

# energy

## Bulletin

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## EnergySafety now reports to Minister for Employment Protection

Recently the Government completed an important change associated with the "Machinery of Government" initiatives of 2001, which were designed to reduce the number of departments and bring together relevant functions. The first part of that change resulted in EnergySafety transferring from the Office of Energy in 2002 to become a Division of the (then) new Department of Consumer and Employment Protection (DOCEP).

The final part of the change took place early in January 2007 when the legislation that EnergySafety administers on behalf of its responsible Minister was transferred from the portfolio of the Minister for Energy to that of the Minister for Employment Protection John Bowler JP MLA.

This now means that EnergySafety, which handles most of the technical and safety regulation of the State's energy industry, is now reporting to the same Minister as DOCEP's Resources Safety Division (which deals with mining industry occupational health and safety, safety standards for dangerous goods etc) and DOCEP's WorkSafe Division (which deals with general industry occupational health and safety). As can be seen, the departmental and ministerial portfolio changes provide opportunities for enhanced information sharing on various types of regulatory work including policy development and compliance programs.

EnergySafety will of course continue to work in collaboration with its colleagues in the Office of Energy on matters of mutual

interest (such as energy efficiency policies and regulation enforcement) and as required provide support to the Minister for Energy's office on technical issues and emergency management for the State's energy industry. Furthermore it should be noted that EnergySafety also provides technical support to the Economic Regulation Authority and the Energy Ombudsman and this will continue.

The portfolio change is an important separation of functions however, since it means that the regulatory functions are now with the Minister for Employment Protection, whilst the Government's energy businesses such as Western Power, Horizon Power, Synergy and Verve Energy continue to be the responsibility of the Minister for Energy.

Lastly, I'd draw to the attention of our readers that in line with Energy Bulletin No. 39 (July 2006), during September 2006, EnergySafety (including the Licensing Office) relocated to offices at 303 Sevenoaks Street, corner of Grose Avenue, Cannington WA 6107. Therefore, please note that our offices at West Leederville are now closed. However, our phone and fax numbers have not changed.

On behalf of all at EnergySafety, I wish all our readers a safe and prosperous 2007!



ALBERT KOENIG  
DIRECTOR OF ENERGY SAFETY

## EnergySafety



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## Western Power's Wood Pole Management Systems: Regulatory Compliance Audit 2005

Late in December 2006, EnergySafety released a summary on the outcome of its 2005 compliance audit into Western Power's wood pole management systems.

The findings show that the new Western Power, which in April 2006 took over the ownership and operation of the South West Interconnected System (SWIS) comprising both electricity transmission and distribution assets, needs to make significant improvements to many of its processes and systems. This is because it inherited these electricity assets and related engineering practices from the previous corporation also trading as Western Power, which was the subject of the audit.

Western Power has responded very constructively to the audit findings, accepting many of the issues that EnergySafety identified need to be addressed to achieve compliance with the relevant Regulations and has committed to achieving the industry target pole failure rates by 2009.

Why was this significant audit undertaken? Western Power has some 690,000 plus wood poles in service. The structural safety of each pole is significantly affected by its selected strength versus load forces from power lines and wind, and the gradual deterioration of the pole's strength through wood pole rot and termite attack. Cases of inadequate pole structural safety can present serious hazards to the community in the form of falling

poles, electric shock and potential wild fire problems from low or fallen live wires, and unplanned power interruptions.

The 2005 audit project therefore aimed to comprehensively assess how well Western Power's pole systems comply with the regulations that EnergySafety administers under the *Electricity Act 1945*.

In particular, the audit was designed to assess whether the processes and procedures Western Power uses when:

- purchasing and selecting wood poles, then
- designing, constructing and later inspecting power lines, and then
- reinforcing (for life extension) and eventually replacing wood poles

in overhead power lines are sound and ensure that all poles placed into service or already in service are safe from a structural perspective. This means that engineering standards have to be compliant and work procedures such as the replacement of 'condemned' poles must be timely and competently executed. The project was not intended to, and did not, identify specific poles that may not be sufficiently strong to meet the required technical standards.

Key findings of the 2005 audit were that:

- a) wood poles in Western Power's networks are failing at twice the Australian electricity industry



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- target rate (one pole per 10,000 poles in the networks per year, on a three year rolling average) and at least five times the rate of the leading electricity supply network operators in Australia;
- b) Western Power's pole condemnation rates and replacement rates are substantially below the levels that would give confidence that unserviceable (potentially unsafe) poles are being identified and replaced in a timely way to ensure the safety of the poles in service in its networks; and
- c) wood pole inspection and strength assessment practices employed by Western Power need to be significantly improved (eg. so as to reduce and eliminate a major backlog).

The more detailed audit report summary can be found on EnergySafety's website.

EnergySafety will follow up with Western Power on the specific issues identified for Western Power to address, and the issues that were not adequately resolved though the audit to date.

EnergySafety considers the audit has made a significant contribution to improving community safety and electricity network performance and that it indicates the value of the regulatory processes that came into effect in early 2002.

EnergySafety also believes that the new Western Power, which came into being in April, 2006 should be much better equipped than its predecessor for complying with the extensive public safety obligations associated with owning and operating a physically large electricity network, particularly one with many wood poles. This is because unlike its predecessor, the new Western Power has as its principal business focus, the engineering, maintenance and operation of the South West Interconnected System (SWIS) electricity network.

## Report on activities 2005-06

**This report on activities overviews the work of EnergySafety during the financial year 2005-06.**

EnergySafety is a Division of the Department of Consumer and Employment Protection. Albert Koenig is the Executive Director of Energy Safety and has the statutory title of Director of Energy Safety.

EnergySafety comprises three Directorates:

1. Gas & Emergency Management – headed by Geoff Wood;
2. Electricity – (appointment to be announced); and
3. Business Services – headed by Margaret Allen.

EnergySafety's functions include:

- administering electricity and gas technical and safety legislation and providing policy and legislative advice to Government;
- setting and enforcing safety standards for electricity and gas networks;
- enforcing natural gas and LP Gas quality standards;
- providing technical advice and support to the Economic Regulation Authority and the Energy Ombudsman;
- at the request of the Economic Regulation Authority or Energy Ombudsman, investigating the performance of network operators, particularly in respect of energy supply reliability and quality;
- setting and enforcing safety standards for consumers' electrical and gas installations and appliances;
- enforcing energy efficiency standards for electrical and gas appliances;
- licensing electrical contractors, electrical workers and gas fitters;
- carrying out investigations of electrical and gas incidents;

- managing liquid fuel and providing advice to the Minister for Energy on gas supply emergencies; and
- promoting energy infrastructure security and resilience.

## Major policy work

### Amendments to Part IX of the Electricity Regulations 1947

EnergySafety continued to progress amendments to Part IX of the *Electricity Regulations 1947* to generally improve the electrical safety of electrician work practices and to introduce strict controls on performing electrical work on, or close to, 'live' parts. A number of serious electrical accidents during the year may have been prevented if this legislation had been in place. This work is expected to be concluded during 2007.

### Industry funding of EnergySafety

Legislation to provide for Western Australia's electrical and gas industries to fully fund EnergySafety was introduced into State Parliament in October 2005 and passed during June 2006, following review by a Standing Committee of the Legislative Council. The *Energy Safety Act 2006* enables the Government each year to apply a levy to electricity network operators and gas distributors (natural gas and LP Gas). Funds from this levy, when added to the revenue EnergySafety already receives from electrical and gas licensing fees, fully funds EnergySafety, effective from 1 July 2006.

The legislation requires the Minister for Employment Protection to determine the levy amount and how the levy will be allocated between the electricity and gas industries. Late in June 2006, the Minister decided, following the earlier public release of EnergySafety's Business Plan and consultation on the legislation

with the Chamber of Minerals & Energy WA and the Chamber of Commerce and Industry WA, that the levy would be \$4.488M. This amount plus expected electrical and gas licensing fees provides EnergySafety with a total estimated budget of \$6.845M for 2006-07.

From EnergySafety's perspective, the improved funding is a very positive step forward. Effort can now be made to improve EnergySafety's capacity and effectiveness for enforcing and maintaining the regulatory framework, whilst also carrying out emergency management work and promoting energy safety.

#### **Memoranda of Understanding with Economic Regulation Authority and the Energy Ombudsman's Office**

EnergySafety developed a Memorandum of Understanding to provide technical and safety advice and compliance/complaint investigation assistance to the Economic Regulation Authority and also to the Energy Ombudsman's Office. The MoUs are now in place.

#### **Indian Ocean Territories**

EnergySafety signed a Service Delivery Arrangement (SDA) with the federal Department of Transport and Regional Services to strengthen the Department of Consumer and Employment Protection's commitment to servicing Christmas and the Cocos (Keeling) Islands. Electrical and gas inspections are carried out on a regular basis.

#### **Guidelines for safe use of outdoor gas heaters and barbecues**

EnergySafety published two new brochures on the safe use of gas:

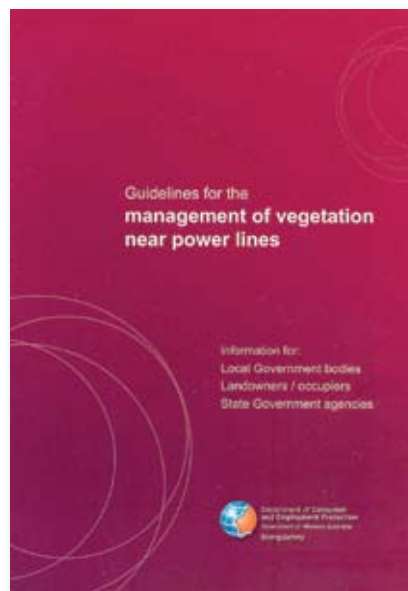
- "Safe locations for using gas barbecues" – information for builders, gas fitters and consumers about where domestic and commercial barbecues may be installed and used.
- "Safe use of outdoor gas patio heaters" – guidelines on where

these popular appliances may be safely used.

The new brochures were distributed through gas suppliers and relevant industry organisations. They are available from EnergySafety's website.

#### **Guidelines for the management of vegetation near power lines**

Following a season of serious fires, accidents and fatalities, EnergySafety published a new document on guidelines setting out responsibilities for controlling and clearing vegetation around power lines. Serious fires, accidents and loss of supply can occur when vegetation is not kept clear of overhead power lines. The new publication was widely disseminated to network operators, local government organisations, industry stakeholders and the community. The publication is also available from EnergySafety's website.



#### **Electrical and gas safety awareness**

EnergySafety concluded a series of electrical and gas safety awareness advertisements on television. Three 'electrical safety' advertisements promoted the benefits of safety switches and the need to always use a licensed electrical contractor (as opposed to 'doing it yourself').

Three 'gas safety' advertisements promoted the need to maintain gas appliances (in particular, barbecues and space heaters) and the importance of an appropriate person being in attendance when gas hotplates are operating. Market research into the effectiveness of the campaign showed excellent community recognition of these important safety messages.

#### **Natural gas conversion project**

EnergySafety oversaw the successful conversion by Alinta of The Vines estate, from LP Gas to natural gas. The project was completed without incident.

#### **Introduction of gas fitter demerit system**

In conjunction with gas suppliers, EnergySafety introduced a Gas Fitter Demerit System to monitor the performance of gas fitters. The process identifies errant gas fitters who regularly leave defects in installations or breach legislation. The objectives of the system are to improve installation safety and to maintain adequate gas fitter performance and competence. Gas fitters will, some time in the future, be able to view their own demerit status on EnergySafety's website.

#### **A process to obtain formal interpretations of Australian Standard AS 5601**

EnergySafety introduced a formalised process for gas industry operatives to obtain 'interpretations' of the requirements of Australian Standard AS 5601 "Gas installations". The interpretations are published on EnergySafety's website.

#### **Review of electrical appliance safety regime**

EnergySafety commenced a review of the electrical appliance safety regime in conjunction with other members of the national Electrical Regulatory Authorities Council (ERAC).

### Energy Industry Assurance Advisory Group (EIAAG)

EnergySafety continues to actively participate in the national Energy Industry Assurance Advisory Group which aims to improve the resilience of critical energy industry infrastructure, covering the supply of electricity, liquid fuels and gas. Participation is by attendance, information exchange and organising local workshops.

### National plan to manage liquid fuel shortage emergencies

Through participation on the National Oil Supplies Emergency Committee, EnergySafety has made major contributions to the development of the national plan to manage liquid fuel shortage emergencies.

### Gasfitting Safety Award

EnergySafety presented the inaugural annual Gasfitting Safety Award in conjunction with the annual Master Plumbers and Gasfitters Association Awards for Excellence event. The inaugural award was presented to Andrew Sellar. Andrew was nominated by Alinta for his meticulous work over many years.

### The effect of emissions of flue-less gas space heaters

EnergySafety continued to monitor the work being undertaken by the

national enHealth Council and gas appliance manufacturers in relation to the effect of emissions on indoor air quality from the new generation of low emission, flue-less gas space heaters. EnergySafety also commenced work on changes to restrict the future installation of flue-less gas space heaters in schools and similar institutions.

## Other policy work

### Standards development work

During the year, EnergySafety played a significant role in redrafting Australian Standards relating to electricity substations and also gas distribution networks.

### Committee participation

EnergySafety is involved in a number of national regulatory coordination and technical standards bodies, including:

- National Regulatory Coordination Bodies
  - Electrical Regulatory Authorities Council (ERAC)
  - Gas Technical Regulators Committee (GTRC)
  - National Appliance and Equipment Energy Efficiency Committee (NAEEEC)
  - National Oil Supply Emergency Committee (NOSEC)

- National Standards Councils, Boards and Committees
  - Council of Standards Australia (representing the Government of WA)
  - Standards Accreditation Board
  - Electrotechnology Sector Standards Policy Board
  - Gas Technical Standards Council
  - AG6 Gas Installations
  - AG8 Gas Distribution
  - AG9 Natural Gas Vehicle Technical Standards
  - AG10 Specification for Natural Gas Quality
  - AG11 Gas Component & Industrial Equipment Standards Committee
  - CH-038 Liquefied Petroleum Gas
  - EL1 Wiring Rules and related sub-committees
  - EL2 Electrical Appliance Safety
  - EL4 Electrical Accessory Safety
  - EL11 Electricity Metering
  - EL42 Renewable Energy Power Supply Systems
  - EL43 High Voltage Electrical Installations
  - ME46 Gas Fuel Systems for Vehicle Engines.

## Compliance enforcement activities

Highlights of this work include:

- EnergySafety continued to progress a major audit of Western Power's wood pole management systems for compliance with regulatory safety requirements. One of the preliminary key outcomes is that Western Power is not replacing enough of its 800,000 ageing wood poles each year. EnergySafety's report of the findings of the audit was published in December 2006.



*Geoff Wood, Director Gas & Emergency Management, EnergySafety (right), congratulating Andrew Sellar on receiving the Gasfitting Safety Award*

- EnergySafety carried out intensive inspection programs of gas installations in the Great Southern, Goldfields, Kimberley and Abrolhos Islands.
- EnergySafety also required Western Power to continue its country area survey to identify long conductor spans and to take appropriate actions to prevent conductors clashing, reducing future fire and safety risks.

## Serious accidents and fatalities

### Serious electricity related accidents and fatalities

The following were reported to EnergySafety during the year:

Electric shocks:	1,317
Serious electricity related accidents <sup>1</sup> :	31
Fatalities (included in serious electrical accidents):	3

**Table 1: Serious electricity related accidents<sup>1</sup> notified per million population**

Year	Serious Electricity Related Accidents per Million Population	Five year average
1996-97	14	23
1997-98	14	20
1998-99	21	19
1999-00	15	17
2000-01	11	15
2001-02	12	15
2002-03	16	15
2003-04	16	14
2004-05	23	14
2005-06	15	16

**Note:** In the above table, some of the numbers of serious electricity related accidents notified per million population differ from the figures given in previous reports on activities. These corrections resulted from a comprehensive review of statistics of serious electricity related accidents notified.

<sup>1</sup> Electrical shock incidents resulting in the person requiring assessment and/or treatment at a medical facility

The electrical accident rate for the reporting period was 15 accidents per one million population, a decrease below the 23 per million in the previous year. However, the relatively high number of injuries occurring in 2004-05 has contributed to a slight upward trend when the results over the past ten years are considered.

The figure of 15 serious electricity related accidents per million population is still unacceptably high. It is anticipated that a number of new initiatives proposed for 2006-07 will contribute to a downward trend in the future.

The serious electricity related accidents included three fatalities in which electricity was found to be the cause:

- A linesman received a fatal electric shock when he came into contact with, or in the vicinity of, live high voltage aerial conductors.
- A person received a fatal electric shock when he made contact with the exposed 1,000 volt terminals in a switchboard.
- A person received a fatal electric shock when a piece of metal with which he was in contact pierced a 3-phase extension cord, contacting a live conductor.

### Gas related incidents and fatalities

The following were reported to EnergySafety during the year:

Gas incidents:	16
Serious gas related accidents (persons injured):	16
Fatalities:	0

**Table 2: Serious gas related accidents notified per million population**

Year	Serious Gas Related Accidents per Million Population	Five year average
1996-97	4	8
1997-98	6	7
1998-99	5	6
1999-00	3	6
2000-01	7	5
2001-02	11	6
2002-03	10	7
2003-04	8	8
2004-05	8	9
2005-06	8	9

**Note:** In the above table, some of the numbers of gas related accidents notified per million population differ from the figures given in previous reports of activities. These corrections resulted from a comprehensive review of statistics of gas related accidents notified.

The gas accident rate for the reporting period was eight serious accidents per one million population, the same as the eight per million in the previous year.

Whilst the long term trend remains upward due to high numbers of injuries in 2001-02, a downward trend is evident over the past four years.

There were no gas related fatalities.

## Prosecution action for breaches of legislation

The following tables provide summaries of prosecutions finalised during 2005-06:

### Summary of prosecution action for breaches of electricity related legislation

<b>Legislation</b>	<b>Breach</b>	<b>Number of Offences</b>	<b>Fines (\$)</b>	<b>Court Costs (\$)</b>
<i>Electricity Act 1945</i>	<i>Section 33(B)(2)</i>	9	1,000.00	320.70
<i>Electricity Regulations 1947</i>	<i>Regulation 242(1)(a)</i>	2	25,000.00	961.40
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 19(1)</i>	25	6,950.00	3,976.80
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 33(1)</i>	10	* 4,100.00	* 0.00
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 49</i>	18	11,050.00	* 5,110.05
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 50A</i>	2	3,000.00	811.15
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 51(1)</i>	3	1,050.00	0.00
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 52(1)</i>	5	2,450.00	754.15
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 52(3)</i>	6	6,000.00	1,605.10
<i>Electricity (Licensing) Regulations 1991</i>	<i>Regulation 54(1)(b)</i>	5	2,500.00	0.00
<i>Electricity (Supply Standards and System Safety) Regulations 2001</i>	<i>Regulation 10</i>	2	17,500.00	757.70
<i>Totals</i>		87	80,600.00	14,297.05

\* Global Penalty (more than one offence)

### Summary of prosecution action for breaches of gas related legislation

<b>Legislation</b>	<b>Breach</b>	<b>Number of Offences</b>	<b>Fines (\$)</b>	<b>Court Costs (\$)</b>
<i>Gas Standards Act 1972</i>	<i>Section 13A(2)</i>	2	850.00	800.70
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 8</i>	1	* 1,000.00	* 550.70
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 18(1)</i>	1	450.00	525.70
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 26(1)(a)</i>	1	*	*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 28(2)</i>	7	8,150.00	2,358.50
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 28(3a)(b)</i>	7	*	*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 28(3a)(c)</i>	7	*	*
<i>Totals</i>		26	10,450.00	4,730.60

\* Global Penalty (more than one offence)

## Licensing of industry operatives

### Electrical licensing

At 30 June 2006, there were **24,724** electrical workers, **3,231** electrical contractors and **238** in-house licence holders registered.

The Electrical Licensing Board grants licences to eligible electrical operatives and conducts formal disciplinary proceedings against operatives where appropriate.

Members of the Electrical Licensing Board as at 30 June 2006 were:

- Mr P Jensen – Chairman
- Mr J Murie – Representing the

- interests of electrical workers
- Mr P Beveridge – Representing the interests of electrical contractors
- Mr R Butterworth – Representing the interests of electrical workers with restricted licences
- Ms L Miranov – Representing the interests of large businesses, who are consumers of electrical services
- Mr R Forrest – Representing the interests of small businesses, who are consumers of electrical services
- Ms V Buckley – A residential consumer of electrical services

- Mr A Tunnicliffe – Nominated by the Director of Energy Safety

The Electrical Licensing Board met **24** times during the year.

### Gas licensing

At 30 June 2006, there were **7,867** persons registered for gasfitting work.

The Gas Licensing Committee operates under delegated authority of the Director of Energy Safety and considers applications for licences for gas operatives.

The Gas Licensing Committee met **17** times during the year.

## LG Electronics to compensate consumers over misleading energy ratings

Manufacturer LG Electronics Australia Pty Ltd has been required to give a court-enforceable undertaking to return up to \$3.1 million in rebates to eligible consumers who bought one of five popular models of LG air conditioner models that did not comply with the energy efficiency values claimed on their energy rating labels.

The Australian Competition and Consumer Commission found that more than 15,000 mislabelled air conditioners were sold in the market.

The ACCC investigation followed a complaint by the Australian Greenhouse Office.

Commenting on the matter, ACCC Chairman Mr Graeme Samuel said “Consumers need to have confidence that they can use the star rating of an air conditioner to make an informed choice between competing brands”.

Energy labelling of domestic electrical whitegoods and air-conditioners is mandatory in most States and Territories.

EnergySafety is the regulatory body which administers the

energy labelling program in Western Australia. The *Electricity Regulations 1947* require all new domestic appliances of the required categories to have an energy label registered and clearly displayed on the article when sold.

The ACCC, the AGO and state energy regulators will continue to work together to ensure compliance with the energy labelling system.

More information on the energy labelling system is available from the AGO's Energy Rating website at [www.energyrating.gov.au](http://www.energyrating.gov.au).



# electrical focus

## Amendments to Part VIII of the Electricity Regulations 1947

Part VIII of the *Electricity Regulations 1947* has been amended and came into effect on the date of gazettal, 31 October 2006.

The amended regulations will have some affect where electrical contractors make contact with 'network operators' for the purposes of electrical installing work eg. seeking rulings, submitting Notices.

The amendments are summarised as follows:

- The regulations now refer to 'network operators' instead of 'supply authorities'.
- Some network operators (previously supply authorities) had inspection obligations and related Inspection System Plans / Policy Statements under the previous regulations. Those obligations continue.
- All other entities lawfully operating transmission works, distribution works or service apparatus, whether licensed by the Economic Regulation Authority or not, must inspect consumer's electrical installations for compliance before connecting a new or modified installation. This can be achieved either by inspecting every installation or by adopting a sampling arrangement under an Inspection System Plan and Policy Statement approved by the Director of Energy Safety.
- Network operators with and without Inspection System Plans must now report to EnergySafety all defect orders

issued by their inspectors and all accidents on the consumer's installations reported to them.

- Network operators may make contracts with other network operators to provide inspections or may nominate their own personnel for designation as Inspectors (Electricity). All Inspectors (Electricity) continue to be required to be designated by the Director of Energy Safety.
- Other changes have also been made to delete or amend a range of dated, prescriptive requirements dealing with the business activities of supply authorities (now network operators).

## Working in roof spaces can be fatal

An electrical fatality in October 2006 is yet another unfortunate incident that would not have occurred if electricity supply had been isolated while a person was working in a roof space.

An electrician was installing some wiring for a kitchen renovation and needed to check the connections to the wiring in the roof space of the house. The space had a clearance of about 500 mm so, to access the wiring junction, the electrician had to crawl into the area and lie across the ceiling joists and earthed copper pipes. The wiring junction also contained a live cable for socket outlets in the house. The electrician touched this live conductor at the wiring junction and received a fatal electric shock.

As in most fatalities, a series of circumstances existed that resulted in the fatality. Safety switches were

not fitted to protect the wiring in the house. And the deceased was not wearing suitable protective clothing.

***Electricians, as well as home occupiers and trades people, including refrigeration mechanics and gas fitters, are at risk when they enter a roof space.***

**All people entering a roof space for any reason should always:**

- **Turn the main switch OFF (the switch controlling all the circuits)**
- **Let someone know you will be entering the roof space**
- **Ensure there is adequate lighting (use torches etc)**
- **Inspect the workplace for hazards – use insulating mats, suitable clothing etc to manage any hazards**
- **Proceed with caution**

***Following these simple steps could prevent serious accidents and death.***

## Another serious 'live work' accident that could have been avoided

In a recent serious electrical accident, an electrician received flash burns to his hand and face while working in the vicinity of live electrical equipment at the rear of a 400 volt distribution switchboard.

The electrical work involved the upgrade of the existing LV metering arrangement, which included the installation of new current transformers on the supply side of several individual 'combined fuse switch' (CFS) units.

The distribution switchboard was left energised during the work. However, each individual CFS unit was isolated to facilitate the installation of the CTs. A barrier was also installed between the adjacent live CFS units at the rear of the distribution switchboard while the work was carried out.

Prior to isolating the last CFS unit, the electrician was preparing the current transformers and associated wiring. One of the CT conductors flicked up and contacted a live 400 volt uninsulated supply cable termination lug on the rear of the CFS unit. There was a resulting short circuit and flashover. The electrician received burns from the flashover.

Although a barrier had been installed between adjacent live CFS units at the rear of the distribution switchboard, there was no barrier over the live cable connections.

**This serious accident could have been avoided** if either the switchboard had been isolated or appropriate barriers had been fitted to insulate all the live parts from the components to be worked on.

Readers may recall earlier articles in Energy Bulletins No.35 (April 2005) and No.27 (April 2003) about the review and proposed changes to Part IX "General safety requirements for electrical work" of the *Electricity Regulations 1947*

to address an increasing number of serious electrical accidents involving electrical workers.

The changes to the regulations are being finalised and will include requirements to ensure that where electrical work really needs to be carried out on or close to live 230/400 volt equipment, it will be controlled within strict safety requirements. This should ensure effective management of the safety risk and prevent further similar serious accidents taking place.

***Remember! Working on or close to live 230/400 volt equipment can be avoided in most cases by arranging isolation of the equipment before starting work or by using the correct safety procedures to prevent injury to you and others and to prevent damage to the equipment.***

Remember to always take the safest option when planning the work and you will go home safe and sound.

### **Equipotential bonding of metallic water pipes**

Clause 5.8.2.2 of AS/NZS 3000:2000 "Wiring Rules" requires that any metallic water piping associated with a building shall be connected by means of an equipotential bonding conductor to the main earthing conductor where the piping is:

- installed within the building containing the electrical installation; and
- metallically continuous from inside the building to the point of contact with the ground.

In installations that incorporate PVC water piping, any metallic tee-offs in contact with the ground and entering the building must be also bonded, as required by the Wiring Rules.

This equipotential bonding requirement is also contained in Clause 5.6.2.2 of AS/NZS 3018:2001 "Electrical installations – Domestic installations".

### **Electrical safety warning – Clipsal four-gang power points**

Clipsal Australia P/L recently announced an electrical safety recall of one of its electrical accessories.

Up to 500 Clipsal Classic Series white only four-gang socket outlets, Catalogue No. C2015D4, were distributed with the red and green terminal identification markers reversed on the back of the accessory.

If wired in accordance with the colour markings, the affected socket outlets can create a potential electrical safety hazard. An electric shock, fatality or property damage may result.

The affected accessories were distributed to electrical wholesalers throughout Australia around 27 July 2006.

Affected socket outlets should be returned immediately to Clipsal. Those that have already been installed should also be replaced and returned to Clipsal.

Further information on this electrical safety recall is available from the Clipsal Trade Hotline by telephoning 1800 800 876 and on the Australian Product Recall website [www.recalls.gov.au](http://www.recalls.gov.au).



*Area of flashover at the rear of the CFS unit*

## Prosecutions for breaches of electricity legislation 1 April 2006 to 31 October 2006

<b>Name (and suburb of residence at time of offence)</b>	<b>Licence No.</b>	<b>Legislation and Breach</b>	<b>Offence</b>	<b>Fine (\$)</b>	<b>Court Costs (\$)</b>
Leslie Banton (Hamilton Hill)	EW 141824	E(L)R Regulation 19(1)	Carried out electrical work without holding an electrical mechanics licence	800.00 *	768.45 *
Stephen Moss (Roelands)	NA	E(L)R Regulation 19(1)	Carried out electrical work without holding an electrical mechanics licence	800.00	550.70
Leslie Banton (Hamilton Hill)	EW 141824	E(L)R Regulation 33(1)	Carried on business as an electrical contractor without a licence	*	*
Keith Dalton (Waikiki)	EW 141982	E(L)R Regulation 33 (6 breaches)	Carried on business as an electrical contractor without a licence	750.00	475.70
Philip Armitage (Jane Brook)	EW 117047	E(L)R Regulation 49(1) (2 breaches)	Carried out substandard electrical work	500.00	468.45
Michael Cheeseman (Munster)	EW 138762	E(L)R Regulation 49(1)	Carried out substandard electrical work	1,000.00	475.70
Nathan Earle (Armadale)	EW 131392	E(L)R Regulation 49(1)	Carried out substandard electrical work	750.00	475.70
Francis Gidley (Singleton)	EW 144015	E(L)R Regulation 49(1)	Carried out substandard electrical work	2,000.00	410.70
John Kenwright (Singleton)	EW 108063	E(L)R Regulation 49(1)	Carried out substandard electrical work	500.00	400.70 *
Michael Lutz (Bridgetown)	EW 108009	E(L)R Regulation 49(1) (2 breaches)	Carried out substandard electrical work	900.00	400.70
Joseph Mills (Woodvale)	EW 105253	E(L)R Regulation 49(1)	Carried out substandard electrical work	1,000.00 *	282.70 *
James Mullen (Currumbine)	EW 129893	E(L)R Regulation 49(1)	Carried out substandard electrical work	750.00	545.70
Sheldon Pettit (Australind)	EW 139779	E(L)R Regulation 49(1)	Carried out substandard electrical work	750.00	550.70
Philip Stewart (North Yunderup)	EW 124175	E(L)R Regulation 49(1)	Carried out substandard electrical work	1,000.00 *	480.70 *
Cameron Trueman (Albany)	EW 107824	E(L)R Regulation 49(1)	Carried out substandard electrical work	#	475.00 *

<b>Name (and suburb of residence at time of offence)</b>	<b>Licence No.</b>	<b>Legislation and Breach</b>	<b>Offence</b>	<b>Fine (\$)</b>	<b>Court Costs (\$)</b>
<i>AB Tilbury P/L t/a AB Tilbury P/L (Bayswater)</i>	<i>EC 001327</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>1,500.00</i>	<i>475.70</i>
<i>Ausglow Nominees P/L t/a Wiring 2000 (Kardinya)</i>	<i>EC 002378</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>1,000.00</i>	<i>435.70</i>
<i>Interlec WA P/L t/a Interlec WA P/L (Bibra Lake)</i>	<i>EC 003907</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>1,000.00</i>	<i>475.70</i>
<i>John Kenwright t/a JPK Electrical (Singleton)</i>	<i>EC 005213</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>250.00</i>	<i>*</i>
<i>L&amp;A Electrics South West P/L (Bunbury)</i>	<i>EC 007554</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>750.00</i>	<i>550.70</i>
<i>Joseph Mills t/a Seacrest Electrical Services (Woodvale)</i>	<i>EC 004164</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>*</i>	<i>*</i>
<i>Philip Stewart t/a WA Remote Electrical (North Yunderup)</i>	<i>EC 007295</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>*</i>	<i>*</i>
<i>Cameron Truman t/a Albany Electrical Services (Albany)</i>	<i>EC 002200</i>	<i>E(L)R Regulation 52(3)</i>	<i>Submitted a Notice of Completion to the relevant supply authority when the electrical installing work was not complete</i>	<i>#</i>	<i>*</i>
<i>Boguslaw Bandurski t/a AA Bathroom Renovations (Mount Pleasant)</i>	<i>NA</i>	<i>E(L)R Regulation 53(2)</i>	<i>Employed/instructed unlicensed person to carry out electrical work</i>	<i>750.00</i>	<i>475.70</i>

## Legend:

- \* Global fine and costs – more than one offence
- # Conditional release order issued therefore fine not shown
- 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.

# g a s

## focus

### Non submission of Notices of Completion is still prolific

Despite repeated warnings in the Energy Bulletin and other media, it seems that many gas fitters are still prepared to take the risk of incurring heavy fines and losing their licence by failing to complete and distribute Notices of Completion and/or fixing approved compliance badges.

In some cases, gas fitters who have recently been fined for this breach of the regulations have repeated the non-compliance and now face the prospect of paying an additional, and maybe heavier, fine.

EnergySafety's Gas Inspectors will continue to deal with these non-compliances as a priority.

Excuses will not be accepted. The issuing of Notices of Completion, properly completed, and the fixing of an approved badge, properly completed, are a basic requirement of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*. Failure to issue Notices and/or fit compliance badges is breaking the law and will not be tolerated.

If gas fitters persist with this deficiency, EnergySafety will be forced to take a more punitive approach towards reducing such occurrences by application to the State Administrative Tribunal for licences to be withdrawn.

Details of these breaches are published in the Energy Bulletin and are also summarised in DOCEP's annual report.

### Expression of interest – Designation as Type B Gas Inspector

The Director of Energy Safety is inviting expressions of interest from suitably qualified and experienced persons to be designated as Type B Gas Appliance Inspectors.

The Director of Energy Safety designates Type B Gas Appliance Inspectors as independent certifiers of industrial gas fired appliances for use in WA.

Of particular interest to the Director are persons experienced in large commercial/industrial gas appliances who are interested in providing a certification service.

Generally, independent inspectors are able to offer their services on a fee-for-service basis and are appointed by the owner/operator of the gas installation to ensure that their assessment is seen as independent of the work of persons who have designed or installed the appliance.

Interested persons should contact Kim Wong, Principal Engineer Gas Utilisation by telephoning 9422 5254 to discuss or to arrange for the submission of an application.

### Autogas installations

#### Government LP Gas subsidy and grant

Readers may be aware of an unprecedented demand for autogas installations in WA.

This has been prompted by a number of issues including:

- the increasing costs of fuel;
- the West Australian Government

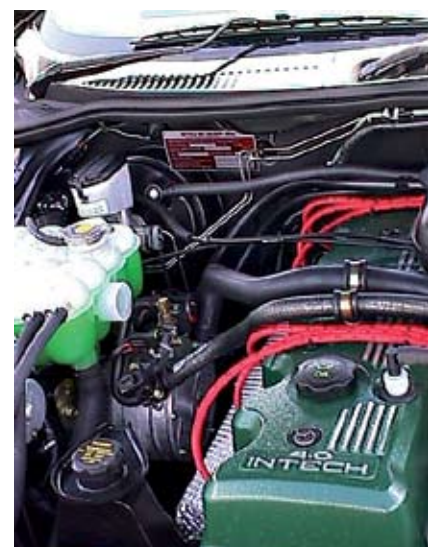
raising the LP Gas subsidy a further \$500 to \$1,000;

- an announcement by the Australian Government of a \$2,000 grant for converting family vehicles to LP Gas.

To claim both the subsidy and the grant, a vehicle has to be compliant with AS/NZS 1425 and a Notice of Completion signed off by the gas fitter. The vehicle must also be presented for and pass inspection at a Department for Planning and Infrastructure licensing centre.

#### Changes in the regulations that will affect industry

Changes to the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* that were gazetted on 21 April 2006 now require compliance with the latest edition of relevant Standards. Therefore, compliance with AS/NZS 1425:2003 "LP Gas fuel systems for vehicle engines" was effective from 21 October 2006, allowing for a six month introductory period from gazettal.



Schedule 7 of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* refers to AG 501 and AG 601. These two codes have since been replaced by Australian Standards AS 3814 and AS 5601 respectively.

### Multiple fuel containers and cold ruptures

With the current trend towards more efficient vehicles and to increase the range of LP Gas powered vehicles, installers are being asked to fit additional fuel containers.

Clause 4.7 Multiple Container Installations of AS/NZS 1425:2003 permits this.

Recent events with failures of Pressure Relief Valves (PRVs) on multiple container installations and cold ruptures of the storage cylinder container has led the drafting committee to consider including an additional requirement in the current standard preventing the independent operation of further added containers. A second sentence will be added to the first paragraph to read "An Automatic Fuel Shut-off Device (AFSOD) shall not be operated independently on a multiple container installation with a common fill point".

Electrical isolation of additional fuel containers (as a reserve) enables these containers with a common fill line to fill over the 80% safe limit. The Automatic Fuel Limiter (AFL) nominally shuts off the supply of liquid from the dispenser and allows a weep rate to continue until the dispenser is disconnected. Should the reserve container not be used, there is a possibility that with each subsequent fill of the first container, the reserve can be ultimately overfilled. This container in reaching ambient temperature will cause the liquid to expand which may result in catastrophic failure.

Such an incident occurred in Victoria in September 2006 when a 'reserve' fuel container was installed

on a Falcon Ute. This vehicle 'as delivered' already had two fuel containers. An isolating switch was installed on the dash to electrically isolate the AFSOD on the third fuel container. Shortly after refuelling and whilst driving through an intersection, the container failed. It split along the longitudinal weld. Fortunately there was no ignition of the liquid product.

EnergySafety considers such a configuration a hazard and non-compliant and therefore strongly recommends to installers that have installed fuel containers in this reserve configuration to contact their customers and arrange removal of this isolation device for the reserve fuel container. As an alternative, a second independent fill point can be used to prevent the possibility of overfilling the reserve container.

### Changes to books of Notices of Completion

Books of Notices of Completion (NOCs) for gasfitting work in WA have been revised in consultation with industry stakeholders.

The following changes have been made to the books of NOCs.

- The Preliminary Notice has been removed. The need for this form was removed as part of the recent amendment to the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*.
- The Notice of Completion form has been amended. This involved:
  - Changing the gas consumption units to SI units of GJ/h rather than GJ/hr.
  - Replacing Section 5 "New Connections" with Section 5 "Type of Work" to advise if the scope of work is 'New Connection', 'Additional Work', 'Repair Work', 'Pipe Work', 'Appliance Connection' and/or 'Commissioning'.

- Amending Section 8 "Comments and Additional Details". The text now reads "If any part of the gas installation does not comply with the regulations and/or is unsafe, provide details" and the YES and NO boxes have been removed.
- The explanatory notes inside the front cover of the books have been amended. This included:
  - Deleting references to Preliminary Notices.
  - Updating gas supplier's details.
  - Amending the instructions for Section 6 "Type A Appliances". The text now reads "Only appliances identified as approved may be installed. Total MJ/h ratings must be supplied. Contact the appliance supplier to obtain all necessary information".
- The information "Compliance Badges – Approved Type and Fixing Locations" has been amended. The compliance badge for mobile engines (LP Gas only) was replaced with the new generic compliance badge mobile engines (CNG, LNG, LP Gas or any other gas).

### Compliance plates for mobile installations

The article "Important information for autogas installers" in Energy Bulletin No. 39 (July 2006) introduced the modified generic compliance plate for badging LP Gas fuel systems for vehicle engines and all other mobile gas installations.

This new compliance plate is identified by the code ESWA G056 0705 at the bottom right hand corner [of the plate]. Stock is now available from EnergySafety's Licensing Office, at a cost of \$3.10 per plate.

With the introduction of the new generic plate, it was initially decided, to avoid possible consumer confusion, to no longer allow industry to use 'customised' plates incorporating the installer's trading name.

This decision has proved unpopular and EnergySafety has agreed to revert to the practice whereby industry may arrange for production of plates that incorporate the installer's trading name.

However, **under no circumstances** is the standard design of the generic plate to be altered in any way. Any additional information, such as the installer's trading name, will only be permitted on an extension of the plate.

*Compliance plate for LP Gas fuel systems for vehicle engines and all other mobile installations*

## Prosecutions for breaches of gas legislation 1 April 2006 to 31 October 2006

<i>Name (and suburb of residence at time of offence)</i>	<i>Licence No.</i>	<i>Legislation and Breach</i>	<i>Offence</i>	<i>Fine (\$)</i>	<i>Court Costs (\$)</i>
<i>Terrance McCallum (Moora)</i>	<i>GF 001371</i>	<i>GSA Section 13A(2) GSR Regulation 26(1)(a)</i>	<i>Carried out gasfitting work while not holding a certificate of competency, permit or authorisation  Did not ensure that the installation was gas tight</i>	<i>600.70</i>	<i>200.00</i>
<i>Matthew Whitford-Smith (Maddington)</i>	<i>GF 003170</i>	<i>GSR Regulation 18</i>	<i>Failed to ensure gasfitting work was carried out in a safe manner</i>	<i>450.00</i>	<i>525.00</i>
<i>Barry Hubble (Lathlain)</i>	<i>GF 000530</i>	<i>GSR Regulations 8, 28(2)</i>	<i>Failed to notify change of address  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</i>	<i>1,600.00</i>	<i>475.70</i>

## Prosecutions for breaches of gas legislation 1 April 2006 to 31 October 2006 (continued)

<b>Name (and suburb of residence at time of offence)</b>	<b>Licence No.</b>	<b>Legislation and Breach</b>	<b>Offence</b>	<b>Fine (\$)</b>	<b>Court Costs (\$)</b>
Maxwell Dodd (Scarborough)	GF 002142	GSR Regulations 18, 28(2), 28(3a)(b), 28(3a)(c)	Failed to ensure gasfitting work was carried out in a safe manner  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	800.00	540.00
Domenic Pansini (East Fremantle)	GF 007478	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	500.00	475.70
Grant McDonald (Scarborough)	GF 011238	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	750.00	350.70
James Harrison (Leeming)	GF 007785	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	600.00	400.70
Aaron Jones (Oakford)	GF 009250	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	1,000.00	475.70

## Legend:

GSA Gas Standards Act 1972

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