates the cost of fitting a safety switch at between \$200 and \$250 per unit and notes that, for temporary accommodation establishments associated with a business, this cost can be recouped as a business expense and is tax deductible.

There are various devices available on the market for domestic premises enabling safety switches to be fitted into, or near, most older-style switchboards, keeping installation costs to a minimum.

The options have been developed taking into consideration the related demands on the electrical contracting industry and to allow businesses and home owners a reasonable phase-in period in which to meet the attendant costs.

Submissions on the proposals close on 26 February 2010 and any final proposal for regulatory change will be subject to regulatory impact assessment and government approval. The papers are available at www.deir.qld.gov.au/pdf/eso/safety-switches-discussion-paper.pdf.

Equipotential bonding, pool fencing and electrical safety

The issue of equipotential bonding for pools is now covered under new pool fencing laws which came into effect on 1 December for new pools and from late in 2010 for existing pools.

Electrical safety laws will continue to cover pools to reduce the risk of users receiving an electric shock from nearby conductive material like pool fence supports.

The electrical safety laws also apply to pool fencing that has been erected, in some cases, a long time after pool electrical equipment and ancillary fittings have been installed.

The requirements on whether to install an equipotential bond are outlined in the Australian/New Zealand Wiring Rules.

The requirements depend on a number of factors which include, but are not limited to, the arrangement of electrical equipment associated with the pool (such as pool pumps and filters) the existence of an equipotential bond to the pool construction, when the pool fence was installed, and the distance the pool fence is away from the pool.

The Electrical Safety Office advises electrical contractors and anyone associated with the pool building and pool fencing industries to be aware of these bonding requirements for electrical safety reasons.

It is also important to note that the installation of an equipotential bonding conductor, whether to the pool, its conductive fittings or fencing coming within the specified distance of the pool, is defined as 'electrical work' under Section 18 of the *Electrical Safety Act 2002* – meaning that it may only be carried out by a licensed electrical contractor.

The new pool fencing laws are available at www.dip.qld.gov.au/pool-fencing/index.php.

2009 Queensland Work Safe Award – electrical safety winner

Stanwell Corporation Limited was recognised in the 2009 Queensland Work Safe Awards announced on 29 October by winning Category 5 – the best solution to an identified electrical safety issue.

The company is a Queensland Government owned electricity generator and through their thermal and hydro generating sites they contribute more than 1500 megawatts of electricity into Australia's National Electricity Market.

Stanwell Corporation employee Scott Hannay has demonstrated a way to help manage arc flash hazards by providing site specific information to workers through the use of arc flash registers and electrical panel door labelling.

The arc flash hazard management system provides electrical workers with information to make informed decisions on the selection and use of appropriate personal protective equipment including the use of flame retardant clothing.

The labels used on the electrical panel doors provide detailed hazard data in relation to arc flash energies helping to provide workers with a better understanding of the hazard in the workplace.

More information on the 2009 Queensland Work Safe Awards including all 2009 winners is available at www.deir.qld.gov.au/workplace/training/events/worksafeawards/finalists/index.htm.



Scott Hannay –Stanwell Corporation

New Risk Management Code of Practice

The Electrical Safety Office is preparing to introduce a new code of practice for the electrical industry from January 2010.

The new code *Electrical Safety Code of Practice 2010 – Risk Management* has been developed to provide specific advice and assistance to employers and electrical workers to meet their individual obligations in the workplace generally and in the conduct of live electrical work. The code provides guidance on ways to identify and assess risks and to develop and implement controls to manage them.

The code will address these stages in a four-step approach, similar to that used in the 2007 *Risk Management Code of Practice* covering workplace health and safety. The new code will also include a separate section which deals exclusively with the practical requirements for risk assessment by electrical workers contemplating live electrical work. The risk matrix provided in this section gives a clear indication of the level of risk in given circumstances and includes examples and case studies to assist the decision-making process when considering live work.

The new code was developed in consultation with electrical industry key stakeholders and incorporates best industry practice to promote the electrical safety of employers, workers and the community.

Check the website for updates at www.deir.qld.gov.au/electricalsafety/law/legislation/codes/index.htm.

New system recommended to ensure electrical equipment safety

The Electrical Safety Office (ESO) is working on a new Electrical Equipment Safety System aimed at eliminating shock, injury and property damage resulting from the sale, supply and use of unsafe electrical equipment.

This system has been recommended by the Electrical Regulatory Authorities Council (ERAC), the national body of electrical safety regulators across Australia and New Zealand. The ESO currently hosts the ERAC secretariat function.

ERAC has proposed the new system be underpinned by nationally consistent performance-based legislation in each jurisdiction and comprehensive scheme rules. It contains a mixture of pre-market registration and post-market enforcement.

ERAC's recommendation followed an extensive review across Australia into current practices which have failed to keep pace with the changing profile of the equipment industry and the rapid explosion of technology.

The current system was designed to accommodate a marketplace where most electrical equipment was manufactured and/or supplied in Australia.

However the majority of electrical equipment on sale in Australia is now imported from overseas, particularly Asia, while the emergence of internet retail sources such as eBay had also challenged the effectiveness of the system.

Under the system, equipment will be classified in three levels based on risk assessment, (Level 1 – low risk, Level 2 – medium risk and Level 3 – high risk), with regular reviews of the need to reclassify equipment into a more appropriate risk level based on market experience.

Prior to equipment being placed on the market the recommended system will require that:

- all suppliers of (Level 1, 2 and 3) equipment are registered on a national data base; and
- all equipment classified as Level 3 (high risk) and Level 2 (medium risk) is registered on a national data base.

ERAC says post-market enforcement should be consistent and harmonised across all jurisdictions. Surveillance and enforcement should remain the prime responsibility of state and territory regulatory authorities with national coordination managed via a national database.

Surveillance would be substantially enhanced. The ERAC National Surveillance Plan will include check testing and be strengthened to include audits of certificates of conformance, declarations and underpinning documentation.

Nationally consistent penalties will be introduced for cases where unsafe, unregistered or incorrectly registered equipment is found in the marketplace.

Any individual jurisdiction will be able to act on behalf of all jurisdictions for recalls, bans and when imposing penalties.

It is anticipated that the new system will be in place by 1 July 2011.

You can download the regulatory impact statement at www.erac.gov.au/news_ersrr.htm.

New recall powers

The Queensland Government's ability to recall unsafe electrical equipment was recently strengthened by an amendment to the *Electrical Safety Act 2002* (the Act). The amendment ensures the government can act quickly if there is evidence an electrical product poses a community safety risk.

Under the new law, which commenced on 22 September 2009, the Minister for Industrial Relations may make a recall order directed at a designer, manufacturer or importer of electrical equipment, if the Minister believes certain electrical equipment is placing or will place persons or property at electrical risk.

The designer, manufacturer or importer becomes the 'responsible person' for the recall order and is liable for any cost incurred in complying with a recall order.

As part of a recall, a supplier (including distributors and retailers) may be required to provide 'reasonable help' to the 'responsible person' undertaking the recall. Examples of 'reasonable help' include stopping the supply of the electrical equipment, identifying or assisting in contacting people supplied with the electrical equipment and providing information regarding the number of items in stock, sold or returned by customers.

Failure to comply with the requirements of a recall order by the 'responsible person' is a breach of an electrical safety obligation, attracting hefty penalties of up to 2000 penalty units (a maximum of \$1 million) or three years imprisonment. Failure to provide 'reasonable help' by a supplier attracts a maximum penalty of 50 penalty units (a maximum of \$25,000).

For more information about the new recall power, visit www.electricalsafety.qld.gov.au.

Disciplinary actions taken against an electrical contractor

In a recent hearing of the Electrical Licensing Committee the holder of an electrical work licence was fined and his licence suspended.

The worker had knowingly represented himself as having a current Queensland electrical contractor licence and was entitled to perform electrical contracting work when he knew he was not entitled to do so.

Further he had failed to install a multiple earth neutral (MEN) link in the main switchboard of a residence and left several other serious electrical defects at the installation.

He then submitted a Form 2 to Energex in the name of another contractor without that contractor's knowledge.

The Licensing Committee fined him \$1000, and suspended his licence for three months, but deferred the suspension for one month on the condition that he satisfactorily completes an approved course on electrical installation testing and inspection. The suspension will be revoked providing he completes the course in the time stated and pays the fine.

In addition, an audit will be conducted on the contractor's administrative procedures and samples of his previous work.

Editor's note: The holder of the electrical work licence referred to in the first sentence of this article is the same person as the contractor referred to in the last sentence.

Electrical safety forums – Far North, North and Central Queensland

Electrical Safety inspectors have continued to host Electrical Safety Forums for electrical workers, safety managers and their employers to learn about and discuss the need to work safely with, and around electricity.

The latest round of forums was held in smaller centres in Far North, North and Central Queensland beginning 6 October 2009. In all, 32 forums were held bringing the total for 2009 to 61.

As well as highlighting important safety practices, the workshops offered an opportunity for attendees to talk to an electrical safety inspector about a wide range of technical and safety issues.

You can download a copy of the forum presentation, *Working with and near live electrical parts*, from the Electrical Safety Office (ESO) website www.electricalsafety.qld.gov.au.

The ESO has begun planning a 2010 series of seminars/forums which will be promoted on the website and emailed to the subscribers of Electrical Safety Outlook.

Amendments to the Electrical Safety Regulation

The *Electrical Safety Amendment Regulation (No 2) 2009* recently introduced changes to Queensland's electrical safety legislation.

These amendments to the *Electrical Safety Regulation 2002* simplify the insurance requirements for applicants for electrical contractor licence and clarify the consultation requirements when licensed electrical work is undertaken in the vicinity of electric lines.

Electrical contractor licence requirements simplified. (Section 43)

Applicants for an electrical contractor licence were required to provide evidence of net realisable assets of \$5000 in addition to holding public liability insurance. This provision was introduced prior to the introduction of the present electrical safety regulatory framework. It was intended to provide some surety of the financial capacity of a contractor to complete work projects. The later introduction of the requirement that all electrical contractors hold public liability and consumer protection insurance has rendered the proof of net realisable assets provision redundant and it is removed by this amendment.

A further amendment to this section sees the inclusion of the requirement for electrical contractor license applicants to hold consumer protection insurance. This has been a requirement contained in electrical licensing policy for a number of years but has not previously been part of the *Electrical Safety Regulations 2002*. The Regulation has therefore been amended in order to clarify the consumer protection element of the insurance eligibility requirements for an electrical contractor licence.

Clarification of consultation requirements (Section 64A)

This provision relates to the situation where work is to be performed near an overhead electric line and a person or plant could come within the electric line exclusion zone. The amendment introduces an exclusion from the requirements of the section for an 'eligible person' undertaking low voltage electrical work.

An associated amendment of the Schedule 9 Dictionary includes the definition of an 'eligible person' as "a licensed electrical contractor; or a person who holds an electrical mechanic licence and is performing work for a licensed electrical contractor as an employee of the contractor; or a person who holds an electrical mechanic licence and is performing work for the person or a relative of the person at premises owned or occupied by the person or relative".

Change of name – Schedule 6

A further minor amendment to Schedule 6 of the Regulation which lists original prescribed electricity entities notes a change in company name from Comalco Aluminium Limited to Rio Tinto Aluminium Limited.

These changes which are effective from 1 December 2009 will reduce the regulatory burden for licensed electrical contractors and provide clarity in respect of the insurance requirements for license applicants.

Recent electrical safety recalls

<http://www.deir.qld.gov.au/electricalsafety/recalls/index.htm>

- Mistral Portable Air Conditioner, 11 December 2009
- Acer Aspire Notebook AS5738 and AS5738ZG power adaptors, 23 November 2009
- Logitech power adapter for PureFi Anytime Alarm Clock, 20 November 2009
- Karcher Submersible Pumps, 10 November 2009

Feedback

We welcome your feedback on Electrical Safety Outlook.

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