

# energy

## Bulletin

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## National Licensing System for Specified Occupations

On the 3 July 2008 the Council of Australian Government's (COAG) agreed to develop a national occupational licensing system that would remove inconsistencies across state borders and allow for a more mobile workforce. A national licensing system with the following characteristics was agreed to:

- cooperative national legislation;
- national governance arrangements to handle standard setting and policy issues and to ensure consistent administration and compliance practices;
- all current holders of state and territory licences be deemed across to the new licence system at its commencement;
- the establishment of a publicly available national register of licensees; and
- the commonwealth having no legislative role in the establishment of the new system.

The national licensing system initially will include relevant occupational and business licensing in the following areas:

- electrical;
- plumbing and gasfitting;
- air conditioning and refrigeration mechanics;
- building and building-related occupations;
- land transport (passenger vehicle drivers and dangerous goods only);
- maritime; and
- property agents.

After extensive industry and regulator consultation, the National Law for the National Licensing System (NLS) has been prepared by the Australasian Parliamentary Counsel's Committee.

On 13 November 2009 the Exposure Draft and explanatory paper were released for public comment.

The Exposure Draft for the National Law provides for the governance arrangements for the National Occupational Licensing Authority, high-level framework for the system, regulation-making powers dealing with the operational aspects of the system and occupational-specific issues.

Public information sessions were held in all capital cities between the 25 November and 8 December 2009. Responses to the Exposure Draft closed on the 28 December 2009.

The Bill is expected to be finalised and approved by the Ministerial Council for Federal Financial Relations before April 2010.

Victoria will be the host jurisdiction for the NLS Legislation, including regulations for each of the occupational areas. Once the legislation has passed in Victoria, the remaining states and territories will pass legislation adopting the Victorian law in their jurisdiction. This is expected to be completed by November 2010.

For further information and access to the Exposure Draft and explanatory notes, visit the National Licensing website – [www.govdex.gov.au/confluence/display/COAGNL/Home](http://www.govdex.gov.au/confluence/display/COAGNL/Home).

My best wishes for a happy and prosperous 2010.



KEN BOWRON  
DIRECTOR OF ENERGY SAFETY

# EnergySafety



## Overview of activities 2008-09

### Introduction

EnergySafety is Western Australia's technical and safety regulator for the electricity industry and most of the gas industry.

EnergySafety is a Division of the Department of Commerce. Ken Bowron is the Executive Director of EnergySafety and has the statutory title of Director of Energy Safety.

EnergySafety comprises three Directorates:

1. Gas Directorate, headed by David Allan;
2. Electricity Directorate, headed by Don Saunders; and
3. Business Services Directorate, headed by Joe Bonfiglio.

The principal functions of EnergySafety can be summarised as:

- administering electricity and gas technical and safety legislation and providing policy and legislative advice to the Minister and Government;
- setting and enforcing minimum safety standards for electricity and gas networks;
- enforcing natural gas and LP Gas quality standards;
- for the purpose of ensuring satisfactory billing of consumers by gas suppliers, administering the regulatory scheme that determines the "higher heating value" of natural gas in distribution systems subject to the commingling (mixing) of gas from different sources;
- providing technical advice and support to the Economic Regulation Authority (ERA) and the Energy Ombudsman;
- at the request of the ERA or Energy Ombudsman, investigating the performance of electricity and gas network operators, particularly in respect of energy supply reliability and quality;
- setting and enforcing minimum safety standards for consumers' electrical and gas installations;
- setting and enforcing safety and energy efficiency standards for consumers' electrical and gas appliances;

- licensing electrical contractors, electrical workers and gas fitters;
- carrying out accident investigations; and
- promoting electricity and gas safety in industry and the community.

EnergySafety became fully industry funded from 2006-07 following the passing of legislation and the subsequent publishing in the *Government Gazette* on the *Energy Safety Levy Notice 2006* as approved by the Minister during June 2006. This mirrored what other major jurisdictions had also done and 2006-07 was the first financial year under which EnergySafety was fully industry funded.

## Operational work including compliance enforcement activities

### RCD Campaign Launch

In August 2009, new regulations prepared under the *Electricity Act 1945* were implemented requiring the installation of residual current devices (RCDs) to residences being sold and in residential properties at change of tenancy.

The legislation requires at least two RCDs to be installed to protect all socket outlet and lighting final sub-circuits.

### Wood Pole Audit

The EnergySafety audit review of Western Power's management of its 620,000 wood poles was released on 10 June 2009. The audit review was conducted to assess corrective actions taken by Western Power following EnergySafety's earlier 2006 audit, which raised concerns about the unacceptably high number of unassisted pole failures in Western Power's electricity distribution network. EnergySafety was not satisfied with three critical safety issues identified in the 2006 audit and issued Order No. 01-2009 requiring Western Power to remedy these issues. Regular reviews are being undertaken to monitor progress.

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### Sidek Valve Replacement

During the year a programme to inspect all autogas installations that may have a Sidek brand relief valve fitted to the autogas container was commenced.

This brand of relief valve is the subject of a national recall as it may fail to operate if not installed strictly in accordance with the manufacturer's instructions.

A letter is being sent progressively to the registered owners of vehicles that maybe at risk, requesting they have the vehicle inspected by an autogas installer and the valve replaced if it is found to be a Sidek brand.

To date 1350 letters have been sent. This has resulted in 137 valves being replaced.

### Use of Flexible Hose on Autogas Installations

In 2008 a Prohibition Order was published that limited the use of flexible hose on autogas installations, minimising the amount of harmful plasticiser leached from the hose and avoiding problems in the converter. Since issuing the order there has been no reports of plasticiser contamination. Recently, a new flexible hose that is free of harmful plasticiser has been developed and is being certified before entering the market.

### Improvement in Work Procedures

During the year EnergySafety has worked with a major network to modify their procedures to improve the safety of personnel undertaking work on their infrastructure. The modifications have resulted in the development of work procedures, training and the identification of risks that have greatly increased the safety of personnel.

### Increased demand for licensing services

The Licensing Office at EnergySafety again experienced a high volume of electrical and gas licence applications. The increased workload was managed well with much more timely issue of licences.

### Electrical Licensing

As at 30 June 2009, there were **31,041** electrical workers, **3,989** electrical contractors and **240** in-house licence holders registered.

The Electrical Licensing Board grants licences to eligible applicants and conducts competency assessments of operatives when necessary. It also recommends disciplinary action when appropriate.

Members of the Electrical Licensing Board as at 30 June 2009 were:

- Mr K McGill – Chairman.
- Mr J Murie – representing the interests of electrical workers.
- Mr P Beveridge – representing the interests of electrical workers.
- Mr G Grundy – representing the interests of electrical workers with restricted licences.
- Mr D Retallack – representing the interests of large businesses, who are consumers of electrical services.
- Mr P Mittonette – representing the interests of small businesses, who are consumers of electrical services.
- Ms A Ciffolilli – a residential consumer of electrical services.
- Mr D Saunders – nominated by the Director of Energy Safety.

The Electrical Licensing Board met **26** times during the year.

### Gas licensing

As at 30 June 2009 there were **6,404** persons registered for gasfitting work in WA, including **1,544** active certificates-of-competency holders.

The Gas Licensing Committee, operating under the delegation of the Director of Energy Safety, considered applications for licences to gas operatives. Routine licences for gas operatives were dealt with by licensing staff under delegated authority.

The Gas Licensing Committee met **10** times during the year.

## Prosecutions

The following tables summarise prosecutions finalised during 2008-09. Prosecutions follow investigations by inspectors, then review and authorisation by senior management of EnergySafety. The investigations are often initiated by inspectors of the electricity and gas distributors, as part of their consumer electrical or gas installation inspection work

### Summary of prosecution actions for breaches of the electricity related legislation

<i>Legislation</i>	<i>Breach</i>	<i>Number of offences</i>	<i>Penalties (\$)</i>
<i>Electricity Act 1945</i>	EA Section 25 – did not maintain their service apparatus in a safe and fit condition for supplying electricity or take reasonable precaution to avoid damage to customer premises.	2	\$25,000
	EA 33B(2) – sold electrical apparatus without an approval from the Director.	9	\$2,000
<i>Electricity (Supply Standards &amp; System Safety) 2001</i>	E(SS&SS)R, 10(1)(c) – connected an underground distribution cable to their overhead mains (prescribed activities) when the other end of each cable was unsafe and not terminated within an in-ground cable pit and had “Live” exposed conductors.	1	\$12,000
<i>Electricity (Licensing) Regulations 1991</i>	E(L)R, 19(1) – carried out electrical work without holding an electrical workers licence.	15	\$17,300
	E(L)R, 33(1) – carried on business as an electrical contractor without a licence.	16	\$7,500
	E(L)R, 49 (1) – carried out substandard electrical work.	21	\$16,800
	E(L)R, 50A – permitted unsafe wiring or equipment to be connected to an electrical installation.	1	\$1,050
	E(L)R, 50(1) – as an employer, failed to ensure effective supervision of an apprentice.	2	\$1,500
	E(L)R, 51(1) – failed to submit a Preliminary Notice to the relevant Network Operator.	4	\$5,300
	E(L)R, 52 (1) – failed to submit a Notice of Completion for completed electrical work.	149	\$30,000
	E(L)R, 52(3) – submitted a Notice of Completion to the relevant Network Operator when the electrical installing work was not Complete.	12	\$16,000
	<b>TOTAL</b>	<b>232</b>	<b>\$134,450</b>

## Summary of prosecution actions for breaches of the gas related legislation

<b>Legislation</b>	<b>Breach</b>	<b>Number of Offences</b>	<b>Penalties (\$)</b>
<i>Gas Standards Act 1972</i>	Section 13A(2) – carried out gasfitting work while not holding a certificate of competency, permit or authorisation allowing him to do so.	9	\$35,800*
	Section 13D – sale of gas appliances not being approved by the Director or of a class or type approved by the Director.	1	\$3,000
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	Regulation 15(2) – failed to supervise the gasfitting work being done by a person who has a permit to do the work in the course of training.	1	
	Regulation 18 – failed to ensure every part of the gas installation complied with the requirements in regulation 32	2	\$1,200*
	Regulation 18(2)(a)(ii) – failed to ensure every part of the gas installation was safe to use.	2	\$800*
	Regulation 20(1)(b) – failed to ensure the appliance was installed in accordance with the manufacturer's installation instructions.	3	\$4,200*
	Regulation 26(1)(a) – failed to ensure the requirements of the regulations as to pressure testing were satisfied and the system is made gas-tight.	2	
	Regulation 28(2) – failed to fit a compliance badge to the gas installation.	8	\$10,000*
	Regulation 28(3) – failed to give a notice of completion of the gasfitting work in accordance with this regulation.	9	
	Regulation 28(3a)(b) – failed to submit a notice of completion to the gas supplier.	9	
	Regulation 28(3a)(c) – failed to give a copy of the notice of completion to the customer.	9	
	Regulation 30 – failed to provide a Notice of Rectification within required time.	1	
	Regulation 30(1)(a) – failed to rectify the gasfitting work to comply with the regulations.	1	
	Regulation 34 – failed to keep records in relation to each gas fitter employed.	1	
	Regulation 38(1) – advertised or represented that he was the holder of a certificate of competency, a permit or authorisation whilst not being the holder of certificate of competency, permit or authorisation.	3	
<b>TOTAL</b>		61	\$55,000

\* Global Penalty (more than one offence)

## Summary of Infringement Notices issued for breaches of electricity related legislation

<b>Legislation</b>	<b>Breach</b>	<b>Number of offences</b>	<b>Penalties (\$)</b>
<i>Electricity Act 1945</i>	EA 33B(2) – sold electrical apparatus without an approval from the Director.	4	\$7,000
	EA 33F – exposed for sale/hire electrical apparatus without an energy efficiency label.	4	\$8,000
<i>Electricity Regulations 1947</i>	ER 316A – carried out vegetation control work within the danger zone (for reward) without training and/or in compliance with the Code of Practice.	2	\$1,000
<i>Electricity (Licensing) Regulations 1991</i>	E(L)R, 19(1) – carried out electrical work without holding an electrical workers licence.	8	\$4,000
	E(L)R, 33(1) – carried on business as an electrical contractor without a licence.	4	\$16,000
	E(L)R, 45 (1) – failed to ensure electrical contractor's number appeared in advertisement.	36	\$31,500
	E(L)R, 50A – permitted unsafe wiring or equipment to be connected to an electrical installation.	1	\$500
	E(L)R, 51(1) – failed to submit a Preliminary Notice to the relevant Network Operator.	2	\$4,000
	E(L)R, 52 (1) – failed to submit a Notice of Completion for completed electrical work.	4	\$6,500
	E(L)R, 52(3) – submitted a Notice of Completion to the relevant Network Operator when the electrical installing work was not complete.	35	\$53,500
	E(L)R, 53 (2) – employed/instructed an unlicensed person to carry out electrical work.	2	\$4,000
	<b>TOTAL</b>	103	\$136,000

## Summary of Infringement Notices issued for breaches of gas related legislation

<b>Legislation</b>	<b>Breach</b>	<b>Number of Offences</b>	<b>Penalties (\$)</b>
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	Regulation 18(2)(a) – failed to ensure every part of the gas installation was safe to use.	81	\$32,400
	Regulation 20(1)(b) – failed to ensure the appliance was installed in accordance with the manufacturer's installation instructions.	13	\$5,200
	Regulation 20(3) – failed to endorse note as to safe operation on notice of completion for used appliance.	1	\$400
	Regulation 26(1)(a) – failed to ensure the requirements of the regulations as to pressure testing were satisfied and the system is made gas-tight.	18	\$7,200
	Regulation 28(2) – failed to fit a compliance badge to the gas installation.	28	\$11,200
	Regulation 28(3) – failed to give a notice of completion of the gasfitting work in accordance with this regulation.	37	\$14,800
	Regulation 34(1) – failed to keep records in relation to each gas fitter employed.	5	\$1,250
	Regulation 34(4) – failed to make records available for inspection by an inspector during normal office hours.	1	\$250
	<b>TOTAL</b>	184	\$72,700

## Major Policy Work

### National Regulatory reform projects

During 2008/09 EnergySafety continued work with electrical and gas safety regulators of other jurisdictions to make significant contributions to various national regulatory reform projects.

Significant progress was made in the harmonisation of the national electricity supply safety legislation and the development of the National Licensing System.

### Standards development work

During the year, EnergySafety played a significant role in the development of Australian Standards, covering subjects such as gas installations, industrial and commercial gas-fired appliances and CNG refuelling stations.

### Committee participation

Aside from major work on several key technical standards committees, EnergySafety continued to be involved in a number of national regulatory coordination and other technical standards bodies.

The following is a summary list:

- National Regulatory Coordination Bodies
  - Electrical Regulatory Authorities Council (ERAC)
  - Gas Technical Regulators Committee (GTRC)
  - National Equipment Energy Efficiency Committee (Committee E3)

- National Standards Councils, Boards and Committees
  - Council of Standards Australia (representing the Government of WA)
  - Electrotechnology Standards Sector Board
  - AG6 Gas Installations
  - AG5 Industrial Gas Appliances
  - 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.

## Safety statistics: Serious accidents and fatalities

The following were reported to EnergySafety during 2008/09:

Electric shocks	818
Serious electrical accidents	14
Fatalities	4

The following data are provided for accidents (based on the date of the accident). These may not include all accidents due to time lags in reporting.

### Serious electricity related accidents notified per million population\*

Year	Number	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	16
2005-06	15	16
2006-07	10	16
2007-08	21	17
2008-09	18	17

NB: Electrical shock incidents recorded are for the date of incident and are for current notifications entered and received from 01/07/08 until 30/06/09

\*Electrical shock incidents resulting in the person requiring treatment at a medical facility.

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

- Investigation found that the unlicensed person was working on a "Live" wiring junction lighting circuit in the roof space of the dwelling. After removing insulation tape and a connector from the active conductor of the lighting circuit wiring joint, the person's right hand made contact with this conductor, which resulted in the person receiving a fatal electric shock. At the time of the accident, the person's left hand was in contact with the laid up earthing conductor of the lighting circuit cable which was connected to the installations earthing system. The person was also in contact with steel conductive roof frames in the roof space, which were also connected to the general mass of earth. No RCD was protecting the lighting circuit involved.

- The person was installing shade cloth on a patio when his thumb came into contact with "Live" parts of the plug of an electric drill he was using and received a fatal electric shock. At the time of the shock, the person was standing on a metal ladder and resting against the steel frame of the patio. The re-wireable plug did not have the outer cover fitted, hence exposing the live terminals of the plug. There was no RCD fitted to the circuit.
- The person appears to have come in contact with "Live" parts 240v of a commercial dishwasher and in doing so, received a fatal electric shock. No RCD was fitted on the circuit.
- Person dismantled a juice extractor and removed the 240v electric motor. The person then plugged the motor into a socket outlet. The motor had exposed "Live" parts. Person touched "Live" parts on the motor and earth and received a fatal electric shock. No RCD was fitted on the circuit.

**Gas related incidents and fatalities**

Serious gas related accidents	4
Fatalities	0

**Serious gas related accidents notified per million population\***

Year	Number	Five Year Average
1996-97	3	3
1997-98	0	4
1998-99	3	5
1999-00	4	6
2000-01	7	6
2001-02	5	6
2002-03	8	6
2003-04	5	5
2004-05	7	5
2005-06	4	5
2006-07	6	5
2007-08	5	5
2008-09	4	4

NB: Gas related accidents recorded are for the date of incident and are for current notifications entered and received from 01/07/08 until 30/06/09



# electrical focus

## 2009 WorldSkills Competition



WorldSkills' Australia regional electrotechnology competitions were held in Perth during October 2009.

Established in 1981, the non-profit organisation WorldSkills Australia is an industry-focused concept that works with training providers and other industry participants to promote excellence in a range of trades and callings, including building and construction, hospitality and food, metals and engineering and electrotechnology. The electrotechnology categories are electrical control systems and electrical installation systems.

Every two years, representatives from the trades, service and technical industries take part in the Western Australia regional heat of the WorldSkills Competition. Winners of the regional heat vie for an opportunity to take part in the national final for an opportunity to represent Australia in the International WorldSkills Competition. The aim of the event is to showcase tradespersons who are committed to a superior standard of skill levels.

All Australian apprentices, trainees and vocation educational and training (VET) students under the age of twenty years can participate.

This year, the electrical control systems competitions were held in conjunction with the Mining Australia Expo at Belmont Race Course. Eighteen electrical apprentices competed at the competitions hosted by the International Training Institute. The competition project assessed skills of installing, wiring and set-up of industrial control equipment, as well as related testing and commissioning procedures. The winner was Evan Lamb of Hanseatic Marine closely followed by Ante Ljubicic of Circuit Force WA Pty Ltd. First, second and third prizes were kindly donated by CMPS Supply Solutions. Ante Ljubicic was also awarded a special 'Judges Prize' for his contributions to the event.

The electrical installation systems competitions were hosted by the College of Electrical Training Jandakot Campus. Ten apprentices competed at this segment of the competitions. Competitors were required to design and wire a domestic/commercial project and their commissioning and fault finding skills were put to the test. The winner was Andrew Pocklington, an employee of Ken Martin Electrical and the runner-up Adam O'Connor of Paul Kinsella's.

Western Power's Technical Development Officer, Russell Fry and EnergySafety's Senior Electrical Inspector Harry Hills prevailed as judges for both categories.

The category winners will represent WA at the national competitions to be held around May 2010 in Brisbane. The national finalists will go on to represent Australia in London in 2011.

## Mains Powered Smoke Alarms

From 1 October 2009, all homes built before 2007 for sale or lease, are required to have mains powered smoke alarms installed, which is a mandatory requirement under the *Local Government (Miscellaneous Provisions) Act 1960, Section 248 and the Local Government Act 1995, Section 9.60* and the Building Amendment Regulations 2009. This is a triumphant win for the Fire and Emergency Services (FESA), who have been pushing for the change in legislation for many years in an attempt to reduce the number of fatalities in house fires where no smoke alarms were fitted.

Enforcement of these requirements will be undertaken by local government officers, who can inspect homes and issue either a rectification notice, infringement notice or prosecute for any uncovered breaches. Penalties up to \$5,000 can be imposed on home owners who do not comply.

Electricians must be aware of the following information in order to comply with the new requirements:

- The number of smoke alarms to be installed depends on whether the house is a Class 1a (house, duplex, villa or town house) or Class 1b (boarding/guest house or hostel). For positioning of the

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alarms, please see the Building Code of Australia Requirements fact sheet on the FESA website [www.fesa.wa.gov.au](http://www.fesa.wa.gov.au)

- The smoke alarms to be installed are to conform with Australian Standard 3786. This standard is available through the SAI Global website [www.saiglobal.com](http://www.saiglobal.com). FESA are recommending photoelectric smoke alarms as they detect smoke much faster than older models.
- Smoke alarms must be changed every ten years.

FESA and the National Electrical Communications Association (NECA) have produced a sticker which will allow contractors to record the installation date of the hard wired smoke alarms. This sticker is to be placed in the meter box/switchboard of the installation site. Please contact NECA to obtain the stickers.

## Still on the lookout for Simon Bunney

EnergySafety's Energy Bulletin No. 43 issued in August 2008 made mention of Simon Bunney, who was prosecuted in April 2008 for carrying out electrical work without being authorised by an electrical worker's licence or permit. Since March 2003, Bunney has repeatedly used a fraudulent electrical worker's licence to obtain employment as an electrician within the Western Australian mining, construction and marine industries.

Bunney poses a serious danger to the community as he is undertaking work which he has not been adequately trained to perform. It is a breach of Regulation 19(1) of the Electricity (Licensing) Regulations 1991 to carry out electrical work without being authorised by licence or permit.

EnergySafety's Electrical Licensing Board (ELB) ensures electrical workers are competently trained, certified and licensed to perform safe electrical work. A person who wrongfully impersonates, or represents himself as being the person referred to in a document, licence or permit is committing a serious offence under Regulation 59 of the Electricity (Licensing) Regulations 1991.

The unlicensed electrical work Bunney performs may create a hazard of fire or could result in a person receiving a severe electric shock.

In the interests of public safety, electrical workers/contractors, employers or employment agencies who come across Bunney are urged to contact EnergySafety and, where possible, submit a copy of his current resume to this office.

## Still on "Notices"

Much has already been said about the requirements to submit Preliminary Notices and Notices of Completion.

What is less understood is the importance of ensuring that the details of completed electrical work stated on the Notice of Completion reflect actual work carried out.

Electrical contractors submit a Preliminary Notice to notify the relevant network operator of proposed electrical work. Details of proposed electrical work copy through to the Notice of Completion.

If the actual work that is carried out is different to that stated in the Preliminary Notice, the electrical contractor must amend the Notice of Completion accordingly.

Submitting a Notice of Completion describing electrical work carried out that differs to the actual work

carried out is a breach of the Electricity (Licensing) Regulations 1991.

Also, where an installation contains work that was carried out by other electrical contractors, this too must be identified on the Notice of Completion. The details should be shown under "General information" in answer to the question "Is there any electrical work for which you are not responsible?" It is important that work carried out by 'others' is identified on the Notice of Completion.

To ensure the expeditious processing of Notices, contractors and nominees are reminded to provide accurate and comprehensive information on:

- the installation/site address;
- network operator and retailer details;
- the nature of the electrical work to be performed and the correct number of items to be installed;
- electrical contractors and nominee licence details.

All "Notices" are to be signed and dated by the correct operative and must be completed with legible handwriting.

## Electrical Inspector wanted for the Mid-West Region

The Department of Commerce mid-west regional office located at Durlacher Street, Geraldton has recently undergone a facelift to incorporate a new interview room and several new individual offices. This government building harbours EnergySafety along with other Commerce divisions such as WorkSafe, Consumer Protection and Labour Relations.

The mid-west region includes the northern outskirts of Perth,

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as far north as Exmouth, east to Meekatharra and south to Lancelin.

Senior Electrical Inspector Bob Lawrence diligently served the mid-west region for decades until his well deserved retirement in early 2009, which has now left a vacancy for a suitably qualified applicant to fill this position.

EnergySafety is seeking a competent individual who has worked in the electrical industry, has an understanding of electrical safety principles and is keen to work in a regulatory environment. They must have the faculty to be able to develop their skill base, knowledge and competencies in the areas of electrical installation and supply.

You will have an appropriate background that reflects the diversity of our community and operators, employers, employees, network operators, independent suppliers, appliance manufacturers, government, unions and industry organisations. The Senior Electrical Inspector position is an autonomous role and is most suited to self-motivated individuals.

Persons interested in finding out more information on this vacancy should contact Chief Electrical Inspector Michael Bunko on (08) 9422 5275.

## 2009 Apprentice of the year

Blake McCarthy was recently named Apprentice of the Year at the Department of Education and Training awards, which honour the outstanding achievements of apprentices, trainees and vocational education students. Blake's winning bounty included a framed certificate, a trophy and a \$7000 study grant. In November 2009, Blake went on to win the 2009 National Training Award for

Australian Apprentice of the Year, being the first West Australian to win the coveted award since 1995. Blake is employed as an apprentice electrician by the Water Corporation's engineering and construction services branch.

### **EnergySafety: How did you first become involved in the electrical industry?**

**BM:** Since I was a child I have always been very active and enjoyed undertaking hands on tasks. While attending high school I undertook work experience with an electrical contractor and gained some knowledge of what becoming an electrician was all about and this is when I embarked on my journey. On successful completion of my work experience program, I attained an electrical apprenticeship in which I jumped at the opportunity as I knew the benefits undertaking a trade has to offer and with the skills shortage increasing at the time, I knew it was the perfect time to enter the industry and since entering I have never looked back.

### **EnergySafety: What made you decide to do your apprenticeship with EGT?**

**BM:** EGT appealed to me as the benefits they have to offer are remarkable, including support services, the opportunity to gain a wide variety of experience and the ability to undertake additional training with assistance and also the ability to take part in awards which recognise excellence and enable you to be recognised for your achievements.

EGT gave me the opportunity to complete an electrical apprenticeship and to become a dual trade Instrumentation Electrician, whilst completing my apprenticeship by undertaking additional studies. I thank EGT and my host employer, the Water

Corporation for this, as I now have a qualification that allows me to take part in a valuable, rewarding and life long career that has many benefits and opportunities.

### **EnergySafety: What do you enjoy most about your apprenticeship training?**

**BM:** I can say without hesitation that, in my field of work I enjoy all aspects of my job. At some times it is a physically and mentally challenging job but if you call upon your training during these times you will succeed. The most enjoyable part of my apprenticeship training was seeing my skills develop and gaining invaluable experience that will no doubt play a part in a future with endless opportunities.

### **EnergySafety: What are your short term and long term goals for your career?**

**BM:** At the present time, my short term career goals include gaining as much experience in the trade as I can and also to undertake additional training. My more long term career goal is to develop my electrical contractors business to get it to an operational stage which will then allow me to employ my own apprentices and give back to the industry.

### **EnergySafety: What does winning this award mean to you?**

**BM:** I was really pleased just to get as far as the top four but at the awards night when I was named the 2009 WA Apprentice of the year I was really proud and pleased that my hard work in taking on additional studies and being involved in the Armadale Volunteer Fire and Rescue Service, on top of full time employment was recognised through this achievement.

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I then had the pleasure of representing Western Australia on a National level at the Australian Training Awards in Canberra which were held on the 19th November 2009. To me, this is a remarkable achievement and means a lot that I had the opportunity to take part in this prestigious award. Taking part in the National awards, let alone winning the WA Apprentice of the Year will no doubt expand my career opportunities and open many doors for my future and this is to me very important.

**EnergySafety: Any ideas yet on what further training you will be undertaking with the grant you received?**

**BM:** I will be undertaking training that will, in conjunction with my planning efforts assist me to establish my electrical contractors business "Seville Electrical Services" EC8952 and also help me to further my career on a personal level. The training will include business management, accounting, ecosmart training, high voltage switching, PLC training, and also Fire Detection and Alarm System Training.

**EnergySafety: What's the most valuable piece of advice you would give to apprentices who have just embarked on their journey?**

**BM:** A message statement that I believe will help others and give them words of wisdom is "Work hard, respect and treat people the way you wish to be treated and set goals, motivate yourself in every endeavour you undertake, use the resources that are available to you as they are there for a reason, ask for help when help is needed as no question is a dumb question only the one that didn't get asked and be willing to acquire the skills and knowledge to succeed in your goals and most of all let nothing stand in your way. The sky is the limit".

## Royal Show Inspections

Before the 2009 IGA Perth Royal Show opened its doors to the general public, two EnergySafety Electrical Inspectors conducted an audit on the electrical items for sale on the site. The audit was scheduled prior to the opening day to prevent sales of unapproved electrical items. However, even though an audit was conducted some retailers ignored the advice provided.

An inspection during the show found one stall which was selling decorative salt lamps fitted with cords which had unapproved plugs and pin tops. This is a breach of the *Electricity Act 1945*, Section 33 B (2). An Infringement Notice was issued to the business owner for a penalty of \$1,000.

Another stall was found to be selling remote control helicopters which had unapproved battery chargers fitted with uninsulated plug top pins. An Infringement Notice was issued with a fine of \$4,000 for another breach of *Electricity Act 1945*, Section 33 B (2).

Since 3 April 2005 insulated pins have been a mandatory requirement for all electrical equipment at all points of sale; details of which can be found in Australian Standards AS/NZS 3112:2000 and AS/NZS 3112:2004.

## Have You Updated Your Licence Details?

To ensure the licensing database details are kept current, business owners, electrical contractors and workers are reminded to immediately contact EnergySafety's licensing office if any of the following particulars change:

- surname
- actual/postal address
- contact phone/fax number.

Current address particulars for electricians and business owners are essential to be kept up to date with important communications from this office.

A matter of great concern is the number of business owners who do not notify the licensing office when a change of business details has occurred.

The *Business Names Act 1962* requires the owner of a business to:

- Continue to carry on business under the registered Business Name at all times; and
- Always use the correct registered Business Name.

If your registered business changed name or has changed ownership, business owners must lodge a **Form 4 – Statement of Change in Registered Particulars with Consumer Protection** within one month after the change has been implemented to avoid paying a fee.

If you have ceased carrying on your business, you must lodge a **Form 5 – Notice of Cessation of Business Under Business Name**.

Late notifications may result in a penalty as this constitutes a breach of the *Business Names Act 1962*.

Once Consumer Protection has verified these changes and has issued a new Registration Certificate, business owners must then contact EnergySafety's licensing office.

## New EnergySafety Electrical Inspectors'

As a result of an article in Energy Bulletin No.46 issued in April 2009 which sought expressions of interest from electricians who desired a career change as an Electrical Inspector, EnergySafety received an encouraging number of applications from electricians state-wide, from which three

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suitable applicants were found. EnergySafety is pleased to welcome three new metropolitan-based Inspectors' to the Electrical Inspection Branch.

Our first female Electrical Inspector, Nikki Jupe joined EnergySafety in August 2009. Nikki has worked as an electrician in the industrial, fly in/fly out mining industry and domestic fields. She finds the investigation side of her job very interesting and challenging. Most of all she loves that her new job contributes to the safety of others.

Andrew Williams commenced work in September 2009. Andrew has gained considerable experience in the electrical industry working in supply and distribution areas before working as an electrical contractor for several years.

Graham Sorensen has had a long association with the electrical community; having most recently been employed in the caravan

industry and previously in the commercial sector dealing with data communications/air-conditioning before deciding to join EnergySafety in October 2009. Graham has been involved in the outdoor retailing sector as well as in the photocopier industry as the state service manager for a multi national company.

## New Australian Standard

A new Australian standard was published on 26 October 2009 regarding the selection of cables for electrical installations. AS/NZS 3008.1.1:2009, Electrical installations – Selection of cables

Part 1.1: Cables for alternating voltages up to and including 0.6/1 kV – Typical Australian installation conditions was approved on behalf of the Council of Standards Australia on 14 September 2009 and on behalf of Standards New Zealand on 2 October 2009.

This Standard supersedes AS/NZS 3008.1.1:1998, Electrical Installation including 0.6/1kV – Typical Australian installation conditions.

The purpose of this Standard is:

- to stipulate the current-carrying capacity, voltage drop and short-circuit temperature rise of cables; and
- to provide a method where selection of those electric cables and the appropriate methods of installation are in common use at working voltages up to, and including 0.6/1 kV at 50 Hz a.c.

All standards can be purchased online from the SAI global website <http://infostore.saiglobal.com/store/>.

## Prosecutions for breaches of electricity legislation 1 July 2009 to 31 October 2009

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Date of Offence	Fine (\$)	Court Costs (\$)
Peter Malcolm Lewis (Iluka)	EC008461	E(L)R Regulation 45(1)	Failed to include electrical contractors licence number in an advertisement	29/11/08	450.00	571.70
Michael Levien (Wilson)	EW111273	E(L)R Regulation 49(1) (3 breaches)	Carried out substandard electrical work	Between 01/09/07 and 17/09/07	1,500.00	571.70
Jonathan Mark Reindl (Banksia Grove)	EW143468	E(L)R Regulation 49(1)	Carried out substandard electrical work	Between 01/10/07 and 31/10/07	1,000.00	571.70
Hin Wah Tan (Thornlie)	EW110746	E(L)R Regulation 49(1)	Carried out substandard electrical work	16/07/07	1,000.00 *	571.70 *
Herbert James Tournay (Denmark)	EW102922	E(L)R Regulation 49(1) (2 breaches)	Carried out substandard electrical work	Between 01/05/07 and 31/05/07	*	*

<b>Name (and suburb of residence at time of offence)</b>	<b>Licence No.</b>	<b>Legislation and Breach</b>	<b>Offence</b>	<b>Date of Offence</b>	<b>Fine (\$)</b>	<b>Court Costs (\$)</b>
Dean John Roberts (Baldivis)	EW148666	E(L)R Regulation 50A (3 breaches)	Permitted unsafe wiring or equipment to be connected to an electrical installation	Between 17/09/09 and 12/03/08	1,800.00	571.70
Pilbara Meta Maya Aboriginal Corporation (Wedgefield)	NLH	E(L)R Regulation 50(1)	Failed to provide adequate supervision for an employed electrical apprentice	18/04/07	1,500.00 *	571.70 *
Nathan Nixey T/As S.O.R Electrical (Fremantle)	EC007387	E(L)R Regulation 51(1) (2 breaches)	Failed to submit a Preliminary Notice to the Network Operator within the required time frame.	Between 01/08/07 and 31/08/07	2,000.00 *	571.70 *
Jim Tournay T/As Tournays Electrical Services (Denmark)	EC001336	E(L)R Regulation 51(1)	Failed to submit a Preliminary Notice to the Network Operator	Between 01/05/07 and 31/05/07	1,300.00 *	114.20 *
Comprehensive Electrical Pty Ltd (Armadale)	EC003388	E(L)R 1991 Regulation 52(1) (39 breaches)	Failed to submit a Notice of Completion to the Network Operator on completion of the electrical installing work	Between 03/08/07 and 31/10/07	7,000.00	571.70
Dunnings Electrical Service (Byford)	EC002108	E(L)R 1991 Regulation 52(1)	Failed to submit a Notice of Completion to the Network Operator on completion of the electrical installing work	Between 28/03/07 and 26/10/07	5,000.00	571.70
Nathan Nixey T/As S.O.R Electrical (Fremantle)	EC007387	E(L)R Regulation 52(1) (2 breaches)	Failed to submit a Notice of Completion to the Network Operator on completion of the electrical installing work	Between 01/08/07 and 31/08/07	*	*
Jim Tournay T/As Tournays Electrical Services (Denmark)	EC001336	E(L)R Regulation 52(1)	Failed to submit a Notice of Completion to the Network Operator on completion of the electrical installing work	Between 01/05/07 and 31/05/07	*	*
Warwick Broad T/As Dynamic Trade Services (Darch)	EC007372	Regulation 52(3) (3 breaches)	Submitted a Notice of Completion to the Network Operator when the electrical installing work was not complete	03/10/07	1,000.00	571.70
Hin Wah Tan (Thornlie)	EW110746	Regulation 52(3)	Submitted a Notice of Completion to the Network Operator when the electrical installing work was not complete	16/07/07	*	*
Pilbara Meta Maya Aboriginal Corporation (Wedgefield)	NLH	E(L)R Regulation 53(2) (2 breaches)	Employed an unlicensed person to carry out electrical work	18/04/07	*	*

Legend NLH No Licence Held  
E(L)R Electricity (Licensing) Regulations 1991  
\* Global Fine or costs issued

# g a s | f o c u s

## Gasfitting in the roof space

A recent report received by EnergySafety highlights the hazards associated with working in a confined space, such as a ceiling space. In this instance a plumber/gas fitter was engaged to install a continuous flow gas water heater. To connect the gas to the water heater a tee had to be cut into the existing copper gasfitting line in the ceiling. There was nothing unusual about this and the installation was completed within a couple of hours. This water heater was installed in December last year.

Towards the end of December, a light in the lounge room appeared to be faulty and an electrician was called. The electrician disconnected the light fitting with the intention of returning in the New Year when the consumer had purchased another light fitting.

In January, the consumer thought she could smell something burning in the house. It wasn't until the electrician returned to replace the light fitting and to check the electrical wiring in the house that it was discovered an area of ceiling insulation in the vicinity of the light fitting was burnt.

Immediately above the area of burnt insulation was a new section of copper pipe, assumed to have been installed recently, and the new copper tee. One could only assume some solder dropped whilst the tee was being welded and fell into the insulation below causing it to smoulder.

Fortunately, the insulation must have been treated with a flame retardant, continuing to smoulder until it eventually self extinguished.

Was the plumber/gas fitter responsible? As a precaution when welding in the ceiling space do you place a suitable sized piece of insulating board below the area to be welded and above the insulation to prevent such an occurrence? EnergySafety recommends that this practice is followed.

When working in the roof space of an existing property you may want to consider:

- What do I do if for whatever reason the dust on top of insulation in the older houses catches fire?
- Does it warrant taking into the ceiling space a fire blanket or perhaps a fire extinguisher?

When a tube out in a new house is carried out, generally the ceilings are not in place and precautions such as these are not required. Insulation is normally the last treatment inside the ceiling space in a new house.

## Bottom's up

The gas industry has been known over the years as being somewhat progressive and innovative. The West Australian Newspaper in late September 2009 reported a daily increase in the population of Western Australia of 220. Treasury forecasts the population of Australia to hit 35 million by the year 2049. This will place extreme pressure on the infrastructure.

Eastern Australia has experienced severe droughts causing governments to call for water conservation measures. We have seen the introduction of the dual flush toilet systems, water harvesting and grey water schemes. Here in Western Australia there were bans in place on sprinkler use in winter. In the Australian Capital Territory there is a push to reduce the amount of water being flushed in the toilet from 4.5 litres to 3.5 litres per flush.

Some of us may not understand the full consequences of the reduced flow of water into the sewers. The lack of adequate water flows into the system may cause blockages in the older sewers.

Step forward the gas industry with their incinerating toilet. This is not really a new innovation as the concept has been around for many years. The incinerating toilet was first displayed here in Western Australia more than 30 years ago but it was seen as more of a novelty.

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*The incinerating toilet as it is unpacked, showing the bowl, vacuum system and incinerator*

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The environment and water conservation are two very important issues that are hotly contested. Seen as an answer to lessening the impact on the environment by reducing waste water treatment and the footprint on the landscape, the incinerating toilet is ideal for use in environmentally sensitive areas.

Systems have been developed where mobile toilet blocks can be wheeled onto site, parked and commissioned with only a requirement to provide a 24Vdc supply and to connect a couple of 45kg LP Gas cylinders. Water is used in these toilets at a rate of 1/2litre per flush, being supplied from an integrated storage supply.

The incineration process is environmentally friendly with no adverse emissions and the small amount of ash remaining is appropriately disposed.

The incinerating toilet is recognised in the Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 as a Type A gas appliance under s4 of the *Gas Standards Act 1972* and therefore, can be nationally certified.

## Perth Royal Show

The Perth Royal Agricultural Show was held over the period 26 September – 4 October 2009.

EnergySafety undertook an inspection of the gas installations before the show commenced, to ensure they were compliant and safe to operate. The inspection regime is familiar to the majority of the stall holders and the gas fitters that routinely undertake the connection work at the show.

There is an even mix of fixed Natural Gas and LP Gas installations and mobile LP Gas installations. There are also a high number of hire appliances installed

just for the duration of the show. EnergySafety has found it is best to maintain a presence in the showgrounds leading up to the first days of the show knowing that the Notice of Completion, intended to be sent to the gas suppliers, will not be received in time to conduct the usual inspections.

Our inspectors concentrate on the mobile food vans to ensure the location of the LP Gas cylinders do not present hazards to the public and are adequately restrained and where necessary secured with chains.

The Royal Agricultural Society is commended for the work it does before the show commences, to ensure the gas installations are compliant. This year there were only a handful of minor defects. In one instance a stall owner attempted to connect an appliance, thinking as it was only a temporary connection, he could do this. Unfortunately for this person, the Gas Inspector, whilst walking past the stall, identified a smell of gas. The cause was the work carried out by the stall holder. The inspector promptly isolated the installation making it safe. The stall owner has since received a formal warning from EnergySafety for his actions and was somewhat remorseful by the time the Gas Inspector had dealt with him.

There is always the last minute panic. This year it was the pie shop. Hire appliances had arrived with connections to go directly into 9kg LP Gas cylinders. In some cases, the cylinders may be permitted under AS/NZS 1596, Storage and handling of LP Gas to be located inside, such as in large well ventilated pavilions but not an enclosed area of 28m<sup>2</sup>. The Gas Inspector by chance visited this stall and was able to provide the much appreciated advice to get the installation back in order.

The Perth Royal Show is a further example where pro-active light-handed enforcement by EnergySafety's Gas Inspectors is a proven winner.

## Recent prosecutions

Is the message getting out?

EnergySafety is perplexed why a situation such as this can still occur. There are still gas fitters in industry that don't make the effort to pressure test. This was the case recently when a matter came before the Magistrate's Court at Narrogin in September 2009.

The defendant entered a plea of guilty for three offences, one for not pressure testing, which resulted in an accumulation of LP Gas being released into a cupboard underneath a four burner cook-top causing an explosion. The gas leak was attributed to using inappropriate fittings on the final connection to the cook-top.

The explosion caused a significant amount of damage in that portion of the kitchen and the adjoining bathroom. If that was not serious enough, the woman in the house sustained burns and minor lacerations from the flying debris.

This matter was immediately investigated when reported by the gas supplier's inspector and resulted in a joint investigation by the gas supplier and EnergySafety. The house, owned by the Department of Housing and Works was one of a number of houses in the area that had undergone extensive renovation and upgrading and the tenant was moving into the house the day of the explosion.

The findings of this investigation resulted in further non-compliances being found in other houses where

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the building company had used the same plumbing company to undertake this gasfitting work.

The reputation of a long established plumbing company has been placed in jeopardy as a result of inadequate supervision of works and the signing of the Notice of Completion where a pressure test has knowingly not been conducted.

EnergySafety wishes to remind all gas fitters, it does not matter where gasfitting work is undertaken, the gas installation is subjected to a random inspection by the gas suppliers' Gas Inspectors. It is the responsibility of the gas fitter to ensure that their work is compliant at all times and the installation is safe to use.

## We want your Certificate of Competency

EnergySafety is giving you the opportunity to hand in your Certificate of Competency and convert to the permit system. It is expected that a National Licensing System for both plumbers and gas fitters will be introduced in 2012.

Local legislation changes reflecting National Licensing outcomes will see a rush to convert to the permitted system to remain compliant and be able to work within the requirements of the *Gas Standards Act 1972*.

Avoid the last minute rush and complete the application. Forms are available by calling the Gas Licensing Office on telephone 9422 5253 or downloading the application form from the website [www.energysafety.wa.gov.au](http://www.energysafety.wa.gov.au).

The majority of Certificate of Competency holders that currently work in the domestic and commercial gasfitting field should have no problems obtaining the G unrestricted permit.

Those gas fitters requiring the I permit will need to demonstrate and provide evidence of working in the industrial gasfitting field. The Gas Licensing Committee (GLC) will assess each individual I permit application for eligibility.

Certificate of Competency holders, with E and F endorsements, applying for an E permit will generally be accepted, without reference to the GLC.

Any special restrictions in place on the Certificate of Competency will be promptly dealt with by the GLC and resolved on application.

As a further incentive, all applications received before the introduction of the new legislation will have their license fee exempted for the first 12 months.

## Neerabup Power Station visit

EnergySafety staff previously visited the new Neerabup Power Station which commenced operation in December. The power station is jointly owned and managed by ERM Power. The power station is designed to meet Western Australia's growing electricity demand.

The power station is a peaking, air cooled, 330MW gas-fired power plant, located at the Neerabup Industrial Estate and is a dual unit capable of delivering approximately 6% of WA's electricity demand.

The two gas turbine units are Siemens Model SGT5-2000[E]7, each with a natural gas consumption of 2 585GJ/h.

The peaking power station provides low-cost electricity to WA, utilising gas from the North-West shelf delivered through the Dampier to Bunbury Natural Gas Pipeline. The power station provides the lowest source of peaking load

electricity for the South-West Interconnected System.

Valued at \$435 million, the project has already brought an estimated \$50 million in economic benefits to the region during its construction.

The Type B gas appliance inspector was David Brown of Australian Gas Inspection Services and the gas installer was Ken Collins of Bilfinger Berger Services Australia Pty Ltd.



*Neerabup Power station Gas yard*

## Changes to Gas Fitter Training

### Class G gasfitting

In Energy Bulletin 46 there was an article on the requirement for plumbing and gasfitting apprentices to obtain a gasfitting permit to work under supervision whilst completing their training and apprenticeship.

The apprentice will need to hold a restricted permit, to work under supervision, for a minimum of two years. This is to allow the apprentice to obtain the workplace experience required to obtain a permit to work without supervision once they become a tradesperson.

At the end of the gasfitting training and apprenticeship, the apprentice will be issued a **'Training/Assessment Statement Class G Gasfitting Plumbing and Gasfitting Apprentice Final Assessment'** by the training

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provider. On the document there is provision for the restricted permit number to be inserted. To obtain a permit, the applicant will need to submit the **Training/Assessment Statement**, a trade certificate, Certificate III Plumbing and Gasfitting and pay the application fee at the licensing office.

### Training to obtain a Class G permit

The training requirements and qualifications to obtain a Class G permit have changed. From January 2009, the qualifications to obtain a Class G permit are as follows:

#### WA trained Plumber and Gas Fitter tradesperson

At the conclusion of the apprenticeship, apply to become a Class G gas fitter, restricted to the installation of natural gas and LP Gas.

#### Non WA Plumber and Gas Fitter tradesperson

The requirements are as follows:

- Certificate III in Gasfitting, plus
- Competency unit 'Plan, size and layout consumer gas installations'; and
- Be assessed as competent in the workplace.

EnergySafety do not issue service only permits. To obtain an unrestricted permit, (installation and service), the applicant is required to be qualified for a Class G installation permit and obtain the National Competency unit:

- Service Type A gas appliances.

A restricted gasfitting permit may be issued to a person who enrolls in training to become a Class G gasfitter and has completed or has been assessed as competent in the following competency units:

- Work effectively in the plumbing and services sector, (incorporating WA Gas Standards Legislation).

- Carry out OH&S requirements, (incorporating Gas Safety, Basic Combustion and Flueing and Exhaust Principles).
- Use plumbing hand and power tools.
- Weld using oxy-acetylene equipment.

A restricted gasfitting permit is issued for one year and can be re-issued, on application, for a second year. A person will need to complete their training and assessments within this two year period.

These qualification requirements also apply to overseas immigrant gas fitters and local or interstate gas fitters who do not meet our current licensing requirements.

Gasfitting qualifications recognised by EnergySafety to obtain a Class G permit prior to 2008 may still be acceptable. Contact our licensing office for further information.

Training providers recognised by EnergySafety to deliver training to obtain a Class G Permit are:

- Challenger TAFE Ph 9239 8309
- Swan TAFE Midland Ph 9374 6355
- Swan TAFE Balga Ph 9207 4336
- MPA Skills Ph 9271 6600

## The Perth Transit Authority CNG bus fleet

Those of us that reside in and around Perth will have noticed the new bus fleet. In the early eighties, part of the fleet consisted of 52 Mercedes and Renault buses that were trialled using natural gas spark ignition engines. The Natural Gas was compressed (CNG) and stored in cylinder packs underslung from the chassis rails. Although there were some initial problems encountered, it proved that a compressed natural gas transport bus fleet was viable, eliminating most of the exhaust emissions that



*Latest CNG Bus.*



*CNG Fuel dispensers.*

are experienced from the diesel fleet and moving away from the dependency of imported fuel.

Eventually, Perth will see a total of 539 CNG buses, representing 50% of the fleet. These buses will be dispersed over seven metropolitan depots where fast fill facilities have been installed.

The fleet is locally assembled in Malaga at Volgren where the Mercedes Benz chassis is imported (model OC500LE rated to Euro 4) whilst the body is locally produced. Transperth currently receive 80 CNG buses per year from this manufacturing facility.

These buses are fitted with spark ignition natural gas engines that have an average range of 380km from a storage capacity of 260m<sup>3</sup>. The natural gas is contained in seven steel Cylinder Hoop Wrapped Fibre Glass Composite Reinforced Overwrapped cylinders. These cylinders have a service pressure of 20.7MPa (3000psi)

The pack of cylinders has a mass of 930kg that are now mounted on the front portion of the roof in an enclosed pod. Strengthening

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of the front end of the bus had to be engineered with internal vehicle supports and heavy duty suspension to accommodate this additional weight.



*CNG cylinders.*

There is a small team of gas fitters at Volgren assembling and testing each gas installation prior to hand over of the bus. Vehicle mechanics with specialist gasfitting skills are employed at all the bus depots to maintain this fleet. Origin Energy, under an authorisation maintain all the gas compression equipment and the CNG fuel dispensers on the forecourts.

## Training for the future Class G gas fitters

The new national training 'CPC08 Construction Training Package' which includes plumbing and gasfitting, is being phased in during 2010. CPC08 identifies national competencies for a Certificate III in gasfitting. As a consequence of this new training package, EnergySafety requested training providers who wish to conduct training for Class G gas fitters to submit their training course based on CPC08 to the Director of Energy Safety for recognition.

The CPC08 Construction Training Package is the result of consultation between major stakeholders such as Industry Training Councils (ITCs), reference groups and licensing authorities.

The focus of the training and assessment process will be

demonstrating the required skills and knowledge in the workplace or under simulated workplace conditions. National competency units, among other things, require the validity and sufficiency of competency being demonstrated over a period of time to reflect the scope of the role and practical requirements of the workplace.

This is a move away from institutional training where the trainee could be deemed competent after performing minimal tasks in the training facility. The onus is now on the trainer and employer to ensure that the trainee achieves the required workplace skills and knowledge. Competence may be achieved in a training facility, but only after completing simulated workplace projects.

There is a move to the use of workbooks or journals in providing evidence of competency in the workplace. However, EnergySafety have received reports that in some instances the competency was signed off by the employer/supervisor without sufficient evidence of the competency being achieved. This is unhelpful to both the trainee and training provider. Workbooks and journals need to be completed honestly and accurately. The training provider should be able to identify from the workbook or journal whether or not the trainee has achieved workplace competence. If the trainee has not met workplace competence, then the trainer can negotiate arrangements with the employer or provide a simulated project for the trainee to allow the required competencies to be demonstrated.

Some employers have complained that when their trainees, mainly apprentices, return to the workplace the trainees tell them that they are doing something that is not compliant. The reason may be that a change to a regulation or standard

has occurred. The statement made by the trainee/apprentice may save you a prosecution or infringement.

With changes to the training structure, assessment process and the impending introduction of a new AS 5601, Gas installations, a trainee/apprentice could well be an asset to any gasfitting business.

## Gasfitting Authorisations for maintaining industrial gas-fired plant

EnergySafety has together with an Industry Working Group (IWG) undertaken a review of gasfitting authorisations used to maintain industrial gas-fired plant. The review covered gasfitting authorisations for the maintenance of Type B gas appliances and the maintenance and repair of associated piping systems.

The IWG was established to consider how the industrial service authorisations were currently operating and if there was any scope for improvement. The IWG consisted of current authorisations holders, an independent Type B gas inspector, training providers and EnergySafety personnel.

The IWG considered the following issues:

- removal of delegates, who sign off work on behalf of the authorisation holder;
- scope of work being carried out under maintenance (service) authorisations;
- qualifications and training to obtain an authorisation; and
- documentation, including the Gasfitting Record Book and Guidelines for Developing a Gasfitting Authorisation Training Plan.

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### Delegates

Now that multiple authorisations can be issued to cover the gasfitting work, there is no need to have delegates.

### Scope of Work

A recommendation was put forward to consider a two tier authorisation system.

- Category one for minor maintenance (like for like exchange of components); and
- Category two, being more advanced and which will allow for fault finding and rectification of faults. This will require a higher level of training.

### Qualifications and Training

A proposal by the IWG is to upgrade Western Australian industrial gasfitting training so that it is compliant with the Australian Quality Training Framework (AQTF) and national competencies.

### Documentation

The IWG identified the need to upgrade documentation provided to authorisation holders and applicants by EnergySafety. Suggested changes to the Guidelines for developing a Gasfitting Authorisation Training Plan and the Gasfitting Record

Book that would better reflect the scope of work that can be undertaken by authorisation holders was also recommended.

The Director Gas is considering the report and its recommendations.

## **Prosecutions for breaches of gas legislation 1 August 2009 to 31 December 2009**

<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>Karl Beard (Pingelly)</i>	<i>GF 013223</i>	<i>GSR 18, 32, 28(2), 26(1) (a)</i>	<i>Failed to ensure the gas installation complied with the requirements of the regulations referred to in regulation 32. Failed to attach an approved badge upon completion of gasfitting work. Failed to ensure the requirements of the regulations as to pressure testing were satisfied and made gas-tight.</i>	<i>3,500</i>	<i>114.20</i>

Legend NLH No Licence Held

GSA Gas Standards Act 1972

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