

energy

Bulletin

ISSN 1323-8957

• In this issue...

- Gas Appliance Rectification Programme 1
- Electrical Incident Safety Report 2010-11 2
- Electrical Licensing Board Members 2

Electrical Focus 2

- Electrical contractor prosecuted for failing to check and test electrical work 3
- Transportable structures – Q & As 3
- How to obtain an electrical contractor's licence 4
- Exemptions from the submission of notices at mine sites 5
- Is your apprentice carrying out unlicensed electrical work? 5
- RCDs in the workplace 6
- Carrying out electrical work for yourself or immediate family 6
- Product recall on Eltech Industries solar connect DC isolator 7
- Audit of Western Power's Service Connect Scheme 7
- Prosecutions for breaches of electricity legislation 8
- Incorrect prosecution listing 8

Gas Focus 9

- Modular Hydrogen Plant – Nickel West Kwinana Refinery 9
- Review of AS 3814 9
- Likely hazards when working as a mobile Autogas installer offering a repair service 9
- Engineering student working at EnergySafety 10
- Master Plumbers and Gasfitters Association of WA regional tradeshows 10
- Large LP Gas installations 11
- Reminder – EnergySafety at your workplace 12
- Prosecutions for breaches of gas legislation 12

Gas Appliance Rectification Programme

Under the Gas Appliance Rectification Programme over 5,500 qualifying pre-1980 appliances have been replaced or serviced to date.

Those consumers who have registered are being contacted to advise them that their appliance falls within one of the following three categories:

- the appliance is suitable for use with the changed gas supply and no work is required. Please note that not all pre-1980 appliances need replacing; or
- the appliance will be replaced free with a new appliance as it is not suitable for use with the changed gas supply; or
- the appliance needs to be serviced to ensure it operates efficiently on the changed gas. This will be completed free of charge.

It is not too late for consumers to register their pre-1980s appliance for a free safety check. If you come across a pre-1980 gas appliance, please inform your client of the programme and the need to get their appliance checked. The safety check is completed free of charge. Your customers can register at www.gasapplianceprogram.com.au

The Gas Appliance Rectification Programme is expected to be completed by the end of 2012. Once complete the replacement or servicing of pre-1980 appliances will become the responsibility of the owner.

For more information or to view when your area is scheduled for work please visit www.energysafety.wa.gov.au.



KEN BOWRON
DIRECTOR OF ENERGY SAFETY

EnergySafety



Government of Western Australia
Department of Commerce

EnergySafety
303 Sevenoaks Street
Cannington
Western Australia 6107

Telephone: (08) 9422 5200
Fax: (08) 9422 5244
Email: energysafety@commerce.wa.gov.au
Internet: www.energysafety.wa.gov.au

Electrical Incident Safety Report 2010-11

EnergySafety has published an Electrical Incident Safety Report which analyses the electrical incidents reported to EnergySafety WA in the fiscal year 2010-11. The analysis has also been based on incidents reported over a 10 year period from 1 July 2001 to 30 June 2011.

The report examines three categories of incidents – fatality, accident and shock. Its aim is to provide a statistical basis for future recommendations to reduce the risks associated with electricity.

From 1 June 2001 to 30 June 2011, 35 electrical fatalities occurred in Western Australia, 20 within the Perth metropolitan area and 15 in regional areas. Fatalities per million population in the metropolitan area have remained fairly stable over the past 10 years while the rate in regional areas has declined. In 2010-11, four electrical fatalities were reported in WA, two in the Perth metropolitan area and two in the regional areas.

Approximately 40 per cent of fatalities occurred in a workplace environment with electrical workers forming 47 per cent of this category. Among non-workplace categories, the group most at risk is home-based members of the general public, including children, students and retired persons.

In the 10 year reporting period, fixed wiring has remained the primary contributor in 31 per cent of reported electrical fatalities, followed by tools/appliances at 23 per cent. Most fatalities occurred in the months of December, January and February.

There were 215 serious electrical accidents and 9,977 shocks reported since July 2001.

In comparison to the previous year, 2010-2011 had a reduction in reported electrical accidents and shocks. The reduction in the number of accidents can be attributed primarily to improved work practices stemming from improvements in the electrical installation standards and other electrical guidelines issued by EnergySafety.

A copy of the full report is available on the publications page of the EnergySafety website at www.energysafety.wa.gov.au.

Electrical Licensing Board Members

Energy Bulletin 57 contained information on the members of the Electrical Licensing Board as at 30 June 2011. Mr D Saunders was listed as the member nominated by the Director of Energy Safety. This is incorrect and should have listed Mr S Khan.

The current members of the Electrical Licensing Board are:

- Mr K McGill, Chairman;
- Mr Greg Wilton, representing the interests of electrical workers;
- Mr P Beveridge, representing the interests of electrical contractors;
- Mr G Grundy, representing the interests of electrical workers with restricted licences;
- Mr G Bryant, 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 L McGuigan, a residential consumer of electrical services; and
- Mr S Khan, nominated by the Director of Energy Safety.

© Department of Commerce 2012
ISSN 1323-8957

The Energy Bulletin is published by EnergySafety, a Division of the Department of Commerce. It is distributed free of charge to licensed electrical contractors, in-house electrical installers, electrical inspectors, gas certificate holders, gas authorisation holders, gas permit holders and gas inspectors.

The Energy Bulletin may be downloaded free of charge from EnergySafety's website.

Articles in this publication may be reproduced, provided they are reproduced in full and show acknowledgement to EnergySafety.

Alternative formats of this publication may be available to meet the needs of people with disabilities.

For enquiries:

Editor: Cathy Gildersleeve

Phone: 08 9422 5208

Fax: 08 9422 5244

Email: cgildersleeve@commerce.wa.gov.au

Internet: www.energysafety.wa.gov.au

electrical

focus

Electrical contractor prosecuted for failing to check and test electrical work

An electrician recently pleaded guilty to failing to check and test the electrical installing work which he carried out. His work included:

- installing and connecting underground consumers mains from a Western Power (WP) pillar to a remote kwh meter located at the veranda of a transportable home on the property;
- installing a new switchboard enclosure at the veranda of the transportable house;
- installing and connecting the new meter (at the remote metering position);
- installing an earth electrode; and
- checking and testing of the electrical installation associated with the transportable building.

Following the receipt of a defect report from a Western Power connection crew, a Western Power Electrical Inspector attended the site and carried out an inspection of the electrical installation. The inspection revealed the consumer's active and neutral conductors at the kwh meter had been transposed. This is a serious defect which could lead to an electric shock or even an electrocution.

This transposition resulted in the earthing system (via the MEN connection) and the conductive parts of the switchboard enclosure becoming 'live' and dangerous up to a potential of 240 volts AC.

If the electrician had checked and tested the installation correctly on completion of the electrical work, he would have found the transposition error.

As part of the mandatory 'check and test', a visual inspection and correct circuit connections test should have been performed.

This would have ensured the installation was left safe.

The electrician's accreditation with Western Power's Service Connect scheme was revoked following discovery of the defective work.

The electrician pleaded guilty at the magistrate's court, and was ordered to pay a penalty of \$2,500.00 with court costs of \$74.70.

Transportable structures – Q & As

EnergySafety has received several queries about electrical installing work on transportable structures. The following information is provided to assist electrical contractors.

Q: What is classified as a transportable structure?

A: All relocatable homes, transportable huts, modified sea containers, etc being connected to the electricity supply for the first time or being reconnected to the electricity supply after relocation from another site must be treated as 'new electrical installations'.

Q: What standards should these installations be required to comply with?

A: In addition to AS/NZS 3000, Wiring Rules, current at the time of connection or reconnection, the electrical installation of these structures will need to comply with AS/NZS 3001, Electrical installations – Transportable structures and vehicles including their site supplies.



The transposed active and neutral conductors at the kwh meter. It should be connected red, black, black, red

Continued over page

Continued from previous page

Q: What paperwork is required to be submitted?

A: Every connection or reconnection will require the submission of a Preliminary Notice and Notice of Completion (to the relevant network operator) and the provision of an Electrical Safety Certificate (to the owner of the structure).

The information provided in the Notice of Completion should specify:

- the address where the electrical work was undertaken;
- the maximum demand calculation;
- the work carried out such as the interconnection of wiring, installation of main earth conductors and consumers mains; and
- the electrical installation has been checked and tested.

These comments should be written in the comments section of the notice.

An Electrical Safety Certificate must be supplied to the person who requested the work.

Q: What checks do I need to carry out before I sign off on the job?

A: Electrical contractors and in-house licence holders who connect pre-wired transportable structures to the electricity supply are reminded that before submitting a Notice of Completion to cover the connection (and providing an Electrical Safety Certificate), they must carry out the necessary mandatory checks and tests to satisfy themselves, their client and the relevant network operator that the installation is electrically safe and complies with the relevant standards. This is particularly important where the transportable structure has been moved between sites or has been lying idle for some time.

Q: Where do I submit notices for the transportable installation?

A: If a site is serviced by a network operator, then the notice must be submitted to the network operator where the transportable structure will be located.

Q: Where do I submit notices, if the transportable I am working on at one site is being sent to another site for connection?

A: All notices are to be submitted to the network operator where the structure will be located/connected. For example, if it was assembled in Perth but is intended to be delivered to a site serviced by a network operator (i.e. Horizon Power for Karratha), Preliminary Notices and Notices of Completion must be sent to that network operator (Horizon Power).

How to obtain an electrical contractor's licence

For electricians who are interested in obtaining an electrical contractor's licence, an outline of the requirements for this licence is detailed below. An electrical contractor can either be:

- A sole trader – an electrician who will be operating the business alone (i.e. without partners and without having a company structure). In this case, he/she will typically be the sole nominee/supervisor for the business.
- Firm – for example, two individuals or entities carrying on a partnership. At least one of which shall have an electrician's licence and will typically be the nominee/supervisor of the business.
- Corporation – a proprietary limited company for larger scale organisations owned by a group of people (directors) and has its own legal identity which is

separate to its owners. There can be multiple nominees/supervisors.

To obtain an electrical contractor's licence, you are required to:

1. Complete an Application for an Electrical Contractor's Licence.
2. Provide evidence of having successfully completed the required modules of the Electrical Contractor Training Program. EnergySafety's Electrical Licensing Board has approved courses at the Combined Skills Training Association (Electrical Contractors Training Program) and the College of Electrical Training (Certificate IV of Electrical Contracting). Please be aware that there is great interest in these contracting courses so there may be a delay before you can enrol in the next available course.
3. Obtain a Certificate of Currency from a reputable, recognised insurer, which has been issued within the last 30 days. This is to provide civil liability in regards to the work carried out by an electrical contractor.
4. Pay the non-refundable application fee of \$78.00 and the registration fee of \$418.00.

If you wish to trade under a different name other than your own, you will also be required to register this name and provide a copy of the Business Name Extract (for sole traders) and/or the Company Extract (for corporations) issued by the Australian Securities and Investments Commission (ASIC). These extracts can be obtained from the Business Names website <https://bizline.commerce.wa.gov.au/bnonline/>.

An extract can be purchased for \$5.00 and can be retrieved from the website for up to 14 days from the

Continued over page

Continued from previous page
receipt date.

If you are applying from another state or from New Zealand, you will need to provide a clear copy of both sides of your current electrical contractor's licence registration in that jurisdiction.

For more information, please contact our Licensing Office on 9422 5282.

Exemptions from the submission of notices at mine sites

Electrical contractors and in-house licence holders may not be required to request an exemption from the submission of notices at mine sites from the Director of Energy Safety. Notices are not required to be submitted to the relevant network operator, if the work does not involve:

- an initial connection to distribution works or a private generating plant;
- an alteration to a main switchboard;
- an alteration to service apparatus or distribution works;
- the installation or removal of a private generating plant; or
- alteration of the rated power of a private generating plant.

However a record of all notifiable electrical work, alongside a declaration that the work has been verified (i.e. checked and tested), is safe and complies with the Regulations must be made in the mine site electrical log book. EnergySafety provides a log book to mine site managers for this purpose.

It is the responsibility of the principal employer to ensure accurate records of the notifiable work are kept. These are to be kept at the mine site until it is no longer operating.

Is your apprentice carrying out unlicensed electrical work?

Employers of apprentices are reminded they are responsible to ensure their apprentices have an Electrician's Training Licence (ETL) before they are allowed to perform any supervised electrical work. EnergySafety has received numerous complaints about employers who have not verified whether their apprentices had the required licence at the commencement of their apprenticeships. The employer must ensure the following:

1. The Apprentice holds an Electrician's Training Licence

An apprentice must participate in an interview conducted by an electrician with a valid registration. This is to ensure the apprentice is fully aware of his/her and other's safety responsibilities as outlined in the 'Apprentice Safety Assessment Guidelines' and that they have sound knowledge of essential rescue and resuscitation procedures. A copy of these Guidelines is to be provided to the apprentice prior to the interview.

The employer or an independent assessor (who must be an electrician) must then ensure the apprentice completes the 'Apprentice Safety Assessment Test'.

Once the apprentice has successfully completed the 'Apprentice Safety Assessment Test' (i.e. attained a minimum score of 80%), the 'Apprentice Safety Assessment Report Form' is to be completed and submitted to EnergySafety's Licensing Office along with an 'Application for an Electrician's Training Licence'. These forms are available on EnergySafety's website.

If the employer does not feel confident about the competence of the apprentice and believes he/she does not yet have a good understanding of the guidelines, then more time should be allowed for the apprentice to undertake the necessary tutelage before he/she is reassessed again.

It is up to the employer to ensure an apprentice submits his/her application for an Electrician's Training Licence.

2. Submitting the apprentice safety assessment report

An Electrician's Training Licence is an indication that the safety knowledge of an apprentice has been assessed **prior** to obtaining the training licence.

It is imperative that employers complete an 'Apprentice Safety Assessment Report' **after** the apprentice has passed the 'Apprentice Safety Assessment Test'. This has to be submitted to our Licensing Office.

The report contains a section for a signed declaration from the apprentice in which they state they understand the requirements of the guidelines and are aware of the obligations to apply safe practices in the work place.

It also contains a declaration from the employer who certifies that the apprentice has been instructed, interviewed and assessed in accordance with the Guidelines and has satisfactory knowledge and understanding of the material presented in it.

3. Complete apprentice details on the register of electrical workers

Once the Electrician's Training Licence has been issued to the apprentice, a copy of the licence is sent to the employer. The licence details of the apprentice must then be entered into the register

Continued over page

Continued from previous page

of electrical workers (Regulation 57 of the Electricity (Licensing) Regulations 1991).

The record is to include the name, address, licence number, licence type and expiry date of the licence, as well as the dates of the apprentice's employment.

This record is required to be kept for two years after they have ceased to be an employee.

The apprentice can then carry out electrical work under supervision.

4. The employer's ongoing responsibilities

Continuing training and monitoring of the apprentice's work is required throughout their apprenticeship to ensure they maintain safe work standards and are competent with given tasks.

Employers are to maintain and regularly update records on the progress and work performance of apprentices. An employer's responsibility to an apprentice is an ongoing process and does not cease until they have completed their apprenticeship and have received their electrician's licence.

An employer who has been found to have an apprentice who does not have an Electrician's Training Licence, and carries out electrical work will be prosecuted.

RCDs in the workplace

EnergySafety has received many queries from electricians about the requirements to install RCDs in work places.

Regulation 3.60 of the Occupational Safety and Health Regulations 1996 requires that a person who is in control of a workplace, is to ensure that adequate protection against earth leakage current for workers who use portable or hand held electrical equipment is provided.

This is to be achieved by installing an RCD at the switchboard.

Installations involving LV generators on construction and demolition sites, also require RCD protection as per clause 2.4.6.3 of AS/NZS 3012:2010, Electrical installations – construction and demolition sites.

Please contact WorkSafe on 1300 307 877 for further information on RCDs within the workplace.

Carrying out electrical work for yourself or immediate family

If you are planning on completing electrical installing work at your own home, or, at a property that you or your immediate relatives are currently renting or occupying, you are required to:

- a) hold a current electrician's (unrestricted) licence; and
- b) have an exemption from our Licensing Office.

The following responses have been prepared for the most common queries received by EnergySafety.

Q. Who is classed as an immediate relative?

A. An immediate relative is classed as any of the following:

- Husband/wife/defacto;
- Son/daughter;
- Brother/sister;
- Parent;
- Grandparent,
- Grandchildren;
- Father/mother-in-law;
- Son/daughter-in-law; and
- Brother/sister-in-law.

Q. Can I accept payment or a gift for the electrical work?

A. No. It is important to note that such work must also be performed without any form of payment or reward. To do so, is a breach of the Electricity (Licensing) Regulations 1991, Regulation 33 (2)(a) as you

would effectively be carrying on a business as an electrical contractor.

Q. How do I apply to carry out electrical work for myself or my family?

A. To apply you must complete an 'Application to carry out electrical installing work for self or immediate family' form which is available to download from our website www.energysafety.wa.gov.au. You will need to provide documentary evidence such as land title deeds, building contracts or rate notices confirming proof of your ownership of the property where you will be undertaking the electrical work.

Q. What if I am carrying out electrical work on a property not owned by myself or my family (but where they reside)?

A. If you are carrying out work on a property that you or your immediate family do not own (i.e. a rental property), the property owner must give written approval for electrical installing work to be undertaken (i.e. a declaration on the application form).

Q. What happens after I submit my application to the Licensing Office?

A. As soon as our Licensing Office has approved your application, if the work to be undertaken is notifiable (e.g. alterations to network operator service equipment, new connections or alterations to consumer mains, metering equipment, main switchboard etc), they will provide you with an approval letter, the necessary notices and Electrical Safety Certificates, all which have pages stamped with a unique number.

Q. Am I required to submit notices for the electrical work I carry out?

Continued over page

Continued from previous page

A. As per requirements of the Regulations, notices will need to be submitted to the network operator within the required time frames, unless you have sought approval to carry out non-notifiable electrical installing work where notices are not required to be submitted.

Q. *What do I need to do if I am only carrying out non-notifiable work?*

A. For non-notifiable electrical installing work, you will receive from our Licensing Office an approval letter and an Electrical Safety Certificate.

Please be aware that it is an offence under Regulation 59 of the Electricity (Licensing) Regulations 1991 if the information supplied in your application is found to be false or fraudulent.

For further information, please contact our Licensing Office on 9422 5282.

Product recall on Eltech Industries solar connect DC isolator

A recall has been issued for a widely used DC isolator switch used in solar energy installations. The Eltech Industries ISO-MAX solar connect DC isolators, which were sold nationally, are a potential fire hazard as some of the switches have been found to be defective and may overheat. The models affected are:

- Model No. LS16 DCISO 1000v
- Model No. LS25 DCISO 1000v
- Model No. LS32 DCISO 1000v

When operating at currents greater than 12A, these switches can potentially overheat.

Investigations revealed that some of the switches have a defective switching mechanism, which may result in a manually dependant slow make/slow break operation.

This may produce a partial contact closure and arcing. The failure of these switches is most likely to happen within minutes, even while operating at low currents.

Approximately 27,000 of these products were sold between 1 June 2011 and 1 November 2011.

Eltech Industries have advised they will be in contact with electrical contractors to arrange for the DC ISO-MAX switches to be replaced. They also require electrical contractors to provide a listing of all installations where DC ISO-MAX isolators were installed so that they can organise a replacement.

In the mean time, it is recommended that the installations with these switches are not used or connected to the electricity supply and are to be shutdown in accordance with the shutdown procedure supplied.

Contractors are advised not to install them if they have any of these models in stock. Please contact Eltech for a replacement.

For further information on the recall, advice is available on the Eltech Industries website for consumers and electricians at www.eltechindustries.com.au



Audit of Western Power's Service Connect Scheme

On average, around 30,000 new low-voltage connections are made every year to Western Power's network. Before July 1998, these connections were made solely by the network operator's own directly employed personnel. Western Power initially introduced the "H" accreditation scheme which authorised electrical contractors to make service connections on its behalf. In April 2007, it replaced the "H" Accreditation with the "Service Connect Scheme".

Following a trend of incidents involving incorrect and unsafe connections, EnergySafety initiated a formal audit of the scheme in the first half of 2010. The audit revealed several serious shortcomings.

As a result of the audit, EnergySafety requested that Western Power review the scheme, improve its scheme rules and review how the scheme is being managed. Western Power has since completed the review and agrees with EnergySafety's findings. Western Power has now developed an action plan to implement the recommendations from the review and audit processes.

In the mean time, electrical contractors and workers on the scheme should ensure that they are following the correct current testing procedure (as published by Western Power on its web site). Most importantly EC's must use an independent earth reference as required by the test procedures and ensure that they complete the "Service Connection Test Form (Mandatory Test)" form diligently for each installation. The use of an independent earth is the only way to ensure that there is no transposition of the active and neutral conductors at the consumer's connection.

Continued over page

Continued from previous page

It should comprise an earth stake driven into the ground as close as possible to the meter.

It should be emphasised that “active and neutral conductors transposition” is a very serious defect. It will result in a dangerous installation and pose a real risk of death by electrocution.

As a reminder, all electric shocks must be reported to the Network Operator. The Network Operator will then advise EnergySafety. In cases where active/neutral transpositions are identified, EnergySafety will take disciplinary

action and prosecute the network operator, electrical contractor and electrician involved.

Contractors and workers on the scheme must also ensure that their Service Connect Scheme training course is still current i.e. they must have undertaken the course within the past year. On the other hand, contractors who are not making use of their Service Connect accreditation should consider relinquishing it by returning their certificate to Western Power and indicating that they want to withdraw from the scheme.

Most recently, EnergySafety has also completed an interim audit of Western Power’s Contractor Connect scheme. The findings of this audit are currently being discussed with Western Power’s management.

Horizon Power’s low voltage direct meter connection processes are also very similar to Western Power’s and Horizon Power has also been asked to urgently review its systems.

The audit report on the “Service Connect Scheme” can be accessed on EnergySafety’s web site at: www.energysafety.wa.gov.au .

Prosecutions for breaches of electricity legislation

30 November 2011 to 31 March 2012

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Date of Offence	Fine (\$)	Court Costs (\$)
<i>Greg Black (Ballajura)</i>	<i>NLH</i>	<i>Regulation 49(1) E(L)R 1991</i>	<i>Carried out electrical work without a licence or permit</i>	<i>17/02/2012</i>	<i>750.00</i>	<i>571.70</i>
<i>Reece Wood (Kingsley)</i>	<i>EW160932</i>	<i>Regulation 49(1) E(L)R 1991</i>	<i>Carried out unsafe and substandard electrical work</i>	<i>1/12/2009</i>	<i>2,000.00</i>	<i>649.70</i>
<i>Mervyn Ross (Kendenup)</i>	<i>EW104663</i>	<i>Regulation 49(1) E(L)R 1991</i>	<i>Carried out unsafe and substandard electrical work</i>	<i>23/11/2009</i>	<i>2,500.00</i>	<i>74.70</i>

Legend NLH No Licence Held
 EA Electricity Act 1945
 E(L)R Electricity (Licensing) Regulations 1991
 * Global Fine or Costs issued

Incorrect prosecution listing

The prosecutions in Bulletin 57 incorrectly listed Christian DeBarro as having breached E(L)R Regulation 49(1). Mr DeBarro received a spent conviction and his details should not have been published in the February 2012 prosecution list.

EnergySafety sincerely apologises to Mr DeBarro for publishing the spent conviction.

g | a | s

focus

Modular Hydrogen Plant – Nickel West Kwinana Refinery

In January this year EnergySafety visited the Nickel West Kwinana (NKW) Refinery Modular Hydrogen Plant of BHP Billiton Pty Ltd. The hydrogen produced by the plant is passed through a dissolved nickel matte solution at high pressure and temperature to produce nickel powder after oxydrolisis.

The Type B gas appliance inspector, after assessing the Technical Gas Submission for the facility advised the gas fitter of six non-compliances. These non-compliances were mainly in relation to AS 3814, Industrial and commercial gas-fired appliances.

EnergySafety reviewed and considered the inspector's assessment of the gas fitter's Technical Gas Submission and the owner/operator explanatory letters, after this issue was raised by the owner/operator and inspector.

Under regulation 32(3) of the regulations, the implemented design for the installation and commissioning of the Modular Hydrogen Plant at the NKW Refinery was considered compliant for a continuous application operating under a safety case and in the presence of well trained, reliable and competent operators.

The appliance was considered to exceed the minimum prescribed requirements of AS 3814 for safe operation, with the 'safe-state' determined by both the owner/operator designers and operators under determined scenarios.

The Department of Mines and Petroleum, Resources Safety Division had also provided EnergySafety with confirmation of the soundness of the Modular Hydrogen Plant safety case. The safety case is understood to be a duplicate of an already satisfactorily operating Swiss plant, with risk reduction as low as reasonably possible (ALARP) and forming an essential and integral part of the NKW Refinery major hazard facility nickel production process.

Review of AS 3814

Australian Standards are currently undertaking a review of AS 3814-2009. If you have any suggestions for improving the standard please submit these to David Robertson at EnergySafety or by email to david.robertson@commerce.wa.gov.au by close of business Monday, 25 June 2012.

Likely hazards when working as a mobile Autogas installer offering a repair service

The Autogas industry has seen a rapid decline in the number of aftermarket conversions since the Western Australian Government withdrew its support in the form of a grant it had offered to families. This and the Australian Government's gradual reduction with its LP Gas vehicle scheme subsidy has forced many aftermarket autogas conversion businesses to close.

Some autogas installers have relinquished their workshop leases and decided to offer mobile installation and repair services.

With a workshop all likely hazards are identified and appropriate measures are in place to reduce the risk of an accident. In a workshop where autogas installations are undertaken Australian Standards AS 2746-2008, Working areas for gas fuelled vehicles is applicable.

In a mobile environment this is not always the case as the gas fitter or mechanic will not always have control of the working surrounds. The time of the year and weather can determine where the vehicle is to be worked on. Dependant on the weather the vehicle may be under cover in a garage or carport.

There may be hidden hazards that may not be apparent to the gas fitter or mechanic. There may be occasions where LP Gas may be released or petrol is spilt while the repairs or servicing are taking place.

Both LP Gas and petrol have vapours that can be ignited from possible ignition sources such as a pilot light on a gas water heater or an electric motor running in a nearby condenser unit of a split level air conditioner.

Ignition of such vapours can have tragic circumstances that can result in burns, loss of the vehicle and/or loss and damage to the family home.

Continued over page

Continued from previous page

In the event of a petrol spill appropriate absorbent material can be spread to alleviate a vapour cloud arising, this is not the case with a gas release. Under these circumstances it is best to eliminate any possible ignition source before commencing work. Always have a fire extinguisher or fire blanket within easy reach.

Importantly, survey and complete a risk assessment of the working area prior to commencing. Pause, take five minutes to assess and take charge of your safety.



Engineering student working at EnergySafety

Thomas Bickford, who has just completed his final year studying Mechanical Engineering at Curtin University of Technology, undertook a 12 week placement with EnergySafety to gain work experience during the summer vacation, primarily working with the Gas Utilisation branch.

During his time with EnergySafety Tom has:

- Created a multistorey building ranking criteria form and electronic spreadsheet with a guideline created for assisting gas fitters in achieving compliance.

- Prepared a draft Notice of Intent for undertaking of complex gas fitting work. This would allow for the gas supplier to determine if the gas supply was sufficient to cope with the proposed gas fitting work before the commencement of gas fitting.
- Prepared responses to quarterly reports from gas suppliers in WA. These responses outlined the gas supplier's successfulness in achieving compliance with respect to their individual plans.
- Set up a spreadsheet for the calculation of risk criteria within the quantitative risk assessment (QRA) comment.
- Prepared a procedure for the obtaining and sampling of LP Gas exchange cylinders.
- Prepared recommendations for variations/exemption applications from the Australian Standard, AS 3814 and joint Australian and New Zealand Standard, AS/NZS 5601 for industrial, commercial, and domestic gas installations to ensure an equivalent level of safety for the non-compliance.
- Attended several independent Type A and Type B gas appliance certifications onsite.

Tom was also able to gain an understanding of the regulatory work done by EnergySafety and how the regulations and standards play an integral part in the gas industry. He saw how engineering fundamentals are applied to practical applications expanding his knowledge of engineering, in particular gas engineering. Overall, he enjoyed his time at EnergySafety and the experiences that it afforded him.

Master Plumbers and Gasfitters Association of WA regional tradeshows

EnergySafety, together with the Building Commission have been invited to speak at the Master Plumbers and Gas fitters Regional trade shows at selected regional centres in Western Australia.



Bunbury tradeshow

The Roadshow has a number of prominent industry sponsors that have their equipment and wares on display. The Chief Gas Inspector will be speaking on a number of topics of interest for gas fitters. So far the Tradeshow has already visited Albany, Busselton and Bunbury. Further venues for the roadshow are:

Geraldton Tuesday 1 May 2012,
The Master Builders Association
North West Coastal Highway
Geraldton

Karratha Tuesday 29 May 2012,
All Seasons Hotel

Broome Thursday 31 May 2012,
Mangrove Resort Hotel

Mandurah Tuesday 3 July 2012,
(venue TBA)

Continued over page

Continued from previous page

The Tradeshows commence at 5:00pm, with the forum commencing at 6:00pm. The Tradeshows conclude at 7:30pm.

Industry forums for the Perth based plumbers and gas fitters are on Thursday 10 May and Thursday 11 October 2012 at the MPA Skills Centre at Maylands, commencing at 5:30pm on each occasion.

Large LP Gas installations

Recent incidents of concern relate to gas fitters undertaking work in areas unfamiliar to them. Gas fitters holding a class G endorsed unrestricted gas fitting permit having predominately worked only on Natural Gas installations are taking on large LP Gas installations where there is a requirement to fit separate first stage regulation and second stage regulation.



These types of gas installations are usually commercial and/or large industrial LP Gas installations which are connected to manifolded 45kg cylinders or a bulk tank, sized to accommodate the total and anticipated future gas load.

A manifolded system will usually be fitted with a two stage regulator with an outlet pressure set at 2.75kPa.

Anything larger will have a two stage regulation system. The first stage regulator (red in colour) is fitted directly to the bulk tank via the POL connection and pigtail.



This is connected off a valve situated on the top of the bulk tank. It will be marked vapour withdrawal. This regulator will be sized to accommodate the total gas load and be set to provide an outlet pressure of 70kPa, although on larger gas installations this may be set at 140kPa.



The size of the bulk tank is designed to provide sufficient vaporisation of the liquid LP Gas contained in the vessel to match the intended gas load. On smaller gas installations (domestic and small commercial) you may have noticed when all gas appliances are operating a ring of condensation at the lower portions of the LP Gas cylinders. If the cylinders freeze it is a sign that the load is greater than that matched by the vaporisation rate and a bank of cylinders may be required with a multiple cylinder manifold.

The pipework downstream of the first stage regulator is required to be sized accordingly from the manufacturers sizing charts. The gas pressure is to be marked on



this pipe. A second stage regulator is to be installed together with an isolating valve just prior to the entry into a building.



The second stage regulator attached to, or near the building has a set point nominally 2.75kPa and has an internal relief fitted similar to the first stage regulator.



On a larger commercial/industrial gas installation if you have established the gas load and you are unsure of the sizing of a manifolded system or a bulk tank you will need to seek assistance from the gas supplier.



For bulk tank installations you will need to consider the location of the tank which includes access for the truck to replenish the bulk tank, clearance from buildings, security and crash barrier protection. This information can be found in Australia Standards AS/ NZS 1596:2008, The Storage and Handling of LP Gas.

Reminder – EnergySafety at your workplace

In reference to an article in Gas Focus 53, EnergySafety is continuing to offer attendance by gas inspector(s) at toolbox meetings. Since offering this service EnergySafety gas inspectors, along with representatives of the gas network/suppliers have attended some **ten plumbing/gasfitting companies** and spoken to **123 gas fitters and staff**.

The feedback received from the companies and their staff is positive and EnergySafety wishes to extend the offer to attend more plumbing companies.

A meeting of this type gives EnergySafety the opportunity to meet gas fitters in an informal environment and inform them of EnergySafety's role as the regulator. It is an opportunity to gain information from gas fitters as to the challenges they face which may be used in planning future regulatory strategies. These gatherings

also give gas fitters in the field the opportunity to discuss any regulatory issues or queries they may have directly with the regulator and network operator/gas suppliers.

The meetings are attended by gas fitters, apprentices and company representatives along with inspectors from EnergySafety and ATCO Gas Australia Pty Ltd (formally WA Gas Networks). Some of the items discussed include:

- EnergySafety's role as the regulator;
- ATCO Gas explain their role as a network operator;
- the Notice of Defect process:
 - common non-compliances identified; and
 - the right to appeal a NOD.
- the infringement process; and
- a general Q&A session:
 - who to contact if you're unsure or require advice;
 - regulation clarification or interpretations; and
 - interpretation requests can be made on EnergySafety's website at www.energysafety.wa.gov.au.

These meetings help to bridge the gap between inspectors and gas fitters in the field and help promote a collaborative approach to compliance issues.

Remember, if EnergySafety isn't aware of an issue, how can we be expected to help remedy the problem?

At these meetings issues can be aired and if necessary followed up. Inspectors would prefer a question to be asked, rather than issuing a Notice of Defect. Information gleaned from a mate or colleague may not be correct, so if in doubt call the gas inspector for clarification. EnergySafety inspectors are approachable as are the gas network/gas supplier inspectors. These toolbox meetings are a way of removing barriers.

Should you require further information regarding EnergySafety attending your workplace please contact the Gas Inspection Branch on 9422 5297.

Prosecutions for breaches of gas legislation

30 November 2011 to 31 March 2012

Name (and suburb of residence at time of offence)	Licence No.	Legislation and Breach	Offence	Fine (\$)	Court Costs (\$)
Abdul Raouf Mohammadiyah (Como)	GF11204	GSR 1999 28(2), 28(3), 28(3a)(b), 28(3a)(c)	Failed to fit a compliance badge to the gas installation Failed to submit a Notice of Completion to the gas supplier Failed to give a copy of the Notice of Completion to the customer	2,500	649.70

Legend NLH No Licence Held
 GSA Gas Standards Act 1972
 GSR Gas Standards (Gasfitting & Consumer Gas Installations) Regulations 1999