

energy

Bulletin

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Energy supplies under pressure

A major gas explosion at Apache Energy's facilities on Varanus Island, off Dampier, on Tuesday 3 June 2008 reduced Western Australia's gas supplies by about 30 per cent. Many companies were directly affected by reduced gas supplies and some had to lay off staff.

The Government asked the community for assistance to alleviate the situation. Commercial office buildings and other premises make up a significant proportion of the State's overall energy consumption. The community was asked to take measures to conserve energy wherever possible, such as by reducing lighting and heating, and switching off equipment not in use – and it was evident many people did take such steps.

This had a positive result even though the situation remained very difficult for some companies. In some cases the impact of reduced gas supplies had surprising impacts, in terms of the flow-on effects and this made people more aware of the significance of adequate energy supplies and their security.

Fortunately after some two months of urgent work, Apache Energy was able to advise at the time of going to press that gas was flowing again and that by mid August some 240 of the 350 gigajoule capacity of the gas plant would be back in service. This clearly was good news for the community and also for our colleagues at the Office of Energy, who have been very busy managing the gas shortage.

Readers may be interested to know that EnergySafety no longer has its earlier energy industry emergency

management role, which was transferred to the Office of Energy some 18 months ago. Hence EnergySafety had no direct involvement in the difficulties related to the Apache Energy gas supply problems. EnergySafety's gas supply regulatory functions cover gas distribution, but not the high pressure gas transmission and upstream production facilities.

Nonetheless, EnergySafety has been busy, as this Energy Bulletin explains.

In early June EnergySafety completed its extensive 2008 electrical industry roadshow, which covered an outline of the regulatory framework, changes to electrical licensing regulations, changes to the Wiring Rules and the WA Electrical Requirements, the release of a new Code for safe work practices near or on live parts by electricians, and an overview of WA's electrical safety performance.

There is more on this in the Bulletin, particularly on the new Code, the aim of which is to drastically reduce the incidence of "live low voltage work" electrical safety incidents. The Bulletin also gives an outline of the background to the recent issue by EnergySafety of a Prohibition Order in respect of certain types of equipment often used in vehicle autogas (LPG) installations. This article demonstrates the diversity of some of EnergySafety's regulatory activities.



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Live LV Work Prohibited

Introduction

Working on live electrical circuits and equipment, or in very close proximity to live parts, is dangerous and more often than not places the lives of electricians at risk needlessly.

As a result of considerable industry monitoring and investigation, EnergySafety has issued a new Code of Practice that significantly restricts work on or near live parts of a consumer's electrical installation.

The 'Code of Practice – Safe LV Work Practices by Electricians' was issued as a Guideline under Section 33AA of the *Electricity Act 1945*. It prescribes principles and methods for the organisation and performance of safe work on electrical installations. It sets out guidelines in the form of minimum requirements for a safe working environment for electricians (including self employed workers), authorised to perform work on electrical equipment and installations.

Why was the Code issued?

Working on or near energised electrical equipment (live low voltage work) is the leading cause of serious accidents and fatalities for electricians.

Commercially-focused electrical contractors too often are willing to perform live electrical work to satisfy client demands or to get more work done quickly. Such

work takes place even in high risk areas, without prior assessment, work plans and safety controls. Live work frequently is performed in switchboards next to substations, where the prospect of very high-level fault currents exist. These can be extremely destructive and dangerous. Some of the consequences are illustrated in the photographs accompanying this article.

Electrical contractors are subject to increasing commercial, time and competitive pressures. When clients engage an electrical contractor, it is common for them to expect minimum disruption to their business or home. They are generally unaware that this may involve risky live work. Clients, while appreciating the dangers of electricity, expect that electricians can manage the hazard safely, despite the significant risks associated with live work.

Contractors may hesitate to tell clients that the work cannot be performed safely without shutting down all or part of the installation. They fear the client simply will seek the services of another contractor willing to take the risk of performing the work without a shutdown. In these circumstances, clients are taking a risk that they will cause an unsafe workplace, contrary to occupational safety legislation. Electrical employers are placed in a similar invidious position.

However, there may be compelling reasons for the client to insist that there be no interruptions to his business. Processes need to be in place to allow the risks of such circumstances to be evaluated. The client needs to make the case for live work and, jointly with the electrical contractor, develop a safe work plan. Such circumstances may create higher costs for the work but unsafe work practices cannot be permitted. Such processes provide both enhanced electrical safety and competitive neutrality between electrical contractors. Live work can never be justified at a domestic home.

Any exceptional circumstances, justifying live work, must demonstrate that de-energising all or part of the client's plant would cause a greater safety risk to human life than the obvious risk of death incurred by the electricians involved. Exceptional circumstances will rarely, if ever, be demonstrated by a client claiming that it is not possible in practice for the plant to have its electricity supply interrupted. The claim would have to reflect the normal provisions made for the inevitable power interruptions that always occur with public electricity networks (or in-house generators).

The Code therefore also provides advice to clients to dissuade them from asking electrical contractors and their employees to undertake live work. Those in charge of

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worksites, owners and managers, are obliged under regulations administered by WorkSafe to maintain a safe work place.

Broadly, what does the Code require?

Electrical contractors and electricians are no longer allowed to perform electrical work on equipment operating at normal mains voltage. The Code applies to electrical contractors and all electricians working in general industry. It places obligations on contractors’ clients and all employers of electricians requesting live work.

Under the Code, live work will be justified only if there is a greater risk of danger to lives of people

using, or affected by, an electrical installation, compared with risks incurred by electrical workers asked to perform live work. Loss of production, increased costs and operational inconvenience will not justify live work.

Where live work is considered to be unavoidable, a written case for justification must be prepared, backed by a formal risk assessment under the Code. The case must be made out by the contractor’s client, requesting that live work be carried out. Live work will never be approved for residential installations.

If the electrical employer is satisfied that live work is justified and it can be carried out safely, a strict

safety plan must be prepared and followed:

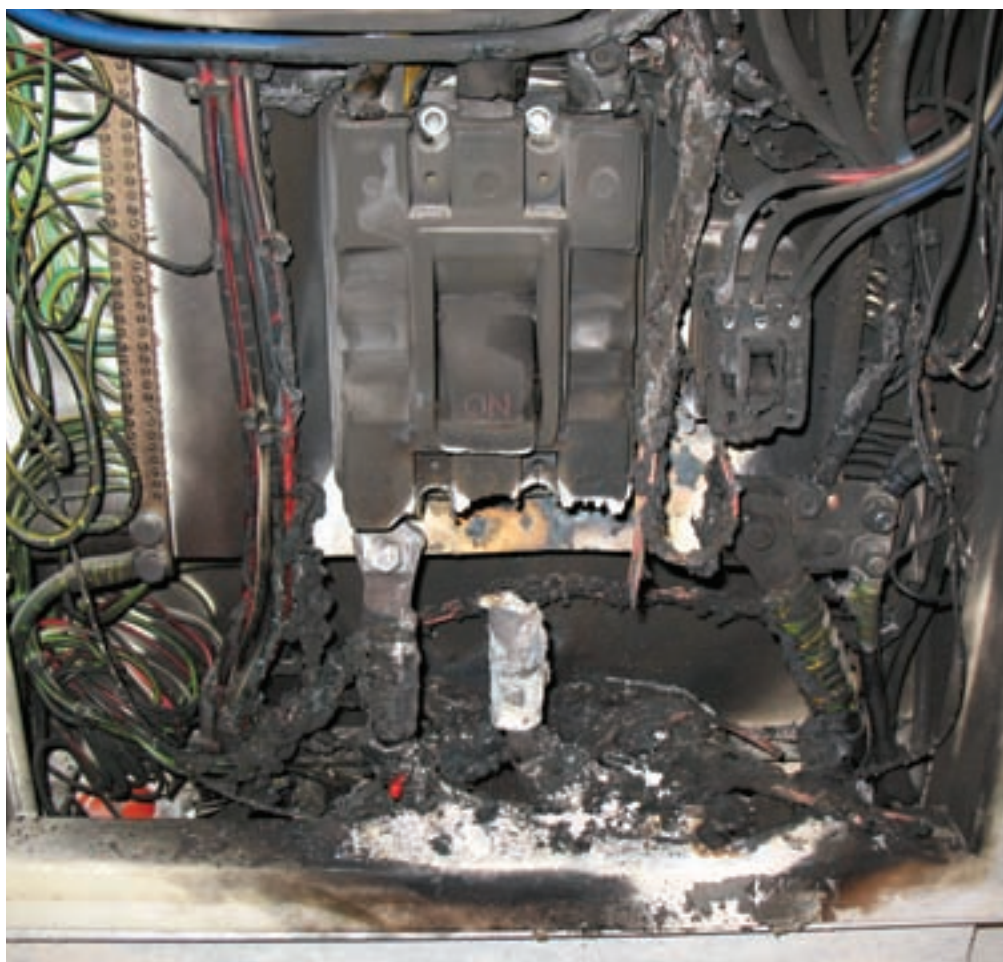
- The contractor must prepare a detailed work plan and set of procedures, complying with the Code, to cover the work;
- All electrical workers involved in performing the work must agree it can be done safely;
- A competent and independent safety assessor must approve plans and procedures if the prospective fault current exceeds 10,000 amperes at the site in question;
- An experienced safety observer must be present at all times while the live work is under way and must have no other duties while carrying out the observer role.

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Live work risks injury to worker and damage to property!



The worker was terminating conductors on the load side of a CFS unit. A bolt became dislodged and fell, shorting live terminals and resulted in a flashover.



Incorrect testing procedure resulted in a short circuit across the busbars. The installation was out of action until a replacement switchboard could be found and installed

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The Code:

- provides for routine activities which generally need to be conducted while circuits are live, including testing, commissioning and location of faults.
- addresses a large number and variety of situations where electrical contractors and electricians are placed under commercial pressure by their clients to perform risky live work, merely to hold costs down, keep production going and avoid inconvenience.
- does not apply to electricity transmission and distribution systems of network operators. This sector has its own guidelines for safe work practices.
- complements the earlier 1998 'Code of Practice – Safe Electrical Work on Low Voltage Electrical Installations' which is being updated for re-release later this year.
- can be downloaded from [www.energysafety.wa.gov.au].

Implications for employers of electrical workers

Now that the Code has been issued, albeit as a guideline, it will be difficult for employers of electrical workers to ignore since it establishes certain minimum benchmarks in terms of worker safety.

Under OSH legislation, employers bear a general obligation to provide a safe workplace and workers must observe safe work processes. The electrical employer must provide for the safety of workers, sub-contractors and client personnel against electrical shock hazard, magnetic field hazards, damage to property and harm to domestic animals and livestock. The employer is to provide a safe system of work, including training the worker, providing the appropriate tools and equipment, including testing instruments, personal protective equipment and current procedures and practices to follow. The worker needs to be responsible for their own safety and the safety of others

and to follow instructions, use personal protective equipment and advise the employer if they believe that they are being asked to do anything unsafe or beyond their competencies.

Implications for electrical designers

Electrical installation designers need to give more consideration to the future need for maintenance and possible modifications.

The designs of parts of electrical installations should facilitate their disconnection (and in equipment such as switchboards, the shielding of live parts, or segregation through compartmentation etc.) so that electrical work such as for repair or additions and alterations in one part can be performed safely while other parts may remain in service.

Electrical industry roadshows



EnergySafety recently concluded a series of industry presentations previously outlined in Energy Bulletin Special Edition March 2008. The presentations were held in venues throughout the metropolitan region, as well as at Bunbury, Albany, Kalgoorlie, Geraldton, Karratha, Broome and Kununurra.

Some 1593 bookings were received which exceeded our expectations and indicated that industry participants are prepared to allocate valuable time to make themselves aware of the significant changes that are occurring in the electricity industry in Western Australia.

The documents relating to the roadshow, including copies of the slide presentations, are available on EnergySafety's website.

Prohibition order issued to deal with autogas conversion problems

After receiving a number of allegations from industry that LPG (autogas) used as a fuel in vehicles was causing some of these vehicles to experience significant gas converter and thus motor operating problems, EnergySafety decided during 2007 to carry out an investigation to determine the cause of the problem.

EnergySafety determined that the problems were mainly restricted to vehicles that had fuel lines constructed from flexible hose and typically had a short use rather than long or continuous use. Subsequent chemical analysis supported this use pattern.

It was found that the flexible hoses commonly used as fuel lines in autogas conversions release plasticisers (when conveying autogas) that are harmful to converter components.

This finding was outlined to industry through meetings and it was explained that it was the intention of EnergySafety to issue a Prohibition Order preventing the future use of flexible hoses in autogas installations that contained harmful plasticisers. Additionally, autogas fitters were advised on their obligations to take remedial action where such problems had occurred, and on their rights in relation to support and compensation from the suppliers of the defective hoses.

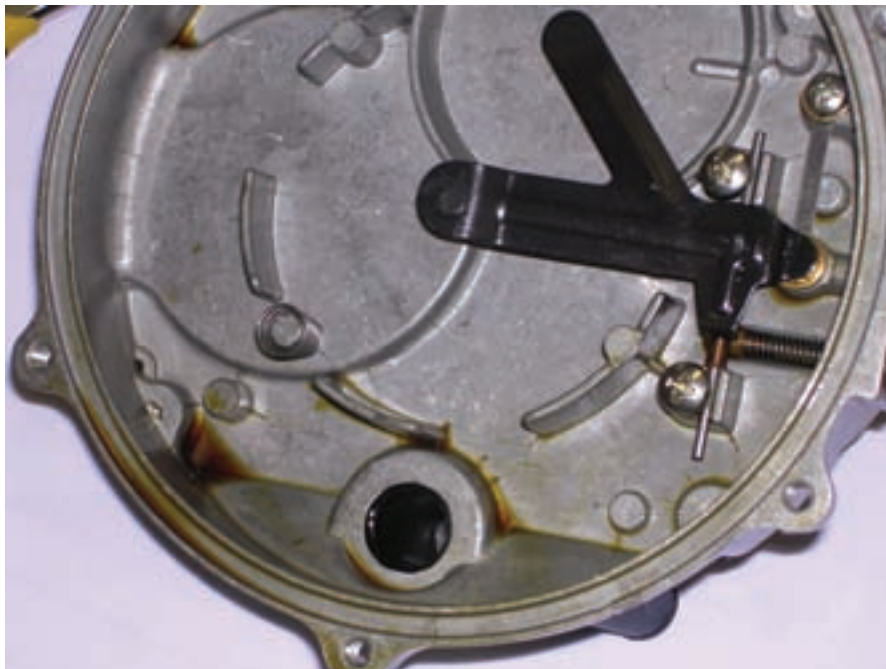
Subsequently a Prohibition Order was published on 16 May 2008 under the authority of the Director of Energy Safety, to control the use of hoses containing harmful plasticiser that could leach out and damage converters. Detailed information was also mailed out to autogas fitters on the subject.

Since then EnergySafety has notified industry that the Order has effectively been modified to

move the enforcement date to 1 December 2008, so as to allow a longer transition period. In brief, under the new rules from that date, industry can use either flexible hose that complies with the plasticiser limits specified in the Order (and more types are expected to become available soon), or use a

combination of mainly copper pipe and only short lengths of flexible hose, or use only copper pipe.

Moves have also been made to change the Australian Standard that sets the requirements for hoses permitted to be used in autogas installations.



Plasticiser residue in converter.



After running only 1661 km on LPGas this vehicle could no longer run on LPGas. This wetted and jellified diaphragm covered in plasticiser residue was obtained from this vehicle.

Utilities National WA 2008



The Utilities National WA was held at Ascot Racecourse on 13th & 14th May. The event was opened by the Director of Energy Safety, Albert Koenig.

This event showcased the electricity and gas network related products of over 60 exhibitors and included a National Hazard Identification and Risk Assessment challenge. Eight teams from network utilities across Australia, including three contractor teams, assessed the hazards and controls on scenarios based on their normal work practices and pre-work briefings.

Significant preparation by WA's Horizon Power went into setting up the two scenarios on the local distribution network, each within a few minutes drive from Ascot Racecourse. EnergySafety judges recorded the details of hazards, the

controls identified and the team-work demonstrated to ensure the pre start Job Risk Assessment would have provided a safe work environment for the designated tasks.

A team from Integral Energy, NSW won the competition with WA Western Power's two teams placed second and third. All teams are to be congratulated on their efforts and dedication to the event. The principles of ensuring safe outcomes were reinforced by a feedback session, prior to prize presentations, from the EnergySafety judges who were impressed with the overall standard of the competition.

New staff members at EnergySafety

Director Electricity



Ken Bowron commenced work with EnergySafety WA in February 2008 in the position of Director Electricity. He has 33 years broad experience in the Western Australian energy industry. Ken's recent experience includes senior management in generation, networks and the supply of energy services to customers in metropolitan, rural and remote areas.

He is an electrical engineer with extensive technical and managerial experience ranging across planning, design, construction, operations and maintenance of power generation, and transmission and distribution systems.

Principal Engineer Gas Utilisation



David Robertson commenced work with EnergySafety WA in February 2008 in the position of Principal Engineer Gas Utilisation. He has 27 years experience in the gas industry, both in Victoria and Western Australia. David's recent experience includes six years as Inspection and Audit team leader with WestNet Energy (Alinta).

He is an Engineer (Materials) and Scientist (Computer/Mathematics) with a wide range of experience in the application of gas to the industrial, commercial and residential sectors.

Senior Electrical Inspector Karratha Region



Steve Molloy joined EnergySafety WA in January 2008 as Senior Electrical Inspector for the Karratha region. He has many years experience in the electricity industry and has worked in all areas of electricity distribution. His most recent role was as Compliance Inspector with Western Power.

Steve also has considerable experience in substation construction, metering and sales.

electrical focus

Readers will be aware, through previous editions of the Energy Bulletin or the recent series of seminars to electrical industry, that amendments to the *Electricity (Licensing) Regulations 1991* became effective on 1 July 2008.

The following information is provided to highlight some of the changes and how they will affect the way electrical contractors conduct their electrical contracting business.

Classification of electrical installing work

All electrical installing work is now classified as 'notifiable work' or 'non-notifiable work'.

'Notifiable work' means electrical installing work other than:

- (a) maintenance work, unless that work requires the disconnection and reconnection of the supply of electricity to the electrical installation concerned or the replacement of service apparatus; or
- (b) the alteration of a final sub-circuit; or
- (c) the addition of a single final sub-circuit.

'Non-notifiable work' is all electrical installing work not referred to as 'notifiable work' and includes:

- (a) the alteration of a final sub-circuit,
- (b) the addition of a single final sub-circuit; and
- (c) maintenance work.

Notification of electrical installing work

Notifiable work

Notifiable work must be notified to the relevant network operator by way of Preliminary Notice and Notices of Completion.

The Preliminary Notice must be delivered to the relevant network operator at the required time, as defined in the Regulations.

The Notice of Completion must be duly completed and delivered to the relevant network operator within a period of three days after the completion of the notifiable work.

Also, an Electrical Safety Certificate must be given to the person who required the work to be carried out. See below for more information on Electrical Safety Certificates.

Non-notifiable work

Non-notifiable work is not required to be notified to the relevant network operator.

However, an electrical contractor carrying out non-notifiable work must give an Electrical Safety Certificate to the person who required the work to be carried out. See below for more information on Electrical Safety Certificates.

Up until 30 June 2008, work now classed as non-notifiable work was required to be notified to the relevant network operator by way of a Minor Works Notice. This is no longer the case. See below for information about Minor Works Notices being phased out.

Electronic lodgement of notices of completion

The Director may approve electronic communication methods an electrical contractor may use to send preliminary and completion notices to a network operator and how a network operator sends an electrical contractor the corresponding receipt.

Therefore, electrical contractors will be able to submit Preliminary and Completion Notices by electronic means. The implementation dates for each network operator will be advised when known.

Western Power's "E-Tic" system is currently undergoing the necessary enhancements to the system that has previously been successfully trialled. Western Power will announce when electronic lodgement of Notices can commence.

Changes to preliminary/completion notices

The current Preliminary/Completion Notices are being amended to accommodate the following:

- The electrician (electrical worker) who carried out the checking and testing function will no longer be required to sign the Notice of Completion. The electrical contractor or nominee will, instead, provide the electrical worker's licence number of the electrician who carried out the work and/or the checking and testing function.

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- The electrical contractor or nominee will need to identify if the work subject of the Notice has been carried out to meet a Part 1 or Part 2 solution per the Wiring Rules.

The amended Preliminary/Completion Notices can be identified by the reference number ESWA E001 0708 at the bottom right hand corner of the respective forms.

Electrical contractors may continue to use the existing Preliminary / Completion Notices until 30 September 2008.

From 1 October 2008, only the amended Notices (identified by ESWA E001 0708) will be accepted, unless a Preliminary Notice for the work was submitted before 1 July 2008.

Electrical safety certificates

Regulation 52B of the *Electricity (Licensing) Regulations 1991* requires an electrical contractor who carries out any electrical installing work to complete a Certificate of Compliance.

This does not apply to in-house electrical installing work carried out under the authority of an in-house electrical installing work licence.

The Certificate of Compliance is referred to as the "Electrical Safety Certificate".

Electrical Safety Certificates warrant that the electrical installing work described in the certificate is safe and complies with the *Electricity (Licensing) Regulations 1991*.

An electrical contractor carrying out **any** electrical installing work **must**, within 28 days of completing the work, provide a completed Electrical Safety Certificate in respect of the work to the person for whom the work was carried out.

The electrical contractor who carried out the electrical installing work is required to complete and sign the Electrical Safety Certificate.

Electrical contractors may, however, authorise one or more of their employee electricians to complete and sign Electrical Safety Certificates on their behalf.

An electrician who is so authorised must be authorised in writing by the electrical contractor, in a form approved by the Director of Energy Safety. Forms may be downloaded from EnergySafety's web site.

Electricians who have been nominated to sign Electrical Safety Certificates on behalf of their electrical contractor employer must present their authorisation form on demand, if and when requested to do so.

Books of Electrical Safety Certificates are available from EnergySafety. Each book contains 50 certificates, printed in triplicate:

- An original form – to be provided to the person who required the work to be carried out.
- A duplicate form – should be retained by the electrical contractor on the specific job file for the work.
- A triplicate form – must be retained captive in the book.

Electrical contractors are required to retain copies of all Electrical Safety Certificates for five years.

Originals or copies of Electrical Safety Certificates **MUST NOT** be sent to network operators.

EnergySafety is promoting the introduction of Electrical Safety Certificates via newspapers. Consumers are advised to receive an Electrical Safety Certificate when any electrical installing work has been carried out.

Availability of books of notices and electrical safety certificates

Stock of Books of Notices and Electrical Safety Certificates may be obtained as follows:

- From the Licensing Office at EnergySafety, Cannington;
- From DOCEP's regional offices at Karratha, Geraldton, Kalgoorlie, Bunbury and Albany;
- From participating electrical wholesalers;
- By email to energylicensing@docep.wa.gov.au; and
- By phoning the Licensing Office on 08 9422 5282.

There is no extra charge to electrical contractors.

Minor work notices to be phased out

As mentioned previously, with the introduction of Electrical Safety Certificates, Minor Work Notices are no longer required.

However, Minor Work Notices for electrical installing work carried out up to and including 30 June 2008 should still be submitted, to the relevant network operator.

From 1 July 2008, Minor Work Notices are no longer required. However, all electrical installing work including work that is 'non-notifiable' is subject to Electrical Safety Certificates. The Electrical Safety Certificates are given to the person who required the work to be carried out, **NOT** sent to the network operator.

Work on mine sites

Preliminary/Completion Notices or Electrical Safety Certificates are not required to be submitted for notifiable or non-notifiable electrical installing work carried out on mine sites where an exemption from submitting Notices has been

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granted by the Director of Energy Safety or a delegate of the Director of Energy Safety.

However, details of notifiable and non-notifiable electrical installing work must continue to be entered into the Electrical Record Book.

In the case of any notifiable work carried out on mine sites by other electrical contractors, these contractors must submit Preliminary/Completion Notices to the relevant network operator. Also, a corresponding entry, including entries for non-notifiable work, must be made in the relevant Electrical Record Book.

Where non-notifiable work is carried out on a mine site, an Electrical Safety Certificate is not required to be given to the person requiring the work to be carried out. Instead, a corresponding entry must be made in the relevant Electrical Record Book.

The Electrical Record Book must be kept on site at all times and must be available at the request of the electrical inspector.

EC licence numbers on advertising

Electrical contractors are again reminded that their electrical contractor's licence number must be **conspicuously** displayed in **any** advertisement relating to the contracting business.

Conspicuous means not less than 50% of the largest lettering used in the advertisement. This "50%" guideline is a compromise to assist industry. This requirement applies to such things as billboards, vehicle signage, letterhead, business card, yellow pages entry, newspaper advertisement, invoice, quotation, business directory and similar methods of services advertising.

It is also pointed out that the requirement to display electrical contractor's licence numbers is not a new requirement. The long ago announced amendment to the regulation merely provides an interpretation of 'the required prominence of the display of the number'. Infringement or prosecution action is being taken for non-compliance.

Penalties

Significant increases have been made to the maximum penalties applicable to offences under the Regulations. Penalties have increased to \$50 000 for an individual and \$250 000 for a corporation.

Electrical licences no longer required for plug and cord-connected appliance work

Under the recent changes to the *Electricity (Licensing) Regulations 1991*, it is no longer necessary for a person to have an electrical licence for plug and cord-connected appliance maintenance and repair work.

The simple fact is that licensing this type of work is no longer justified. The accident experience from plug and cord appliance work does not differ significantly between the few states which have licensed this activity and those which do not.

This change brings Western Australia into line with the practice in most other States, including NSW and Victoria. EnergySafety's Licensing Office is now encouraging REL applicants wishing to carry out electrical work associated with maintenance, servicing and repair of electrical equipment connected by plug and

cord, to undertake appropriate training at a Registered Training Organisation (RTO) of their choice.

This will ensure that applicants satisfy obligations:

- Of employers and employees under the *Occupational Safety and Health Act 1994* and related regulations.
- Under Regulation 49B(1) requiring anything on which electrical work is performed, to remain safe to use and be completed to a trade finish.

When the off-job work and on-job training are completed, the RTO will issue a certificate. This documentation can be used when seeking employment involving plug and cord-related servicing and repair work. However, a restricted electrical licence for this work will no longer be issued by the Licensing Office.

There is no longer any need, therefore, to apply for a plug and cord Restricted Electrical Licence.

Restricted Electrical Licences continue to be required for all workers and tradespersons, other than electricians, for all types of "disconnect and reconnect work" involving equipment connected to fixed wiring of an electrical installation, such as water heaters, motors and stoves.

Competency assessments

Since late in 2007, EnergySafety's Chief Electrical Inspector has referred electricians found to have committed serious breaches of the Regulations to the Electrical Licensing Board, with a recommendation that they be required to undergo a competency assessment. In nearly all cases, the Board has agreed with the recommendation and has required the electrician involved to undertake the assessment under Regulation 29 of the *Electricity (Licensing) Regulations 1991*.

To date, 24 electricians have been assessed. Not one has passed. In many cases, their results have been very poor. None has demonstrated an adequate working knowledge of how to conduct checking and testing of an electrical installation. Some candidates clearly had never received any training in checking and testing. Yet the electricians involved had signed Notices of Completion, stating that the installations involved were complete and had been checked, tested and complied with the Regulations.

Competency assessments must be undertaken at an authorised Registered Training Organisation at the electrician's expense. Because the assessments often involve a one-to-one arrangement with an instructor, they can cost the applicant up to \$900.

In lieu of a competency assessment, the Board offers the electrician the choice of attending the Electrical Trades Licensing Course (ETL). The course comprises 80 hours refresher training, either in the evenings or in a two-week block. This alternative gives electricians the opportunity for more thorough attention to knowledge and skills gaps, while continuing to work. The course is accredited and therefore is

subsidised by the Department of Education and Training, which reduces considerably the cost to electricians.

While the Board can order a competency assessment, it has no power to require electricians to take the ETL course. The Board strongly favours the ETL option, but the choice is up to the individual electrician.

Electricians failing the competency assessments will have their licences suspended immediately and must cease performing any electrical work. Those opting for the ETL course may continue working and will retain their licences, providing they pass.

Licence inspections

For some years, full-time employed officials of the Communication, Electrical and Plumbing Union (CEPU) have been designated under Section 12 of the *Energy Coordination Act 1994* as Inspectors (Electricity), authorised only to inspect electrical licences and related records. The purpose is to ensure that all employed electricians and apprentices are properly licensed, thus contributing to safety outcomes.

The powers of all Inspectors (Electricity) are shown clearly on their Certificate of Designation, which must be produced for sighting when requested by those in charge of any premises an Inspector proposes to enter.

Licence inspectors are not authorised to carry out inspections of electrical work.

Employers, or those in charge of a premises, or their authorised representative, should accompany such an Inspector at all times while they are on the employer's premises to ensure their safety and to answer any questions the Inspector may have about licence matters.

There have been some complaints about licence inspectors allegedly exceeding their powers. If an employer or person in charge believes a licence inspector is exceeding his or her powers, it is important that they inform the Chief Electrical Inspector at EnergySafety immediately. He will endeavour to have one of his staff travel promptly to the premises concerned to interview those involved and deal with the issues while the Inspector (Electricity) is still present.

Fake miniature circuit breaker (MCB)

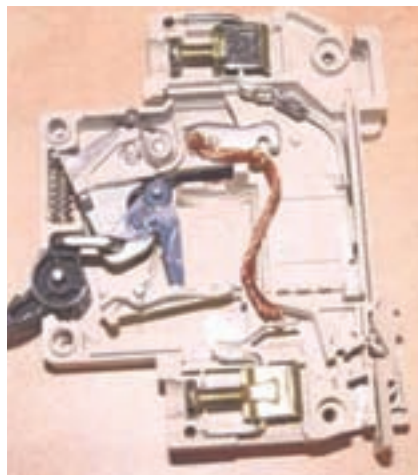


Front of the fake MCB

It has been brought to the attention of EnergySafety that fake Miniature Circuit Breakers (MCBs) with an external appearance resembling the C45N manufactured by Schneider Electric are in circulation in the UK. When contacted, a local Schneider outlet informed that they were

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Interior of the fake MCB

not aware of such a fake being in circulation in Australia. Also, the genuine C45N has been replaced by C60N in the Australian market.

However in this age of globalisation, it is possible that these fakes could appear in the Australian market as well.

The fake has no internal workings to trip the MCB during a fault. This could result in damage to property and harm to persons.

The information given below (courtesy of Schneider Electric UK) can help to identify the fake MCB. However the appearance of the fake may change.

The fake has a large multi9 logo at the top front and CE marking at the middle front. The fake is much lighter than the genuine product and is made of brittle plastic with light cream colouring instead of light grey.

Electrical worker's licence fraud results in prosecution

Simon Bunney was found guilty of carrying out electrical work without being authorised by an electrical worker's licence or permit in the South Hedland Court on 14 April 2008.

Investigation by EnergySafety found that Simon Bunney had obtained a fake electrical worker's licence and had used this licence to gain work as an electrician in the WA mining and marine industries. He has worked in those areas since March 2003.

Information has also been received that Simon Bunney may still be using this fake licence in an attempt to obtain further work as an electrician. This fraudulent activity has been referred to the WA

Police who are conducting further investigations for fraud.

Companies that have employed Simon Bunney should inspect all electrical work that he has carried out to ensure it is safe and does not pose a risk of danger to persons and property. EnergySafety would appreciate any person who has employed or come into contact with Simon Bunney to contact an Electrical Inspector at EnergySafety by telephoning (08) 9422 5261.

It is important that electrical worker's licences are checked by employers before employment to ensure they are valid, as it is a breach of the Regulations to employ an unlicensed person. The validity of licences (i.e. if the history of the person is not known) can be checked by contacting EnergySafety's Licensing Office on telephone number 9422 5258.

Prosecutions for breaches of electricity legislation 1 October 2007 to 30 April 2008

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
Gregory Ronald Jones T/As Aljon Electrics (Australind)	EC003633	E(L)R Regulation 51(1)	Failed to submit a Preliminary Notice to the Network Operator	700.00*	569.20*
Gregory Ronald Jones (Australind)	EW104929	E(L)R Regulation 49(1)	Carried out substandard electrical work	*	*

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
C & M Levien Pty Ltd (Wilson)	EC006106	E(L)R Regulation 52(1) (17 breaches)	Failed to submit a Notice of Completion to the relevant Network Operator for the electrical installing work	2,500.00	569.20*
Michael Levien (Wilson)	EW111273	E(L)R Regulation 63(1)	Failed to report an electrical accident to the Director of Energy Safety and the Network Operator	500.00	*
Kevin Greig (Maddington)	EW106857	E(L)R Regulation 63(1)	Failed to report an electrical accident to the Director of Energy Safety and the Network Operator	500.00	569.20*
		E(L)R Regulation 50(1)	Failed to provide effective supervision of an apprentice	1,500.00	*
Frank Italiano (Koondoola)	NLH	E(L)R Regulation 19(1)	Carried out electrical work without holding an electrical workers licence	1,000.00*	269.20*
		E(L)R Regulation 33(1)	Carried out electrical installing work without holding an electrical contractors licence	*	*
Michael Kinnear (Little Grove)	EW138543	E(L)R Regulation 49(1)	Carried out substandard electrical work	600.00	300.00
Mark Pedretti (Kununurra)	NLH	E(L)R Regulation 19(1)	Carried out electrical work without holding an electrical workers licence	600.00	300.00
Hoshang Tajam (Atwell)	EW132312	E(L)R Regulation 49(1)	Carried out substandard electrical work	1,500.00	569.20
Con Antoniou (Balcatta)	EW131020	E(L)R Regulation 52(1)	Failed to submit a Notice of Completion to the Network Operator upon completion of the electrical installing work	150.00	569.20
David Bennie (Melville)	EW131157	E(L)R Regulation 49(1) (4 breaches)	Carried out substandard electrical installing work	2,500.00	569.20
Jeffery Cairns (Roleystone)	EW104912	E(L)R Regulation 49(1)	Carried out substandard electrical installing work	2,000.00	256.20
Richard Horsley (Gelorup)	EW135516	E(L)R Regulation 49(1)	Carried out substandard electrical installing work	1,000.00	569.20
Mark Thomson (Heathridge)	EW123982	E(L)R Regulation 49(1)	Carried out substandard electrical installing work	750.00	569.20

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
Simon Bunney (Fremantle)	NLH	E(L)R Regulation 19(1) (3 breaches)	Carried out electrical work without holding an electrical workers licence	500.00*	769.20*
Datatel Communications (Mt Hawthorn)	EC006606	E(L)R Regulation 52(3) (1 breach)	Submitted a Notice of Completion to the relevant Network Operator when the electrical installing work was not complete	4,000.00	569.20
Leith Elsegood (Innaloo)	EW122358	E(L)R Regulation 50(1)	Failed to effectively supervise an apprentice	700.00	596.20
Jeffrey Haagensen (Safety Bay)	EW116603	E(L)R Regulation 33(1)	Carried on business as an electrical contractor without a licence	450.00	569.20
Glyn Hart (Kelmescott)	NLH	E(L)R Regulation 19(1)	Carried out electrical work without holding an electrical workers licence	4,000.00	569.20
Donald Hutton (Geraldton)	EW140346	E(L)R Regulation 49(1)	Carried out substandard electrical work	1,000.00	569.20
Wildflower Electrical Refrigeration Services (WA) Pty Ltd	EC004447	E(L)R Regulation 52(1)	Failed to submit a Notice of Completion for electrical work	2,500.00	569.20

Legend:

* Global fine and costs – more than one offence

NA Not applicable – no licence held

E(L)R Electricity (Licensing) Regulations 1991

Note: Offences where a conviction was recorded but a spent conviction order was issued are not shown in the above table.

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focus

Infringement notices

EnergySafety's gas inspectors have so far issued in excess of 50 Infringement Notices for non-compliant gas fitting work.

Of those, the majority were issued for:

- not installing an appliance in accordance with the manufacturer's installation instructions (35%);
- non submission of notices (24%); and
- not fixing the compliance plate to the gas installation having completed the gas fitting work (24%).

Random inspections of gas installations are being carried out by all the gas suppliers (LP Gas) and the principal network operator, WestNet Energy. Gas fitters who do not submit the appropriate notices are being caught.

How does this happen, you may ask?

Such situations typically come to notice by a smell of gas reported to the gas supplier, or an appliance that does not function correctly and the homeowner requests the appliance manufacturer to call for warranty repairs. The person conducting the warranty call is alerted to the fact that gasfitting has taken place and the gas appliance may have been fitted incorrectly.

A subsequent report is then made to the gas supplier. The homeowner or the person who originally requested the gasfitting work is then issued with an Inspectors Order by the gas inspector to have

this non-compliant work rectified. Further investigation by the gas inspector reveals the offender.

These are the most common scenarios when unlicensed or uncertified work is detected. An Infringement Notice for these offences currently incur a penalty of \$400 per offence. As a comparison, the penalty for unlicensed gasfitting work, an offence against Section 13A of the *Gas Standards Act 1972*, has increased from \$2,000 to \$50,000.

Inspections of gas installations are being conducted throughout the State. So, just because an installation may be considered remote, there is still a requirement to comply with the regulations.

In regard to the submission of the Completion Notice, if the gas supplier is unknown (LP Gas) or cannot be identified at the time the gas fitting work is completed, the Notice of Completion is required to be sent to EnergySafety.

Purchases from eBay

There has been a proliferation of gas appliances (water heaters, space heaters and cookers) advertised for sale on eBay.

Purchasers may not be aware that some of these appliances may not be covered by a manufacturer's warranty or may not be approved for use in Australia.

As a good plumber/gas fitter, you need to be vigilant in what the consumer is asking you to install.

There are now a number of recorded instances where

consumers have purchased these gas appliances only to be told that they cannot be installed. Gas appliances purchased may have been sourced from overseas and may not be designed to burn the range of fuel gases available in Australia.

In Western Australia only those gas appliances with the Australian Gas Association (AGA) or SAI Global certification, SAI Global or locally certified gas appliances may be connected. A gas fitter who connects an appliance that is not certified will attract an Infringement Notice. Be aware that these appliances have also been found in caravans and mobile homes.

Class E gasfitting permits: on-the-job work experience requirements for licensing

From 1 January 2008, EnergySafety has only recognised a training package for Class E licensing purposes with "on-the-job" work experience. Class E is gasfitting work associated with a mobile engine. The "on-the-job" work experience includes either of the following options after completion of the "off-the-job" based training.

Workplace Assessment Method

The trainee works under supervision of a licensed Class E gas fitter and completion of a logbook with a minimum of ten conversions on different types of vehicles within a 12 month or shorter period. This is the option **preferred** by EnergySafety (where the trainee is issued with an Interim Certificate

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by the Training Provider after satisfactorily completing the school based training course and applies for and is issued with an interim Class E permit by EnergySafety to work only under supervision). After having been assessed as having satisfactory knowledge and work experience, the Training Provider may issue a final Certificate to the trainee to enable him/her to apply for a Class E Permit for working on a particular type of gas mobile engine systems; or

Simulated Assessment Method

The trainee carries out a minimum of three simulated conversions on different types of vehicles within a month under direct supervision in a workshop training environment. This option is used only if the trainee resides in a regional or remote area where obtaining work for the trainee under supervision of a licensed gas fitter is impracticable and the training provider is satisfied that this is the only available option. After being assessed by the training provider as having performed satisfactorily and demonstrated the necessary skills to safely carry out a conversion, a final Certificate is issued to the trainee to enable him/her to apply for a Class E Permit for working on a particular type of gas mobile engine systems.

Both the 'Workplace Assessment Method' and the 'Simulated Assessment Method' are to consist of projects additional to those completed during the school based training.

After completion of school based training, these two methods of on-the-job training (with the required number of projects), , will be accepted by EnergySafety as fulfilling the requirements for issuing a Class E permit.

EnergySafety may continue to issue a Class E permit for working

on particular types of gas mobile engine systems, upon receiving an application from a trainee who provides a final Certificate. The trainee will have been assessed as having performed satisfactorily and demonstrated the necessary skills to safely carry out a conversion through the school based training, completed after 1 January 2008 and either one of the two methods of on-the-job assessment outlined above.

If an application for an interim or final Class E Permit is received with the school based training completed after this date, after 1 January 2008 and if either of the on-the-job training and experience options have not been completed, the application will be rejected by EnergySafety.

Attention employers of gas fitters

If you employ gas fitters you are required under regulation 34 of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* to keep a record of each gas fitter you employ to do gasfitting. This includes apprentices, contractors and authorisation holders.

Regulation 34 requires the record to contain:

- the name and address of the gas fitter;
- gas fitter's number;
- the gasfitting class; and
- any restriction that applies to the gas fitter.

The employer is required to keep this record up to date for the time the gas fitter is in their employ and for a period of two years after the gas fitter ceases his/her employment.

The employer is also required to make the record available for inspection at the request of a gas inspector during normal office

hours (8:30 to 17:00 Monday to Friday).

EnergySafety will be conducting audits of companies that employ gas fitters to ensure that the appropriate records are being kept.

Infringement notices may be issued for non-compliance with Regulation 34 which will incur the following current penalties:

- | | |
|---|-------|
| r. 34(1) Failing to keep records of employed gas fitters in required manner | \$250 |
| r. 34(3) Failing to keep records for required time | \$250 |
| r. 34(4) Failing to make records available for inspection | \$250 |

Further information on infringements and the penalties they attract can be found in the *Gas Standards (Infringement Notices) Regulations 2007*, which can be purchased from the State Law Publisher at:
10 William St
Perth 6000 Western Australia
or by visiting the State Law Publisher's website:
<http://www.slp.wa.gov.au>

Should you have any queries regarding this article please contact the EnergySafety Gas Inspection Branch on (08) 9422 5297.

Composite pipe

Gas fitters are employing different methods of connecting appliances when using composite pipe. Some are acceptable and others not. Refer to AS5601 clauses 5.6.2, 5.6.4 and Table 3.1. Some gas fitters have also been getting conflicting advice from suppliers, manufacturers and other gas fitters.

Gas fitters are reminded that they must be authorised and registered by the pipe manufacturer (Gas Focus No. 30 July 2006) to install composite pipe. To avoid any

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NOT acceptable

further confusion EnergySafety has determined the acceptable methods for connection to appliances.

When a regulator is fitted directly onto the appliance, it is part of the appliance and composite pipe is not permitted to be directly connected to the regulator. To comply, a section of copper pipe is used. A union must then be installed below the regulator.

Above are two methods of connecting an appliance.

- Acceptable 1 shows the regulator is remote from the appliance and connected by the appliance manufacturer's hose assembly.
- Acceptable 2 shows the regulator fitted directly to the appliance and is therefore part of the appliance.

Note: The means of the disconnection point must be at the inlet to the regulator.

In the case where the connection point is to a combination control (e.g. storage water heater) or an LP gas installation, copper pipe is the preferred method, composite pipe must not be used. In all cases, the union for disconnecting the pipe from the appliance **must be readily accessible**.



Acceptable 1



Acceptable 2

If you are unsure, ask!

Gas fitters who are unsure of Regulations or Standards interpretations (e.g. AS 5601) should consider contacting the gas supplier's inspectors or EnergySafety for advice. This is particularly important for projects that include repetitive installations such as blocks of flats, caravans, marine craft and transportables. The same goes for design changes on these installations. There have

been some recent cases where the gas fitter finds that they have made the same mistake on a number of units resulting in very costly rectifications and multiple notices of defects.

Gasfitters should ensure that they have current copies of both the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* and any relevant standards that apply to their gas fitting.

Interpretations of AS 5601 requirements (Gas focus 37 November 2005)

EnergySafety has a formal process for interpretations of AS 5601. Requests should be made by completing the form available from EnergySafety's website. The form is located on the website under "Regulation", "Interpretations of AS 5601 Gas Installations".

Composite pipe UV protection (AS 5601 Clause 4.11.4)

Composite pipe must be protected from ultra violet light (UV) where installed above ground. Gas fitters authorised to install such piping need to be aware of the UV protection required by the relevant manufacturer and should contact them for specific requirements and what type of pipe has suitable UV protection.

Accommodation villages at minesites and transportable homes

EnergySafety is looking at accommodation issues driven by the high demand for housing because of the current resources boom. Competent gasfitters/plumbers working in the trade are in high demand for repairs, servicing and construction work. The resources boom largely comprises fly in fly out (FIFO) workers accommodated into numerous camps/villages throughout this State. Mining companies realise that they must maintain a high standard of accommodation at these sites to attract and retain their workforce.

The accommodation for these villages is manufactured off site and transported in modules and assembled at the minesite. The larger minesites have power stations and use mostly electrical appliances with very little need for gas in the messes. The smaller camps use LP Gas fired appliances for catering and water heating. These all need to be serviced by a gasfitter or plumber on a regular basis to maintain efficiency.

When building these modules off site, there is a trend away from traditional materials (copper pipe) towards using composite pipe for gas and water. These practices are also being used in transportable homes. It is usual to build the complete structure then separate the structure into modules to enable transportation to site.

The regulations require that if the gasfitting lines are cut to enable transportation, the ends need to be sealed. Gas fitting work is to be compliant and this includes submitting the appropriate notices. The owner's copy of such notices for a transportable house can be placed in the kitchen drawer (along with the operating instructions for appliances) and the compliance badge fixed adjacent to the gas regulator.

When the modules are rejoined, a further pressure test is required and the appliances need to be commissioned. This work requires a second Notice of Completion to be submitted and a second compliance badge to be fitted covering this work.

Caravans and mobile homes

Gas fitting work on caravans is being more closely scrutinised following a number of complaints from consumers. Caravans and mobile homes are being imported into WA from both the Eastern States and from overseas. EnergySafety gas inspectors are finding that non-compliant steel pipe with malleable iron fittings is being used for the gas fitting lines and non-certified gas appliances are being installed.



Composite pipe ready to be connected



Water and gas piping ready to be connected

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Gas cylinders are sometimes also being housed within caravans which is not allowed and there is a lack of appropriate warnings displayed on the use of LP Gas within the caravan. The consumer can find they have a hefty bill to rectify these non-compliances. Unfortunately some of these caravans slip through the inspection regime currently in place in Western Australia.

EnergySafety is asking for your assistance in reporting any instances relating to non-compliances on caravans and mobile homes. Fortunately there have not been any serious incidents reported in recent times in Western Australia and this may be attributed to the diligence of gas fitters and plumbers in this State.



Flimsy, flexible aluminium flue

Gas appliances for installation in caravans advertised on Ebay

Some instantaneous gas water heaters which do not have Australian Gas Association or SAI Global certification are being advertised and sold on Ebay. There are claims being made by the advertiser that these are suitable for installation inside caravans and



An instantaneous gas water heater which does not have AGA or SAI Global certification

sheds on country blocks. They are illustrated in the advertisements with flimsy flexible aluminium flues and claimed to be able to be connected to LP Gas cylinders with flexible hose connections. Encouraging do-it-yourself installations is a dangerous practice.

Engineering student working at EnergySafety

EnergySafety again provided employment for a third year engineering student on work experience during the summer vacation period.

Javis Yee Lap Cheng worked with EnergySafety staff for about 14 weeks.

Javis is currently studying Mechanical Engineering at the University of Western Australia and is entering his fourth and final year. He worked in the Gas Directorate of EnergySafety, principally on utilisation projects. During his time with EnergySafety, Javis has:

- Assisted with investigations into the inspection rates of gas suppliers with Inspection Plans and Policy Statements;
- Prepared recommendations for variation/exemption applications;
- Researched the dimensional uniformity of composite pipes in Australia;
- Assisted in preparing a brochure on Gas Appliance Use in Public Venues; and
- Attended several independent Type A and Type B gas appliance certifications in the field.



In addition to the above tasks, Javis was also able to gain an understanding of the regulatory work done by EnergySafety and the incorporation of composite piping in the domestic gas sector.

Penalties for late submission of Notices of Completion

EnergySafety has reviewed its policy pertaining to late submission of Notices of Completion (NOCs).

It had been EnergySafety's policy to verbally or formally warn persons who submit notices after the 48 hour requirement. Some of these late submissions have been up to three months after completion of the gasfitting work, which is unacceptable.

Regulation 28 (3a) states:

The notice of completion must be given within 48 hours of the completion of the gasfitting work to each of the following:

- (a) *if the work was done on a mobile gas installation, or the gas supplier cannot be identified — the Director;*
- (b) *if the gas supplier can be identified and the work was not done on a mobile gas installation — the gas supplier;*
- (c) *the person for whom the gasfitting work was done,*

or as the Director otherwise approves in a particular case or class of case.

EnergySafety receives NOCs, on behalf of the Director, for fixed and mobile installations where the gas supplier cannot be identified.

EnergySafety has had to strengthen its policy as late submission of NOCs continues to be prevalent. This is done in an effort to ensure industry compliance.

As from 30 June 2008 any late NOCs received by the appropriate recipients will be assessed with a view to actioning an Infringement Notice or Prosecution.

The Infringement fine applicable to such a breach is currently \$400 for each late notice.

Successful prosecution through the Courts carries a maximum fine of \$50,000 for each breach.

It is hoped that this new policy will encourage gas fitters to submit NOCs as required.



Product Safety Recall



Raypak Pool And Spa Heaters

Serial Number Type	Prefix
If alpha-numeric	AL 0507 (i.e. 2005, July) to AL 0708 (i.e. 2007, August) or AN 0507 (i.e. 2005, July) to AN 0708 (i.e. 2007, August)
If numeric only	2007 08 (i.e. 2007, August) to 2008 02 (i.e. 2008, February)



Control panel 24cm x 8.5cm
Background may be black or grey

If your Raypak pool or spa heater was installed after 1st July 2005 and has a built in control panel which looks like the photo on the left, then this is likely to be an affected unit.



Defect Detail:
Water inadvertently entering the unit may lead to a partial malfunction of the over-temperature thermostat control. If this malfunction occurs, there could be a risk of scalding from pool or spa water at temperatures that could exceed 45°C. This is especially a risk in the case of small pool or spa applications where water volume is small and temperatures can rise quickly.

Consumer Action:
Please call toll free on **1800 063 018** between the hours of 8:00 am and 8:00 pm AEDST. Raypak will be arranging to undertake on site service modifications in order to eliminate the potential for this malfunction. These modifications will be made free of charge.

Note: If your unit is used to heat a spa, fully enclosed indoor pool, plunge pool or small lap pool, please immediately disable the unit by turning off the power switch and disconnecting the appliance power cord. For all other pools, turn off the unit as above prior to using the pool, and check the pool temperature before entering the water.

Raypak Australia Pty Ltd, 39 Koornang Road, Scoresby Vic 3179
ABN: 65 078 743 414 **Email:** poolspa@raypak.com.au

See www.recalls.gov.au for
Australian Product Recall Information

Prosecutions for breaches of gas legislation 1 October 2007 to 30 April 2008

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
Jeffery Steele (Pinjarra)	GF 010959	GSR Regulations 28(2), (3a)(b) and (c)	Failed to fit a compliance badge to the gas installation Failed to submit a Notice of Completion to the gas supplier Failed to give a copy of the Notice of Completion to the customer	250.00	480.70
William Koresec (Yangebup)	GF 010752	GSR Regulations 28(2), 28(3), 28(3a)(b), 28(3a)(c), 18, 32	Failed to fit a compliance badge to the gas installation Failed to submit a Notice of Completion to the gas supplier Failed to give a copy of the Notice of Completion to the customer Failed to ensure fire resistant material or air space of 25mm between the case of the heater and any combustible material	500.00	569.20
Owen Vaughan (Wilson)	GF 007678	GSR Regulations 28(2), 28(3a)(b), 28(3a)(c),	Failed to fit a compliance badge to the gas installation Failed to submit a Notice of Completion to the gas supplier Failed to give a copy of the Notice of Completion to the customer	400.00	569.20
Greg Carli (Palmyra)	GF 006677	GSR 20(1)(b)	Failed to ensure the appliance was installed in accordance with the manufacturer's installation instructions	800.00	569.20
Terrence Allen (Huntingdale)	NA	GSA 13A(2)	Failed to hold a certificate of competence, permit or authorisation granted under the Act and relevant to that operation or such work or process authorising him so to do	1,000.00	569.20
John Francis Naris (Toodyay)	NA	GSA 13A(2)	Carried out gasfitting work while not holding a certificate of competency, permit or authorisation allowing him to do so	300.00	569.20

Legend:

NA Not applicable – no licence held

GSA Gas Standards Act 1972

GSR Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999