

energy

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EnergySafety to be funded by industry

Western Australia's electrical and gas industries will from 1 July 2006 fully fund EnergySafety, the agency responsible for technical and safety regulation, as well as related industry and consumer safety and compliance promotion.

The legislation to provide for this funding was introduced into State Parliament in October 2005 and passed during June 2006, following review by a Standing Committee of the Legislative Council, which made a number of recommendations for amendments which the Government accepted. The *Energy Safety Act 2006* enables the Government each year to apply a levy to electricity network operators and gas distributors (Natural and LP Gas). The funds from this levy will, when added to the revenue EnergySafety already receives from electrical and gas licensing fees, fully fund the regulator.

When the legislation was first introduced by the then responsible Minister John Kobelke, he said: “The Gallop Government has done much to strengthen competition within the energy industry to deliver lower prices and support WA's outstanding economic performance. However we are not prepared to sacrifice the safety of industry employees, consumers or the public generally.”

“It is essential that an adequate legislative and regulatory framework exists and is enforced to ensure minimum standards of safety and performance are met.”

Mr Kobelke also noted at the time that a similar scheme had been operating for many years in Victoria and levies are also

applied in Queensland, South Australia and New Zealand. He said the levy was an economically efficient and fair way of meeting the cost of technical and safety regulation, and that we all benefit from safe energy supply systems, safe and efficient energy installations and appliances, safety promotion and related emergency management work.

The legislation required the Minister for Employment Protection John Bowler, who some months ago became responsible for the Department of Consumer and Employment Protection and thus also EnergySafety, to determine the amount and allocation of the levy. 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 will provide 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. All effort will 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.



ALBERT KOENIG
DIRECTOR OF ENERGY SAFETY

EnergySafety



Introduction of infringement notices for enforcing energy related legislation

EnergySafety has for some considerable time had concerns about the effort required to enforce provisions of the energy industry technical and safety regulation framework, especially in regard to the work required to prepare cases for Court proceedings. As a result, EnergySafety plans to introduce the use of 'infringement notices'.

What this means is that a specially authorised EnergySafety inspector will be able to issue an infringement notice to an individual or a corporation, if the inspector has concluded, after careful investigation, that a breach of legislation has been committed. Per the infringement notice framework established by the Government (it is available for application across a range of legislation, not just energy-related legislation), a modified penalty may be applied.

For example, in the case of offences under the *Electricity Act 1945*, a Court could impose a penalty up to \$5,000 or \$20,000 on an individual or corporation respectively. The modified penalty under an infringement notice would be something of the order of \$500 or \$2,000 respectively. The specific levels for each offence will be set out in the regulations covering infringement notices.

EnergySafety appreciates that readers might well ask why this

infringement notice system, which is similar to that used for speeding fines, is being considered for energy safety related laws. There is a simple answer: efficiency in achieving compliance. EnergySafety has over the years become responsible for administering an increasing amount of legislation covering energy supply systems, consumer installations, equipment safety and equipment energy efficiency. EnergySafety has also taken on new areas such as energy related emergency management.

EnergySafety has not had any increases in staff numbers since inception in 1995 and this is because a real effort has been made to establish efficient ways of administering the regulatory framework and emergency management responsibilities. However, there are limits to this and EnergySafety has found it increasingly difficult over recent years to adequately deal with the increasing volume of reported offences by industry operatives and also network operators, especially due to the amount of staff time required to bring a case before a Magistrate in Court. The Infringement Notice system is designed to provide greater administrative efficiency in this area and that is why EnergySafety (like other regulators in WA and elsewhere) is moving to use this system. It will operate alongside the existing system under which alleged offenders may be brought before a Magistrate's Court (that is, it will operate as an alternative system).

The person to whom an Infringement Notice is issued always retains all normal right to a Court hearing, before a Magistrate, if that is his or her choice. In other words, a person may choose to not pay the modified penalty and request a Court hearing. Therefore EnergySafety inspectors will still have to be certain that an offence has been committed, before issuing an Infringement Notice.

However this system will provide for much more efficient enforcement of mandatory requirements, since in most cases formal Court proceedings will not be necessary. This in turn will allow EnergySafety to maintain appropriate compliance standards, so that the operatives who do comply are not undermined by those who don't.

If readers have any views on this proposed change, they are invited to email comments to EnergySafety at energysafety@docep.wa.gov.au.

Location change for EnergySafety

Plans are being made to relocate EnergySafety's offices from West Leederville to Cannington, to existing offices near the Cannington Railway Station, close to Carousel Shopping Centre. The timing of the move is not finalised but is expected to take place before the end of 2006.

More information on the new location, mail address and telephone contact details will be provided as soon as possible to readers via this Bulletin and via the EnergySafety website.

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Update on Licensing Office workloads

In Energy Bulletin No. 38 (February 2006), we reported on the unprecedented high volume of electrical and gas licence applications being received at EnergySafety.

This high level of activity continues.

We are therefore seeking the assistance and cooperation of applicants for licences, so as to minimise possible delays in the processing of applications.

Applicants can assist by:

- ensuring that all documentation and information, as requested in the application form, accompanies the original application; and
- notifying EnergySafety of all changes of address, both for electrical workers' and electrical contractors' licences.

Unless there is some compelling reason to do so, it would also be appreciated if applicants do not phone or email the Licensing Office to enquire about the processing of applications. Most licence applications are processed in strict date order of receipt and dealt with expeditiously. Telephone and email enquiries can consume valuable staff time, adding further to delays in the licence issuing process.

EnergySafety would like to thank all licence applicants and licensed operatives for their continued cooperation.



Gasfitting awards 2006

Gasfitting Safety Award

Last year [2005], EnergySafety presented the inaugural Gasfitting Safety Award in conjunction with the annual Master Plumbers and Gasfitters Association Awards for Excellence. Nominations are now being invited from industry for this year's Gasfitting Safety Award. Nominations may be from a gas fitter, company or organisation or from a third party. Nominations must be submitted to EnergySafety in writing. The closing date for nominations is 18 August 2006. Full details of the award, including submission guidelines and nomination form, are on EnergySafety's website.



Geoff Wood, Director of Gas & Emergency Management, EnergySafety congratulating the inaugural Gasfitting Safety Award recipient Andrew Sellar in 2005

Gasfitter of the Year Award

The Master Plumbers and Gasfitters Association together with the Gas Industry Association of Western Australia advise that nominations are now open for the Gasfitter of the Year Award. This Award is proudly supported by Alinta. Nomination forms for this prestigious award are available by contacting the Master Plumbers and Gasfitters Association by email mail@mpawa.asn.au or by fax on (08) 9272 6010, subject line stating 'Gasfitter of the Year'. The application must state full name, company details, postal address and contact phone numbers. The closing date for nominations is 31 August 2006.



Jim Eftos from Swan TAFE presenting the Gasfitter of the Year 2005 award to Lawrence Pritchard

The successful nominees will be presented with their respective awards at the Master Plumbers and Gasfitters Association Awards for Excellence to be held at the Burswood Function Centre on 28 October 2006.

Alinta commences electricity generation

During April 2006, Energy Minister Francis Logan launched the first of Alinta's cogeneration units at Alcoa's Pinjarra refinery. This state-of-the-art power station heralds Alinta's move to become a serious player in WA's electricity industry.

The open-cycle gas turbine produces 140 MW of electricity for export to the South-West Interconnected System. The plant uses the waste heat to produce 240 tonnes per hour of steam which is used by Alcoa in alumina processing.

Best-known as WA's major gas distributor and retailer, Alinta is now able to provide its own electricity to its contestable customers. At this stage, only customers who spend more than \$8,000 per year on electricity are deemed 'contestable'.

"The investor confidence demonstrated by companies such as Alinta shows that the Government's reforms of the electricity industry are hitting the mark, creating a future of competitively priced reliable power for Western Australians" Mr Logan said.

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Alinta has plans for a second unit at Pinjarra and two additional units at Wagerup. This will enable more customers to benefit from the competitive energy industry environment that the Government has created.

Business owners' guide to saving energy and money

Energy Minister Francis Logan recently announced the introduction of the Energy Smart Toolbox.

The Energy Smart Toolbox is a web-based resource for business owners and managers to find ways for their businesses to become more energy efficient, saving energy and money.

The toolbox will guide people step-by-step through each phase of estimating their energy expenditure

as well as help them find ways to reduce their energy use. It could also be applied to specific projects and pinpoint areas where energy savings can be made.

Another huge advantage is that it could clearly quantify the savings that could be made in terms of energy, dollars and greenhouse gas emissions.

"A great thing about the Energy Smart Toolbox is that it assists businesses to be proactive in their energy saving, rather than just reactive," Mr Logan said.

"For example, it will provide a helpful demonstration on how to put together a strong business case for energy efficiency upgrades by demonstrating ongoing financial savings.

"There are also several case studies in the toolbox on how businesses have

put energy management techniques into practice. These studies illustrate how businesses have slashed energy costs through technology upgrades and innovative energy management strategies" he said.

"They are a particularly useful mechanism for businesses to be able to access practical information on how to save on energy costs."

The Energy Smart Toolbox was jointly developed by SEDO (the State Government's Sustainable Energy Development Office) and the New South Wales Department of Energy, Utilities and Sustainability.

The toolbox can be accessed online at www.energysmart.com.au/sedatoolbox.

Further energy saving tips are also available online at www.sedo.energy.wa.gov.au or by telephoning the SEDO's Energy Smart Line on 1300 658 158.

Green light for carbon dioxide storage project

Australia's first carbon dioxide geo-sequestration is planned for the Otway Basin in Victoria.

Geo-sequestration, the geological storage of carbon dioxide, is being backed by the Federal and State governments to provide a way to make deep cuts into greenhouse emissions from the burning of fossil fuels, at a time when international concern about climate change is escalating.

The project will simulate capturing carbon dioxide from a power station. The greenhouse gas will then be piped several kilometres for pumping into underground storage in a depleted gas reservoir about 2 km underground. This is much like the natural geological processes that trap carbon dioxide for up to millions of years.

electrical focus

Call for comment – Next edition of the “Wiring Rules”

Work is proceeding on drafting the next edition of AS/NZS 3000 Wiring Rules, due for release later in 2006.

The draft for public comment of the next edition of the Wiring Rules is now available free via online download from the Standards Australia website at www.standards.org.au. The draft comprises a series of separate documents, DR 06001 through to DR 06010.

Now is the time to put forward any comments or recommendations to be considered for inclusion in this revision.

This next edition of the Wiring Rules will be in two parts:

Part 1 – Essential Installation

Requirements – Mandatory requirements that encompass existing AS/NZS 3000 Section 1 Fundamental Safety Principles, design and functional obligations with the result that the compliant installation will be safe and fit for purpose. This part also includes references to the prescriptive provisions of Part 2 as a means of compliance.

Part 2 – Wiring Rules – Deemed to comply (DTC) solutions that provide direction on complying wiring methods without inhibiting innovation or alternatives. An installer following the Part 2 DTC simple option will know that the installed electrical work complies.

The Part 2 DTC will be based largely on existing AS/NZS 3000:2000 Section 2 to 7 provisions, updated by incorporation of key AS/NZS 3000:1991 ‘deemed to comply’ matters omitted from the 1991 to 2000 transition.

The two parts will be published as one Wiring Rules document.

Additional new diagrams and explanatory information will be included to help the user to understand the requirements clearly.

The publication date and application date of this next edition of the Wiring Rules will be advised in a subsequent issue of the Energy Bulletin.



Recent serious network incidents

Recent serious network incidents demonstrate the consequences of failing to properly assess and control hazards on an electricity supply network.

The same principles apply to low voltage installations – high fault

levels / low voltages present similar tragic outcomes, when burns are involved. Any low voltage can produce a shock in the current range that fibrillates the heart, with likely fatal consequences.

All of the victims in the following incidents left for work, assuming they would be coming home that night.

October 2005

An experienced contract line worker was electrocuted while working on a 22kV overhead line. This incident occurred after the Access Permit had been cancelled and returned to the network’s switching operator, even though the job was not complete.

Some might consider that the mandatory hazard assessment and related documents are a bureaucratic annoyance requiring only a signature to allow the real work to proceed. If you are of that view, check with your family, friends and workmates to see if they consider your life worth the effort, each time you start work.



February 2006

A contract live line worker was severely burnt while changing an insulator on a live 22kV pole top switch. He was extremely fortunate to have survived, although his hands were permanently damaged.

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The failure of hazard controls in such an onerous work situation prompted the network operator to suspend all 'glove and barrier' work on their network until a complete review of work practices, competencies and monitoring systems was carried out.

May 2006

Two drilling subcontractors working on a transformer compound were injured, one critically, when the head of a drilling rig tilted to within the arcing distance of a 33kV aerial conductor whilst the stabilising outrigger was being adjusted. Despite holding the truck door and a metal gate at the time of the strike, the critically injured person survived. A very fortunate person.

A simple pre-work hazard assessment action would have avoided severe trauma, pain and possible life-long health problems.

What are the lessons to be learnt?

Although workers may be very familiar with the daily tasks they carry out, the danger and consequences of a momentary lapse are always present.

It therefore is the primary responsibility of each individual to continuously assess his or her safety.

Before workers commence allotted tasks, they need to ask themselves:

- How is this location unique?
- What events or conditions (even most unlikely or remote from your site) could happen and what are their controls?
- What is the experience and understanding of the tasks of others involved?

- Does the worksite owner require access, vicinity or work permits? If so, complete them!

For the duration of the work, workers need to monitor the hazards including the impact of:

- The task changing
- Conditions changing
- Workers/visitors arriving and their level of understanding of the hazards
- Workers leaving and additional burdens placed on those remaining
- Failure of supports, equipment/structures, tools, isolating devices.

At the conclusion of the work, ensure:

- The job is completed
- All work barriers and tags are removed
- All covers are replaced ready for energisation
- Everyone is clear of the danger zone and acknowledges they cannot re-enter.

It is more than just paperwork; it could be a life! Maybe your own!

Testing and checking requirements for used electrical equipment

EnergySafety receives many enquiries about the standards for testing and checking of used [second hand] and recycled electrical equipment.

The requirements are contained in several Australian New Zealand Standards.

AS/NZS 3760:2003 (Incorporating Amendment No. 1) "In-service safety inspection and testing of

electrical equipment" details procedures for the safety inspection and testing of low voltage electrical equipment connected to electricity supply by flexible cord and/or connecting device.

Two new Standards have recently been introduced:

1. AS/NZS 5761:2005 "In-service safety inspection and testing – Second-hand electrical equipment prior to sale" – requirements for the post-sale safety inspection and testing of low voltage electrical equipment which has been repaired, or undergone service maintenance which could have affected electrical safety.
2. AS/NZS 5762:2005 "In-service safety inspection and testing – Repaired electrical equipment" – procedures for the safety inspection and testing of low voltage second-hand electrical equipment, prior to being offered for sale, and includes equipment intended for both domestic and workplace environments.

The general requirements applying to used domestic electrical appliances salvaged for reconditioning or parts recycling are in AS/NZS 4701:2000 "Requirements for domestic electrical appliances and equipment for reconditioning or parts recycling".

EnergySafety's information sheet "Selling used electrical appliances/equipment" provides some useful guidelines to the general public when purchasing second hand appliances. The document may be viewed or downloaded from EnergySafety's website.

Prosecutions for breaches of electricity legislation 1 January 2006 to 31 March 2006

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
<i>Grant McDonald (Scarborough)</i>	<i>NA</i>	<i>Electricity (Licensing) Regulations 1991 Regulation 19(1)</i>	<i>Carried out electrical work without holding an electrical workers licence</i>	<i>800.00</i>	<i>325.70</i>
<i>Sean Conlon (Busselton)</i>	<i>EW 125703</i>	<i>Electricity (Licensing) Regulations 1991 Regulation 19(1) (17 breaches)</i>	<i>Carried out electrical work without holding an electrical workers licence (endorsed mechanic)</i>	<i>700.00</i>	<i>500.70</i>
<i>Michael Moloney (Margaret River)</i>	<i>EW 117067</i>	<i>Electricity (Licensing) Regulations 1991 Regulation 49(1) (3 breaches)</i>	<i>Carried out substandard electrical work</i>	<i>600.00</i>	<i>428.45</i>
<i>Wildflower Electrical Refrigeration Services (Margaret River)</i>	<i>EC 004447</i>	<i>Electricity (Licensing) Regulations 1991 Regulation 52(1)</i>	<i>Failed to submit a Notice of Completion for completed electrical work</i>	<i>900.00</i>	<i>428.45</i>
<i>Jeffery Cairns (Roleystone)</i>	<i>EW 104912</i>	<i>Electricity (Licensing) Regulations 1991 Regulation 50A</i>	<i>Permitted unsafe wiring or equipment to be connected to an electrical installation</i>	<i>1,000.00</i>	<i>410.45</i>

NA Not applicable – no licence held

Amendments to the Gas Standards (Gasfitting and Consumer Gas Installations) Regulations

Executive Council approved amendments to the *Gas Standards (Gasfitting And Consumer Gas Installations) Regulations 1999* on 11 April 2006. The amendments were published in the Government Gazette No. 70 dated 21 April 2006 and are now "law".

The amendments provide for the following:

Schedule 2 replaced

Form 1 (Summons to attend an inquiry) and Form 2 (Summons to give evidence at an inquiry) of Schedule 2 have been changed to reflect the requirements of the State

Administrative Tribunal (SAT). SAT deals with disciplinary matters that may result in cancellation or suspension of gas fitters' and authorisation holders' licences.

Schedule 6 amended

Latest version of standard:

Schedule 6 references a number of Australian Standards. The year of publication of the standards in Schedule 6 has been deleted to ensure reference is always to the latest [current] edition of the relevant Standard.

Standards for fitting lines operating above 200 kPa:

Schedule 6 has been amended to clearly identify the relevant Australian Standard/s to be used for fitting lines operating above 200 kPa, based on the material used and the location above or below ground. With the increased usage of

plastic piping as part of underground gas installations, Australian Standard AS 3723 which provides requirements for using plastic piping systems in below ground installations, has been included in Schedule 6.

Schedule 7 updated

Schedule 7 lists a number of mandatory industry codes and standards, principally to ensure the safety of consumers' gas installations. The year of publication of the standards in Schedule 7 has been deleted to ensure reference to the latest [current] version.

Two new standards that apply to gasfitting have been added and three existing standards that are referenced in Schedule 6 have been included in Schedule 7:

(Continued over page)

Australian Standard	Title	Status
AS 4983	<i>Gas fuel systems for forklifts and industrial engines</i>	<i>Added</i>
AS 3723	<i>Installation and maintenance of plastics pipe systems for gas</i>	<i>Added</i>
AS 4041	<i>Pressure piping</i>	<i>Updated and included in Schedule 7</i>
AS/NZS 3100	<i>Approval and test specification – General requirements for electrical equipment</i>	<i>Updated and included in Schedule 7</i>
AS/NZS 60335-2-102	<i>Part 2.102: Particular requirements for gas, oil and solid fuel burning appliances having electrical connections</i>	<i>Updated and included in Schedule 7</i>

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Regulation 4 amended

There is an increasing number of compressed natural gas (CNG) and liquefied natural gas (LNG) storage facilities forming part of gas installations. Regulation 4(a) has been amended to enable storage facilities of CNG and LNG, and in particular, the replacement of the storage cylinders that form these facilities, to be exempted from the definition of gasfitting work.

Regulation 27 repealed

Regulation 27 has been repealed. Submitting a Preliminary Notice by a registered gas fitter to a pipeline licensee or network operator was considered unnecessary and is now not required.

Regulation 32A inserted

There have been instances of companies proposing to construct and operate consumer gas installations where part of the installation, for example pipe work, may be located on crown or private land or in a public area and not physically on the consumer's premises, although connected to the gas installation on such premises.

As the risk of third party interference or damage to a gas installation located in a public area or on crown or private land is much higher than on a consumer's site, the regulations have been amended by inserting Regulation 32A. Regulation 32A requires a company that proposes to construct such an installation to make a submission to the Director of Energy Safety on how the installation will be constructed, operated and maintained. Once the Director approves the submission, which may involve some additional conditions or variations as required by the Director, the installation must be installed, operated and maintained in accordance with the approved submission.

Regulation 36 amended Modified Type B appliance to be available for inspection prior to use: An additional sub-regulation (1aa) has been included as part of Regulation 36(1) to ensure the consumer for whom a Type B appliance is modified makes the appliance available for testing and commissioning by the gas fitter and

inspection by a Type B Gas Appliance Inspector prior to using the appliance.

Marine and forklift mobile engine standards: Two new standards specifically for a marine mobile engine that uses LP Gas (AS 4732 "LP Gas fuel systems for marine engines") and a forklift mobile engine that uses CNG or LP Gas (AS 4983 "Gas fuel systems for forklift and industrial engines") have been included in the amended Regulation 36(3). This has been necessary due to the increase in the number of marine craft having engines that use LP Gas and forklift mobile engines that use CNG.

Compliance

Compliance with the newly listed Australian Standards AS 3723 and AS 4983 applies as soon as practicable.

Compliance with updated versions of Australian Standards is through a transitional period, such that a person who is required to comply with these standards may comply with the previous standards for six months from the date of gazettal, that is, until 21 October 2006.

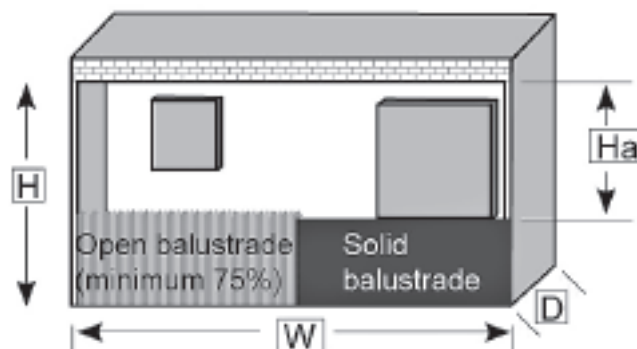
Corrigendum to new EnergySafety publication

Readers are alerted to a typographical error that occurred in the new EnergySafety publication "Safe locations for using gas barbecues".

The figure on page 4 of the booklet, under the section "Barbecues on balconies or verandas", shows a balcony with an open construction balustrade. The figure was incorrectly labelled "Open balustrade (minimum 5%)".

This label should have read, "Open balustrade (minimum 75%)".

The correctly labelled publication is now available from EnergySafety. The corrected version is also available for download from EnergySafety's website.



The corrected figure in EnergySafety's booklet "Safe locations for using gas barbecues"

The new generic compliance plate for LP Gas fuel systems for vehicle engines and all other mobile gas installations

Important information for autogas installers

Permit and Certificate of Competency holders who carry out autogas installations need to be aware of recent amendments to the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*. The regulations call up a number of Australian Standards, including the later edition of AS/NZS 1425 “LP Gas for fuel systems for vehicle engines”.

Appendix D of AS/NZS 1425:2003 specifies an emissions standard, requiring all motor vehicles manufactured from January 2003 and converted to use LP Gas as a fuel, to comply with one of the following Australian Design Rules:

- ADR 79/00;
- ADR 79/01;
- ADR 80/00; or
- ADR 80/01.

To enable industry to readily comply with these requirements, kit producers are now providing under-bonnet ‘certified kits’ for popular family cars and light commercial vehicles.

Further information, including a list of certified kits, is available on LP Gas Australia’s website at www.lpgaustralia.com.au. The website is also accessible from EnergySafety’s website.

Vehicles outside of this range can no longer be converted without further emissions testing being undertaken at an approved emissions testing laboratory. Failure to complete this emissions testing will render the vehicle unroadworthy.

Autogas installers are reminded that the new generic compliance plate for LP Gas fuel systems for vehicle engines and all other mobile gas installations (refer to Gas Focus No. 36 – July 2005) will shortly be on issue from EnergySafety.

Gas fitters demonstrate high standards

Two gas fitters, father and son, recently completed the tube-out and connected and commissioned all the appliances at a new house, unaware that the owner of the

house has ‘close connections’ with EnergySafety.

In his work at EnergySafety, the ‘connection’ is confronted daily with many instances of unsafe installations, non-compliance and lack of pride in workmanship. Imagine his delight in experiencing gasfitting at its best, carried out in his own house – neat, aligned pipe work in acceptable materials and fittings, no collateral damage, correct size and location of vents, properly completed paperwork submitted to the right parties, legible metal badge in the meter box, all appliances adjusted to perfection and no mess left behind.

What a pleasure!

EnergySafety commends the good work of Steven Rees (GF 003022) of Maddington [for the tube-out] and his father Jeffrey Rees (GF 002763) of Lynwood [for the finals].

These gas fitters demonstrate that the work can be done right the first time – and it isn’t so difficult!



Father and son gas fitters, Jeff (at right) and Steve Rees

Use of composite gas piping systems

Composite piping is an extruded macro composite pipe of several layers. The inner layer can be either polyethylene (PE) or a cross-linked polyethylene (PEX) overlap welded by an aluminium layer, then covered by either an outside PE or PEX layer with bonding adhesive layers between the aluminium (AL) layers.

Composite gas piping systems may be used in consumer gas installations in WA when installed by a trained gas fitter. EnergySafety requires the gas fitter installing composite piping systems to be 'authorised'.

Authorised in this context means trained by the manufacturer/supplier in the use and joining of the product as well as being able to size the composite piping diameter and calculate pipe volumes.

The manufacturer/supplier is required to keep a record of gas fitters they have trained and to issue the gas fitters with a certificate authorising them to carry out this work as provided for in AS 5601.

Some limiting conditions apply to composite gas piping installations, including the following:

- Maximum operating pressure (70 kPa) and temperatures for the types of composite piping, their fittings and jointing methods are referred to in AS 5601 – 2004 "Gas installations", Table 3.1, these being:
 - 60°C for PE/AL/PE and 80°C for PEX/AL/PEX to AS 4176.
 - 60°C for PE/AL/PE inner cross-linked polyethylene layer to ISO 14531-1.
- Not being permitted for use as final connection to an appliance.
- Not having non-metallic fittings installed above ground (Clause 3.2.2(e) of AS 5601 – 2004 excludes non-metallic fittings from being installed above ground).
- Compliance with any instructions or warnings issued by the manufacturer or supplier of the piping, fittings and jointing.
- No part of a proprietary composite gas piping system is to be substituted by any other part without the manufacturer's approval (Clause 3.1.3 'Substitution of components' of AS 5601 – 2004).
- Installation in the initial pipe work installation of a tee fitting

with an external or internal British Standard Pipe (BSP) threaded centre. Alternatively, the gas fitter may install a composite equal tee in the line with a short piece of composite pipe extending from the tee and a composite to BSP threaded end connector, plugged or capped off.

The tee is to be installed in an accessible location within three metres of the gas meter or LP Gas cylinder, or if the initial supply is run underground from the meter of an LP Gas cylinder, at an accessible location on a riser.

The availability of a plugged/capped BSP fitting allows a gas fitter attending the consumer's site in the future to safely extend the supply, where he/she is using another manufacturer's composite pipe or copper or steel pipe.

- Durable labelling is to be attached to the gas meter or LP Gas cylinders advising that the consumer's installation has a particular manufacturer's composite piping system and where the tee is located.



Composite (PEX/AL/PEX) piping

Revision of AG 901 – Call for comments

Australian Gas Association's publication AG 901 "Code of Practice for NGV Refuelling Stations" is currently being revised. The revised publication will become Australian Standard AS 4648 and is expected to be completed within nine months.

The revision is being carried out by Standards Australia Committee AG-009 "Natural Gas Vehicles" and its subcommittee.

EnergySafety plays an active role on this committee. Meetings of AG-009 are held approximately every ten weeks at Standards Australia in Sydney.

If readers have any particular issues or concerns that they would like to see addressed as part of this revision, they are invited to email their proposal to EnergySafety at energysafety@docep.wa.gov.au under the subject "Revision of NGV Refuelling Standard".

Prosecutions for breaches of gas legislation 1 January 2006 to 31 March 2006

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
<i>Maxwell Dodd (Scarborough)</i>	<i>GF 002142</i>	<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 Regulations 28(2), 28(3), 28(3a)(c)</i>	<i>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>840.00</i>	<i>540.00</i>
<i>Glenn Henderson (Falcon)</i>	<i>GF 003828</i>	<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 Regulations 28(2), 28(3a)(b), 28(3a)(c)</i>	<i>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>600.00</i>	<i>325.70</i>
<i>Peter Neretlis (Maddington)</i>	<i>GF 003170</i>	<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 Regulations 28(2), 28(3a)(b), 28(3a)(c)</i>	<i>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>4,000.00</i>	<i>400.70</i>