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# eNERGY bulletin

Government of Western Australia
Department of Commerce
EnergySafety

## In this issue



# Apprentice Supervision

All electrical contractors must be mindful of their responsibility to properly supervise their employed apprentices. In doing so, I draw your attention to the articles on pages 4 and 5 concerning two separate cases where electrical contractors were found guilty of failing to adequately supervise their apprentices. The circumstances in both cases are disturbing. In my opinion, the apprentices could easily have been electrocuted. They were lucky.

In both cases the apprentices were completing work in a ceiling space.

Ceiling spaces present well-known electrical dangers. In recent years several experienced electricians and a trades assistant were electrocuted while working in ceiling spaces. Some years ago, following a spate of electrocutions in ceiling spaces, a major Ministerial enquiry was held. This led to the Government of the day amending regulations to stipulate the requirements for apprentice supervision.

Apprentices are vulnerable until they gain the trade knowledge and experience needed to perform electrical work safely. The importance of supervision is well understood and supported throughout the electrical contracting industry.

Energy*Safety*'s *Safety Guidelines for Electrical Workers* has been circulated widely in the electrical contracting industry for many years. It sets out clearly an employer's duty to supervise apprentices during each year of their training. Commercial pressures to deploy apprentices to jobs they are judged capable of performing with no or little supervision are obvious but must be resisted, especially if energised installations are involved.

Employers must apply mature, experienced judgement concerning an apprentice's level of competence. Young apprentices often are over-confident and keen to impress their employer. Contractors should regard such confidence with a cautious and sceptical eye.

Apprentices must not be supervised by other apprentices. I remind electrical employers that trades assistants must not do electrical work. They are not licensed.

Energy*Safety* will make sure every shock report involving an apprentice is thoroughly investigated. Enforcement action will ensue in every case where justified.

Ken Bowron
**DIRECTOR OF ENERGY SAFETY**

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# Gas eNotice now live!

Energy*Safety* is pleased to announce that the new eNotice system is available for all gas fitters to start lodging notices of completion.

During the months of June and July eNotice was successfully used by 70 Gas Fitters and to date 1,200 Notices of Completion have been lodged. Feedback is that the system is very easy to use and quicker than paper lodgement

**To register, visit [www.energysafety.wa.gov.au](http://www.energysafety.wa.gov.au) and click on eNotice.**

Before you start lodging eNotices, it is important to check that your contact details under 'My details' are correct as this information auto-fills section 9 of the notice. Video tutorials and other supporting information are available on the website to assist you in using eNotice.

**What is eNotice?**
eNotice is a free web based facility for the electronic lodgement of Notices of Completion. The system is accessible on mobile devices and tablets (as well as normal computers) on a 24/7 basis, providing they have connection to the internet.

Paper notices can still be used. However, it is intended that paper forms will eventually be phased out.

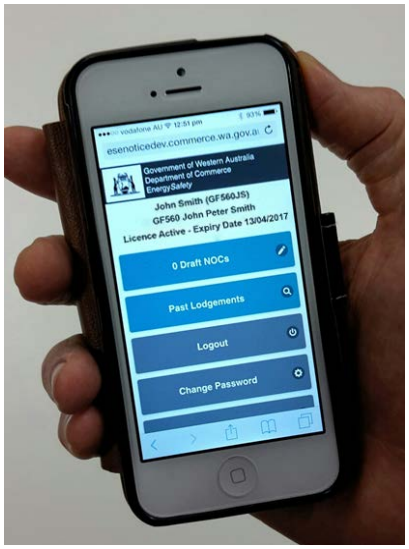
This project should see a significant reduction in paper notices, providing cost benefits and efficiencies to industry, network operators and Energy*Safety*.

**Gas eNotice overview**
The development of Gas eNotice involved an industry working group with representatives from seven gasfitting companies, ATCO, Kleenheat and Origin. The working group provided invaluable insight and advice on the practical design and implementation of the system.

A fully operational pilot program was conducted during June, involving some 50 gas-fitting companies. The pilot successfully tested the technical operation of eNotice, identified a small number of useful enhancements and demonstrated a high level of user satisfaction.

**Electricity eNotice overview**
Development of eNotice for electricity notices and electrical safety certificates is well advanced.

The electricity industry working group (comprising 8 electrical contracting companies, Western Power and

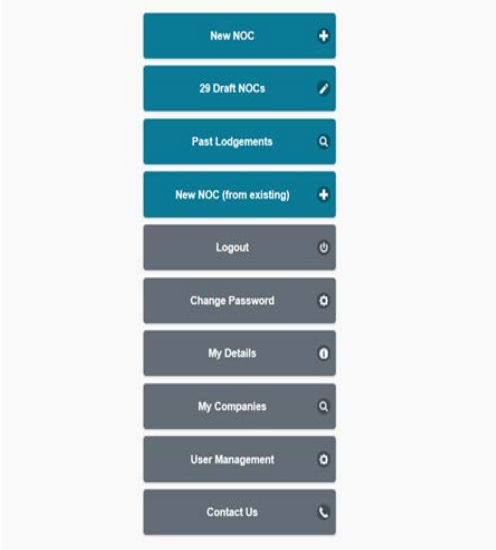



*eNotice is compatible with mobile devices*

Horizon Power) has participated in "hands on" testing of the electrical eNotice and numerous improvements have been implemented in response to the practical advice provided by members.

An electricity pilot program will be conducted during August and September in preparation for full implementation. It is expected that the facility will be available for general electricity industry use during the October-December quarter of 2016.

Energy*Safety* will provide further progress reports and updates on this initiative over the coming months.




*The eNotice main menu*

# Please note: change of address

Energy*Safety*'s postal address and phone numbers changed in 2014.

The redirection of mail is no longer occurring. Please ensure all mail is addressed to Locked Bag 14, Cloisters Square WA 6850

**Phone numbers**:
Energy*Safety* (General enquiries): 6251 1900
Licensing (licensing enquiries only): 6251 2000
Gas Directorate (technical enquiries): 6251 1904
Electricity Directorates (technical enquiries): 6251 1905

# Update your contact details now!

Energy*Safety* is developing a number of online systems that will help make our processes more efficient and convenient for all parties.

To utilise these applications, you will need to ensure that your contact details are up to date, including an email address or mobile telephone number.

You can check your details online by visiting www.commerce.wa.gov.au/services/notify.

You will need to enter your Licence number and your email or mobile number that is registered with Energy*Safety*.

If you have not registered an email or mobile phone number please contact Licensing on 6251 2000 or email energylicensing@commerce.wa.gov.au.

Once you have registered your email and/or mobile number you will be able to update your contact details online whenever necessary.

# Failure to supervise apprentice

An electrical contracting company was convicted in the Armadale Magistrate's Court for three offences against the Electricity (Licensing) Regulations 1991. The Magistrate found the company had failed to:

- effectively supervise a second-year electrical apprentice contrary to Regulations 50(1), 50(3) and 65;
- report immediately an electrical accident to the relevant network operator contrary to Regulations 63(2) and 65; and
- deliver an *Electrical Safety Certificate* within 28 days after the completion of the work, contrary to Regulations 52B(1) and 65.

The Court sentenced the company to pay fines of $20,000, $20,000 and $5,000 respectively for the three offences, plus costs of $12,000.

The contractor was found to have assigned a second-year apprentice to install, without the presence of a supervising electrician, two flood lights, associated sensors and new wiring at a commercial installation in Armadale. The floodlight wiring was to be connected into two separate existing junction boxes in the building's ceiling space.

The apprentice switched off what he thought to be the correct circuit breaker in the switchboard to disconnect supply from the lights to be replaced. This breaker supplied one of the junction boxes but not the second. When attempting to connect the new wiring in this second junction box, the apprentice received a severe electric shock.

He managed to leave the ceiling space, descend the ladder, sit down to recover and telephone the company's head office to report the electric shock. The company then arranged for an electrician to meet the apprentice on site as soon as possible. The apprentice was instructed not to do any further work until the electrician arrived.

After recovering, the apprentice decided to climb back into the ceiling space, attempted to complete the work and received a second shock. Again he managed to leave the ceiling space safely and report the second shock to the company's office.

The Magistrate found *"...there was no effective supervision at all of either [the apprentice] or the work he was carrying out by a supervising electrical worker and [the apprentice] was working alone in accordance with instructions given to him by [the company] on the day in question."*

An Inspector (Electricity) employed by Western Power, received an anonymous telephone call some time later, informing him that an apprentice had received an electric shock while performing electrical work at the installation in Armadale. The Inspector interviewed the company that day. The contractor confirmed that an apprentice had received an electric shock and, with the Inspector's assistance, completed a shock report form. This resulted in the shock being reported some seven weeks after it occurred.

The Court found that *"....the accused failed to report the electrical accident involving [the apprentice] on the day in question and did not do so until it was confronted by [the Inspector] on behalf of the Director of Energy Safety nearly 2 months later."*

During the Court proceedings, the company claimed it had not furnished an Electrical Safety Certificate to the owner of the installation because the job involved only maintenance. The company provided the Certificate some seven months after the work was carried out.
The Magistrate found *that "....it was that work, being the re-wiring work alone that took the work [the apprentice] carried out from maintenance work to electrical installing work and required the accused to issue the Certificate within 28 days of completion of the work."*

In commenting on the Court's findings, the Director of Energy Safety, Ken Bowron, noted the Magistrate's comment that Regulation 63 *"...can be described as protective legislation...."* requiring wide interpretation. He said in his written judgement: *"The intention of the legislation is to provide for the protection of members of the community where an electrical accident occurs to allow the site of the accident to be made safe and to permit an investigation by the relevant authorities to ensure that such an accident does not occur again, where practicable. It is legislation intended by Parliament to require strict compliance with its tenor because of its protective intentions and purpose."*

*"The protective character of the legislation is especially pertinent when a young, inexperienced trainee electrical apprentice is involved,"* Mr Bowron said.

*"It is critical that shocks are reported immediately so we can find out quickly how the accident happened and alert the electrical contracting industry and training organisations promptly about any lessons to be learned from the incident. This is especially so when an apprentice is involved."*

# Apprentice receives electric shock

An electrical contractor has pleaded guilty in the Fremantle Magistrate's Court for failing to effectively supervise a first year electrical apprentice working near 'live' exposed conductive parts which resulted in the apprentice receiving an electric shock.

The supervising electrical worker and the apprentice were sent to a retail store to test the air-conditioning system; access to which was obtained via a ceiling hatch.

The job required the following sequence of tasks to be carried out:

1. Isolation of the electricity supply to the Variable Air Volume (VAV) box.
2. Removal of the VAV terminal box cover for the internal elements.
3. Placing a clamp meter around the phase conductor associated with the elements.
4. Reenergising the electricity supply to the VAV box.
5. Recording the current reading.
6. Repeating steps 1 to 5 for the two other phases associated with the elements.

As the apprentice felt he was competent to complete the tasks, he asked his supervisor if he could undertake the work. The guidance he received from the supervisor before carrying out the work included an explanation of the testing procedure. Given the equipment to be worked on was 'live', he was also instructed that the electricity supply was to be isolated each time the clamp meter was removed and reconnected.

While carrying out 'live' testing, the apprentice attempted to remove the clamp meter when he realised that he could not clearly see its display. Without isolating the electricity supply before removing the clamp as per instructions, the apprentice received an electric shock when his hand came into contact with an exposed 'live' terminal within the VAV box.

The apprentice was working in the hatch while standing on a ladder when he received the electric shock, so his supervising electrical worker was unable to clearly observe the apprentice's work, nor could he confirm the required testing had been carried out.

Though the supervising electrical worker had explained the testing procedure to the apprentice, he had failed to consider the competence of the apprentice whom he had been supervising for approximately four weeks prior to the incident.

He also failed to consider that the apprentice would be working in a small ceiling hatch in close proximity to 'live' exposed conductive parts, the conductive ceiling structural components and the VAV box without appropriate personal protective equipment (i.e. safety gloves).

The electrical contractor's Safe Working Method Statement (SWMS) for undertaking VAV meter readings requires the task to be performed in a restricted space that is in close proximity to exposed 'live' equipment and out of the scope of view of a safety observer.

A Western Power investigation into the incident identified the following deficiencies with the SWMS including:

- The VAV meter reading has an initial risk level 1 on the risk matrix, which meant the activity has a likely chance of high level of harm associated with it.
- The personal protective equipment requirements were not task-specific.
- No consideration was given for the competency level of the worker/s performing the task.
- No taking into account the risk of contact with 'live' parts.

The electrical contractor received a fine of $18,750 with court costs of $1,480.60. In the interests of public safety, the contractor has also expressed interest in working with Energy*Safety* in publishing an industry safety paper.

If you are supervising an apprentice, it is essential that you understand the requirements of the electricity legislation (i.e. the Electricity (Licensing) Regulations 1991) and also Energy*Safety*'s *Apprentice Safety Assessment Guidelines* and the *Safety Guidelines for Electrical Workers*, which are available to download from our website www.energysafety.wa.gov.au

***It is unacceptable to put your trainees' lives at risk!***

## Western Power has complied with the Wood Pole Order

In September 2009, to ensure Western Power addressed the urgent safety risks associated with its aging wood pole system, Energy*Safety* issued Order No. 01-2009 (the Order), under Section 18B of the *Energy Coordination Act 1994*. The Order required specified corrective steps to be completed by set dates. It was a necessary step to stimulate a more adequate response from Western Power in addressing the urgent safety risks arising from its aged wood pole assets.

Energy*Safety* has completed a review of Western Power's compliance with the Order and has found that the principal public safety objectives set out in the Order have been achieved. The Director of Energy Safety therefore is satisfied that Western Power has complied with the Order as at 31 December 2015.

The report summarising the findings of the review can be downloaded from www.energysafety.wa.gov.au.

## Free access to photovoltaic maps and tools

With funding from the Australian Renewable Energy Agency (ARENA), the Australian Photovoltaic Institute's (APVI) has developed a project which allows consumers and those involved in the solar industry access to an array of maps and tools including:

- The facility to search PV installations by postcode with animations to visualise these installations.
- Live Australia-wide solar performance including electricity demand and PV inputs into the network grids.
- PV performance in fifty three differing Australian climatic regions.
- 3D rooftop solar mapping to view the PV potential of suburbs.
- Estimates of domestic premises with PV installations.
- Monthly charts of PV installations registered under the Commonwealth Government's Renewable Energy Target.

APVI is a non-government affiliated group that unites those interested in solar manufacturing, technology, research and policy in supporting the increasing usage, research and development of photovoltaics.

For further information, please visit APVI's website http://pv-map.apvi.org.au/


*The website allows users to view solar trends including a comparison of solar usage in Australian States and Territories with Western Australia currently sitting at an estimated 22.5%. Sourced from Australian PV Institute (APVI) Solar Map, funded by the Australian Renewable Energy Agency accessed from pv-map.apvi.org.au on 4 July 2016*

# Retro-Fitting RCDs

EnergySafety is seeking suggestions from electrical contractors and electricians about how their customers can be persuaded to install RCDs where residences do not have a minimum of two. Whenever electricians are called to site to do electrical work, and notice the absence of RCDs, an opportunity presents itself to inform the owners about the importance of RCD protection.

Some years ago, EnergySafety prepared the letter below to assist contractors to persuade their clients to fit RCDs. The intention was to reinforce the safety message from an official source. The letter can be downloaded from www.energysafety.wa.gov.au

The cost barrier faced by many home owners on tight budgets is understandable. Nevertheless, it is in their interest to install these vital safety devices if at all possible, especially for the elderly and those with young children.

EnergySafety has consulted NECA WA and Master Electricians Association about the problem. Additionally, we would welcome suggestions from electrical contractors and electricians about how the disappointing rate of RCD retro-fitting can be improved. If you have ideas about the matter please send them to us by email at retrofittingrcds@commerce.wa.gov.au

Government of **Western Australia**
Department of **Commerce**
Energy*Safety*

Enquiries: Electrical Inspection

Telephone: 6251 1905

## Important electrical safety message from the Director of Energy Safety

To Home Owners

Dear Sir / Madam

**No RCD means no second chance**

RCDs are the single most effective measure to prevent electrocutions, serious electrical injuries and fires.

The circuit breakers and fuses in your electrical panel protect against overloading and short circuits. They will not protect you against electrocution. The amount of current needed to kill you is far too little to cause a fuse to blow or a circuit breaker to operate. An RCD is the only device able to save you and your family from electrocution.

To make Western Australian homes and businesses safer, I am very keen to see each one of them fitted with RCDs. I strongly recommend that you have at least TWO of these life-saving devices fitted to your premises.

Any licensed electrical contractor can supply and fit RCDs in the main meter panel of your house or business. They will be happy to give you a no-obligation price quotation.

Invest in RCDs! Remember - no RCD means no second chance.

Yours sincerely

Ken Bowron
**DIRECTOR OF ENERGY SAFETY**

## WorkSafe seeking public comments on workplace safety

The Department of Commerce's WorkSafe division has called for public comment on the discussion paper on a recent review of the model Work Health and Safety (WHS) regulations.

The WHS regulations were developed to allow a national, unified approach to workplace health and safety. The Act has to be passed through the parliaments of each state and territory before it becomes legally binding.

This opportunity for comment, which closes on 31 August 2016, affords employers and their employees an ideal opportunity to shape the health and safety of their workplaces.

The discussion paper details WorkSafe's proposed changes to the model regulations with points of interest in the discussion paper for electricians including:

- disconnection/isolation of unsafe electrical equipment;
- record keeping;
- testing and tagging of electrical equipment;
- connections for construction sites; and
- de-energising electrical installations when entering a roof space.

WorkSafe requires comments to be submitted using a cover sheet and submission template, which are available to download from their website www.worksafe.wa.gov.au

## DeGrussa mine leading the world with sustainable mining venture

With more than 20 million dollars in funding from the Australian Renewable Energy Agency (ARENA), Sandfire Resources DeGrussa gold and copper mine located near Meekatharra is now operating with a renewable energy solution to their daily electricity demands following construction of a 10.6 MW solar photovoltaic (PV) installation.

*Solar installation at DeGrussa mine*

The solar installation comprises 34,080 solar panels attached to a single-axis tracking system mounted on steel posts. The panels are connected to a lithium-ion battery storage facility integrated into the existing 19MW diesel generator. Forecasts project a reduction in the site's dependence on diesel, a non-renewable energy source by more than 20%.

The solar installation venture, covering over 20 hectares was constructed by German renewable technology innovator Juwi Group and is one of the largest of its kind in Australia.

In an industry heavily reliant on fossil fuels, this industry first venture is expected to stimulate great interest with other mining groups for the use of renewable energy to achieve sustainable mining operations.

Many in the electrical industry, including Western Australia's main network operators, Western Power and Horizon Power, are now realising the future is "green" as they increasingly look towards clean, sustainable sources of electricity generation with reduced running costs.

## Electrical Installations - hosing down commercial kitchens

The requirements of AS/NZS 3000: 2007, Wiring Rules, Clause 6.7 – Sanitisation and General Hosing Down Operations are applicable if the floor or walls of a commercial kitchen are to be hosed and if the kitchen has the facilities to be hosed (e.g. taps and drains).

In those cases all socket outlets positioned less than a horizontal plane 1 metre above the floor should be water resistant (e.g. IPX4).

As per Clause 6.7.2, where hosing-down is only to be

carried out on floors, the classified zone comprises any location within the space from the floor, or base of a floor recess to a horizontal plane 1 metre from the floor.

Clause 6.7.4.1 states that electrical equipment installed within the classified zone shall be selected and installed to be suitable for the temperature and pressure of the fluids used in the hosing-down or sanitisation process. Clause 6.7.4.2 requires a degree of protection of at least IPX5 where low or medium pressure hosing-down is used and IPX6 where high pressure hosing is used.

Clause 6.7.4.3 also requires that electrical equipment is to be protected against moisture that may accumulate, thus preventing moisture penetrating the electrical equipment.

## New standards for inverters

*Energy Bulletin Issue No. 74* advised industry to refer to a list of standards for electrical work and to check if they were using up-to-date versions. The list can be found in Schedule 2 of the Electricity (Licensing) Regulations 1991.

The published list includes AS 4777.2-2005. Readers will be aware that a new version of AS 4777.2:2015, Grid connection of energy systems via inverters – Inverter requirements was published on 9 October 2015. This new version of the Standard will not become mandatory until the legislation is amended. Therefore compliance is required with the 2005 version until the legislation is amended.

Energy*Safety* will advise electricians via the Energy Bulletin when the legislation has been amended to mandate the 2015 version of the Standard.

## Product recall - Searchlight lighting fittings

The Australian Competition and Consumer Commission has issued a product safety recall for Searchlight lighting fittings which were offered for sale nationally at Masters Home Improvement between 2 September 2011 and 22 February 2016.

The recall has been issued as the light fittings do not comply with AS/NZS 60598.1: 2013, Luminaires: Part 1 - General requirements and tests and pose a risk for consumers as they could receive an electric shock.

The recall issued on 21 March 2016 is applicable to the following models:

Searchlight SEL Bolsena Single Spotlight. Product number 9000038405

Searchlight SEL Bolsena 3Lt Bar Spotlight Product number 9000038406

Searchlight SEL Bolsena 4Lt Sqr Pit Spotlight Product number 9000038407

For more information, please visit the Recalls website.

## State-wide industry forums highlight proposed changes to legislation and standards

Master Electricians recently held forums in WA for electrical contractors to gain an understanding of the changes outlined in the draft Standard of AS/NZS 3000 and how it will affect their everyday business practices.

Representatives from Energy*Safety* attended the Perth and

Bunbury sessions to outline the proposed life-saving changes to industry legislation which will prohibit 'live' work.

In Western Australia, the sessions delivered in metropolitan and regional locations were well received.

The period for public comment on the AS/NZS 3000 draft has now closed however, you can still view it at the SAI global website www.saiglobal.com

## Require assistance? Make the right call

Need assistance? The following table provides guidance of where assistance can be obtained

| When you need assistance with... | Network Operator | Master Electricians Australia or NECA | EnergySafety | Other |
|---|---|---|---|---|
| Advertising requirements for electrical contractors and reporting advertisements without an EC licence | | | ✓ | |
| Appliances/Equipment | | | | |
| Safety of electrical appliances/equipment and appliance/equipment approvals | | | ✓ | |
| Apprentices | | | | |
| Pre-apprentice and apprentice licensing, 'Apprentice Safety Guidelines', test and reports | | | ✓ | |
| Job placement services, apprenticeship incentives, loans and payments, dispute resolutions, mentioring services | | | | ✓ Apprenticehip Support Network |
| Registering training contracts, administration, regulating compliance to training plans and apprenticeship completion | | | | ✓ Apprenticeship Office |
| Consumer disputes | | | | |
| Are you having a dispute with a customer over work quality, services provided or non-payment? | | | | ✓ Consumer Protection |
| Electrical Safety Certificates | | | | |
| Do you require more books of Electrical Safety Certificates? | ✓ | | ✓ | |

| When you need assistance with... | Network Operator | Master Electricians Australia or NECA | EnergySafety | Other |
|---|---|---|---|---|
| Do you require assistance on completing an Electrical Safety Certificate for an installation that is connected to a network operator's grid? | ✓ | | | |
| Do you require assistance on completing an Electrical Safety Certificate for an installation that is not connected to a network operator's grid? | | | ✓ | |
| Employment opportunities | | | | |
| Employment opportunities for apprentices | | ✓ | | |
| Industry news and updates | | | | |
| Up-to-date industry news and developments | | ✓ | ✓ | |
| Interpretation | | | | |
| AS/NZS 3000: 2007, Wiring Rules or another Australian Standard | | ✓ | ✓ | |
| Electricity related legislation (e.g. Electricity (Licensing) Regulations 1991, Codes of Practice or Guidelines | | ✓ | ✓ | |
| Licensing | | | | |
| Issuing,restoring and renewing licences/ permits, change of personal/business details, damaged, lost or stolen licences | | | ✓ | |
| Network operator | | | | |
| Do you have an issue with a network operator? | ✓ | | | |
| Notices | | | | |
| Do you require more books of Notices? | ✓ | | ✓ | |

| When you need assistance with... | Network Operator | Master Electricians Australia or NECA | EnergySafety | Other |
|---|---|---|---|---|
| A Notice to be submitted for work carried out on a installation that is connected to a network operator's grid | ✓ | | | |
| A Notice to be submitted for work that is carried out on an installation not connected to a network operator's grid | | | ✓ | |
| Occupational Health and Safety | | | | |
| Do you have concerns with a health and safety issue that is not related to electricity? | | ✓ | | ✓ WorkSafe |
| Reporting defective/unsafe work | | | | |
| Is the unsafe installation connected to a network operator's grid? | ✓ | | | |
| Is the unsafe installation not connected to a network operator's grid? | | | ✓ | |
| Was the shock received from an installation that is connected to a network operator's grid? | ✓ | | | |
| Was the shock received from an installation that is not connected to a network operator's grid? | | | ✓ | |
| Was the shock received from an installation where the network operator cannot be identified? | | | ✓ | |
| Reporting unlicensed work | | | | |
| Was the unlicensed work carried out on an installation connected to a network operator's grid? | ✓ | | | |
| Was the unlicensed work carried out on an installation that is not connected to a network operator's grid? | | | ✓ | |

| When you need assistance with... | Network Operator | Master Electricians Australia or NECA | EnergySafety | Other |
|---|---|---|---|---|
| Rulings | | | | |
| Is the installation connected to a network operator grid? | ✓ | | | |
| Testing and Tagging | | | | |
| Testing and tagging of portable appliances | | | | ✓ WorkSafe |
| Training and education | | | | |
| Direction on professional training, development and education opportunities | | ✓ | | |
| Workplace relations advice | | | | |
| Advice and support on industrial relations and employment issues | | ✓ | | |

| Contact | |
|---|---|
| Department of Training and Workforce Development Apprenticeship Office | **Phone:** 13 19 54<br>**Email:** apprenticeshipoffice@dtwd.wa.gov.au |
| Australian Apprenticeship Support Network (AASN) | **Phone:** 13 38 73 |
| Department of Commerce,<br>Consumer Protection | **Phone:** 1300 304 054<br>**Email:** consumer@commerce.wa.gov.au |
| Department of Commerce, WorkSafe | **Phone:** 1300 307 877<br>**Email:** safety@commerce.wa.gov.au |

# Electrical contractor audits highlight administrative complacency

Recent Energy*Safety* electrical contractor audits showed that while most were submitting notices within the required time frames, in some instances, others were breaching the Regulations.

While most electrical contractors ensure they supply their customers with invoices and Electrical Safety Certificates, too many Preliminary Notices and Notices of Completion are either being submitted late or not at all.

We have also noted that many electrical contractors were submitting notices for only part of the job where notifiable work has been carried out.

In one example, a contractor failed to submit Notices of Completion to Western Power. Upon interview he mentioned that he could not complete the work due to the builder's other priorities. In this instance, the contractor should have submitted a Notice of Completion for work completed and then submitted another notice for the additional work.

Another electrical contractor admitted confusion to what electrical installing work is deemed notifiable.

As defined by the Electricity (Licensing) Regulations 1991, notifiable work is electrical installing work other than:

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

The Regulations require Preliminary Notices to be submitted to the relevant network operator ***before*** the commencement of notifiable electrical installing work while Notices of Completion must be submitted within **3 *working days*** after completion of the work.

Energy*Safety* schedules audits with electrical contractors selected on a random basis. To ensure you are prepared when it comes to your business being audited, please ensure you have adequate procedures in place for the submission of notices, which could include:

- If you are submitting notices via email, set up a folder and save sent emails as proof of submission. Alternatively, attach a read and/or delivery receipt to outgoing emails.
- For notices submitted via fax, check the fax has been transmitted successfully by checking the delivery receipt/confirmation, which should be kept along with the submitted notice.
- For notices submitted via post, contact the network operator on a regular basis (e.g. dependent on the volume of work undertaken by your company this could be monthly for high volumes of notices or quarterly for low volumes) and provide them with a list of notices submitted and ask them to verify if notices have been processed.

# New standard being developed for battery storage

A new standard covering the installation of batteries operating at low voltages is being completed. A first draft is expected towards the end of 2016.

Meanwhile, the Clean Energy Council (CEC) has recently released industry guidelines for the installation of domestic battery storage units.

The *Install Guidelines for Accredited Installers – Grid-Connected Energy Systems with Battery Storage* came into effect on 28 April 2016 as a result of intensive research undertaken by the CEC in conjunction with the CSIRO.

Given the installation of grid-connected energy systems with battery storage is a burgeoning field, with a relevant Standard still in the developmental stage, these Guidelines are the only publication currently available providing guidance on installation safety standards, battery hazards and mitigation methods, system configurations, general arrangements, safety signage, commissioning and maintenance.

While there are several Australian Standards for the design and installation of battery systems within buildings (e.g. AS2676, AS3011, AS4086 and AS/NZS 4509), these are only applicable to lead-acid batteries and do not cover the alternatives (e.g. lithium batteries). Interconnection equipment or combined storage systems (i.e. all-in-one battery, inverters and control equipment) also are not included.

As of 1 October 2016, these Guidelines will become mandatory for all solar installers with battery installation accreditation and designers to comply with CEC standards.

Download your free copy of the Guidelines from the Solar Accreditation website www.solaraccreditation.com.au

## $30,000 for not properly checking and testing

Following a recent trial in the Perth Magistrate's Court, an Exmouth-based electrical contractor received a $30,000 fine and court costs for submitting a Notice of Completion for unsafe electrical work that had not been checked and tested.

The electrical contractor had been engaged to carry out electrical installing work for a new transportable kit home, including the interconnection of wiring between the three modules of the home and the installation of:

- underground three phase consumers main and its connection to the tariff meter panel;
- a solar hot water system;
- ceiling fans;
- lighting and socket outlets; and
- an exterior air-conditioning condenser unit.

Though the contractor had submitted a Notice of Completion, stating that the completed work was safe and complied with Regulations, a routine Horizon Power notice inspection revealed the work to be unsafe and not complete. The following serious defects were identified:

- The absence of a multiple earthed neutral (MEN) connection at the main switchboard. It was fitted but not connected.
- The installation of the condenser unit for the air-conditioner in a restricted zone near gas cylinder pigtails and pipe work.

While the contractor had carried out some checking and testing, he did not make a record of any checks and test readings. He failed to perform a visual inspection as he had relied upon the Installation Test Certificate and notices completed by another electrical contractor who had installed the main switchboard.
Checking and testing of an installation requires the MEN connection to be removed during testing and reinstated upon completion. The contractor admitted that he did not reinstate the MEN connection.

Electrical work carried out on transportable buildings is a two-step process, with one contractor carrying out the initial wiring during manufacture with a second contractor carrying out the interconnection wiring etc and the first checking, testing and connection of the transportable.

This case serves as a reminder to electricians to ensure they carry out all required checks and tests and avoid shortcuts. It is risky to assume the work covered by an Installation Test Certificate provided by another electrical contractor does not require checking and testing.

The contractor, who was also the worker responsible for the defects, received a fine of $7,500 along with court costs.


*As the Inspector removed the escutcheon plate, the two screws in the terminal of the MEN connection fell out*

*Air-conditioner condensing unit installed in a restricted zone near gas cylinder pigtails and pipe work*

# Horizon Power implements renewable energy strategy to combat network losses

In an effort to offer alternative sources of electricity to areas affected by last spring's destructive bush fires near Esperance, Horizon Power developed a renewable energy solution to provide electricity to consumers.

The fires, which caused extensive damage to the Horizon Power network and to hundreds of rural properties, resulted in losses of power for up to ten days. Properties impacted by severe damage to powerlines were provided with diesel generators as a temporary solution.

In what is a first for Western Australia, Horizon Power has provided a clean and reliable off-the-grid power solution to four of the affected consumers. It has installed five individually customised stand-alone power systems comprising photovoltaic (PV) arrays and lithium-ion battery storage to power properties belonging to four customers, including the ranger's house and work sheds at Cape Le Grand National Park. A diesel generator will be on standby in the event consumers use more electricity than the solar panels generate and the battery unit can supply. This eliminated the need to rebuild the distribution system to the farms.

Though the systems operate independently from the Horizon Power grid, consumers will be receiving the same benefits as those connected to the network supply (e.g. technical support) with their electricity costs to remain unchanged.

# Notices - "New installation" or "alteration/addition"

Network operators receive a large number of Notices where "New Installation" has been selected, when it should have been an "Alteration/Addition" (called "New Connection" and "Existing Connection" respectively in the old Notice format).

This requires contact with electrical contractors resulting in re-work and additional costs, delays to connection services and inconvenience to you and your customers.

The purpose of this article is to provide guidance on how to correctly select the type of work.

### New Installation

"New Installation" should be selected when a new meter and consumer mains are being installed for:

- a new building;
- a temporary builders supply;
- an installation not previously connected to a network or other electricity supply i.e. a completely NEW installation;
- an existing installation that previously did not have its own meter, e.g.
    - converting a sub meter to a master meter ('subs to masters'), or
    - converting an unmetered supply to a metered supply.

*Off -the-grid power solution comprising photovoltaic arrays and battery storage*

**Alteration/Addition**

An alteration/addition is any other work that you may complete on an existing installation. This includes (but isn't limited to):

- installing solar, battery and other embedded generation systems;
- adding circuits to an existing installation;
- re-wiring and fit out of existing buildings, dongas, caravans and boats;
- converting from single phase to three phase supply;
- overhead to underground connection change-overs; or
- switchboard modification/replacement which does not involve the connection of a new meter.

Where the maximum demand for the site will change, the "Calculated Maximum Demand" field of the Notice must be completed, showing the new maximum demand for the entire installation, not just for the part you have added or modified.

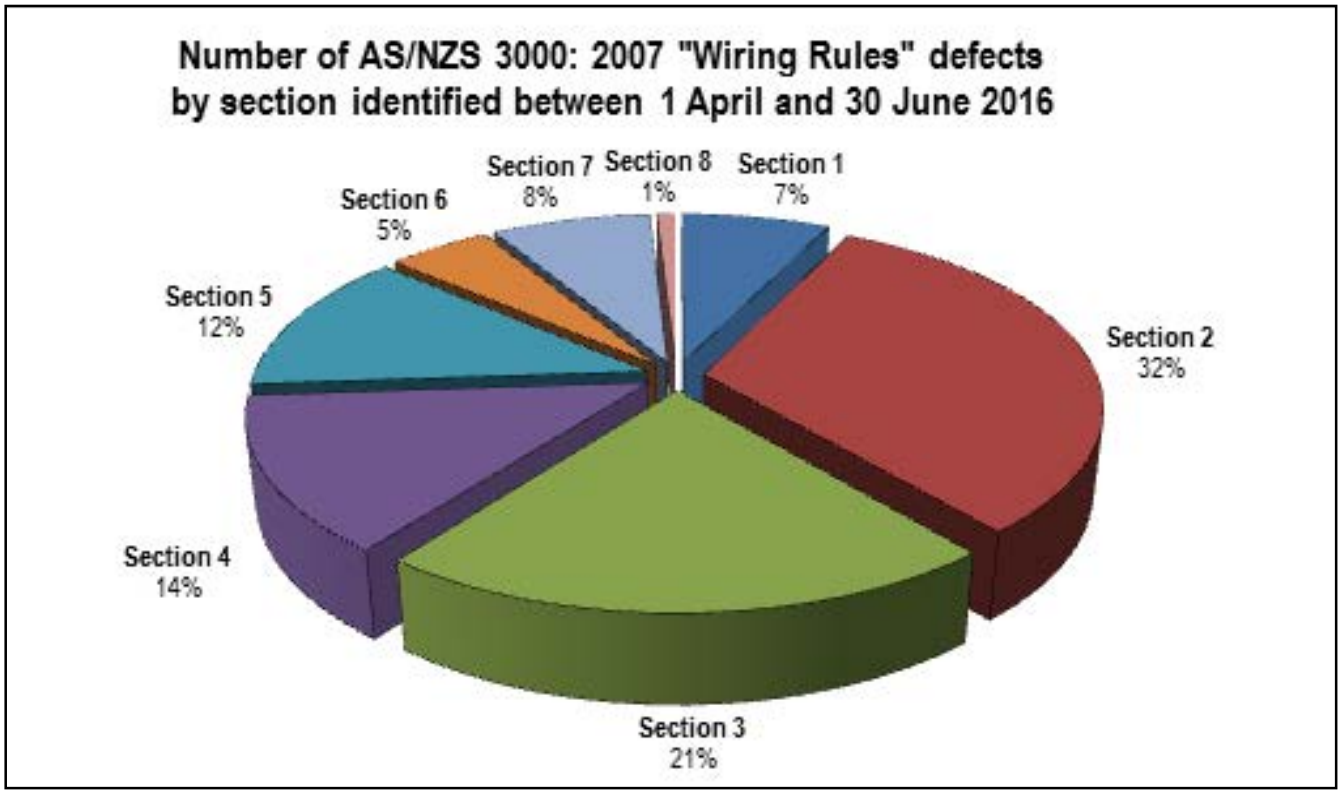
# Standards update

| Standard | Published Date | Supersedes |
|---|---|---|
| AS/NZS 7000:2016: Overhead line design | 17 May 2016 | AS/NZS 7000:2010: Overhead line design - Detailed Procedures |
| AS/NZS 3190:2016: Approval and test specification - Residual current devices (current-operated earth-leakage devices) | 10 May 2016 | AS/NZS 3190:2011: Approval and test specification - Residual current devices (current-operated earth-leakage devices) |
| AS/NZS 60079.18:2016: Explosive atmospheres - Equipment protection by encapsulation 'm' | 10 May 2016 | AS/NZS 60079.18:2011: Explosive atmospheres - Equipment protection by encapsulation 'm' |
| AS/NZS 60079.10.2:2016: Explosive atmospheres - Classification of areas - Explosive dust atmospheres | 5 April 2016 | AS/NZS 60079.10.2:2011: Explosive atmospheres - Classification of areas - Combustible dust atmospheres |
| AS/NZS 60079.7:2016: Explosive atmospheres - Equipment protection by increased safety 'e' | 22 March 2016 | AS/NZS 60079.7:2006: Explosive atmospheres - Equipment protection by increased safety 'e' |

| Draft Standard | Published Date | To supersede | Comments close |
|---|---|---|---|
| AS/NZS 60598.1:2016/ Luminaires: Part 1 - General requirements and tests - (IEC 60598-1, Ed. 8.0 (2014) MOD) | 6 June 2016 | AS/NZS 60598.1:2013 | 8 August 2016 |

| Amendment | Published Date | Supersedes |
|---|---|---|
| AS/NZS 60598.2.1:2014 /Amdt 1:2016: Luminaires - Particular requirements - Fixed general purpose luminaires | 18 May 2016 | DR AS/NZS 60598.2.1: 2014 Amdt 1: 2015 Luminaires - Particular requirements - Fixed general purpose luminaires |

# Defects between 1 April and 30 June 2016




A review of recent Inspector's Orders revealed the following trends in defects:

**Section 1 - Scope, Application and Fundamental Principles**

Scope. application, referenced documents, definitions, fundamental principles, design of an electrical installation, selection and installation of electrical equipment, verification (inspection and testing) and means of compliance

**Section 2 - General arrangement, control and protection**

General, arrangement of electrical installation, control of electrical installation, fault protection, protection against overcurrent, additional protection by residual current devices, protection against overvoltage, protection against undervoltage and switchboards

**Section 3 - Selection and installation of wiring systems**

General, types of wiring systems, external influences, current-carrying capacity, conductor size, voltage drop, electrical connections, identification, installation requirements, enclosure of cables, underground wiring systems, aerial wiring systems and cables supported by a catenary

**Section 4 - Selection and installation of appliances and accessories**

General, protection against thermal effects, connection of electrical equipment, socket-outlets, lighting equipment and accessories, smoke and fire detectors, cooking appliances, appliances producing hot water or steam, room heaters, electric heating cables for floors and ceiling and trace heating applications electric duct heaters, electricity converters, motors, transformers, capacitors, electrical equipment containing liquid dielectrics and batteries.

**Section 5 - Earthing arrangements and earthing conductors**

General, earthing functions, earthing system parts, earthing of equipment, earthing arrangements, equipotential bonding, earth fault-loop impedance, and other earthing arrangements.

**Section 6 - Damp situations**

General, baths, showers and other fixed water containers, swimming pools, paddling pools and spa pools or tubs, fountains and water features, saunas, refrigeration rooms, sanitization and general hosing-down operations

**Section 7 - Special electrical installations**

General, safety services, electricity generation systems, electrical separation (isolated supply), extra-low voltage electrical installations, high voltage electrical installations, hazardous areas (explosive gas or combustible ducts) and specific electrical installation standards

**Section 8 - Verification**

General, visual inspection, testing and date of initial energisation of an installation.

**NB: 22.2% of the defects were classed as serious defects. This serious defect rate is still far too high which indicates that the verification checking and testing of completed work is not being carried out to an acceptable standard**

# Prosecutions for breaches of electricity legislation

Between 1 April and 30 June 2016

| Name (and suburb of residence at time of offence) | Licence Number | Legislation and Breach | Offence | Date of Offence | Fine ($) | Court Costs ($) |
|---|---|---|---|---|---|---|
| Peter Seers (Exmouth) | EW153789 | E(L)R 1991 Regulation 49(1) | Carrying out, or causing or permitting to be carried out, electrical work contrary to AS/NZS 3000:2007 which was unsafe | 25 March 2013 | 7,500.00 | 1,597.30 |
| P & A Electrical (W.A.) Pty Ltd (Exmouth) | EC008486 | E(L)R 1991 Regulation 52(3) | Sending notice of completion of notifiable work in relation to uncompleted work which was unsafe | 15 April 2013 | 30,000.00 | 1,594.30 |
| Mizco Pty Ltd and Mizco Property Holdings Pty Ltd T/As Mizco Electrics (Malaga) | EC001293 | E(L)R 1991 Regulation 50(1) | Inadequate supervision of a trainee or other person requiring supervision, where the work is on or near live electrical installation or equipment | 7 January 2014 | 18,750.00 | 1,480.60 |
| Paul Sanzone (Landsdale) | EW132196 | E(L)R 1991 Regulation 52(3) | Carrying out, or causing or permitting to be carried out, electrical work contrary to AS/NZS 3000:2007 | 11 March 2014 | 10,000.00 | 980.60 |
| Paul Sanzone T/As Santana Electrical Services (Landsdale) | EC008797 | E(L)R 1991 Regulation 52(3) | Sending notice of completion of notifiable work in relation to uncompleted work which was unsafe | | | |

| Name (and suburb of residence at time of offence) | Licence Number | Legislation and Breach | Offence | Date of Offence | Fine ($) | Court Costs ($) |
|---|---|---|---|---|---|---|
| Lydon Mathew Watts (Dalyellup) | EW149019 | E(L)R 1991 Regulation 49(1) | Carrying out, or causing or permitting to be carried out, electrical work contrary to AS/NZS 3000:2007 which was unsafe | 12 February 2014 | 900.00 | 1,105.60 |
| Lydon Mathew Watts T/As Watts Electrical Contracting (Dalyellup) | EC010939 | E(L)R 1991 Regulation 52(3) | Sending notice of completion of notifiable work in relation to uncompleted work which was unsafe | 14 February 2014 | 500.00 | |
| Wei Liu (Willetton) | NLH | E(L)R 1991 Regulation 19(1) (2 breaches) | Carrying out electrical work without a licence or permit | Between 1 March 2014 and 1 February 2015 | 3,000.00 | 1,355.60 |
| | | E(L)R 1991 Regulation 33(1) (2 breaches) | Carrying on business as an electrical contractor without a licence | Between 1 October 2013 and 29 December 2015 | 500.00 | |
| Wei Liu (Willetton) | NLH | E(L)R 1991 Regulation 19(1) | Carrying out electrical work without a licence or permit | Between 31 January and 13 February 2015 | 2,000.00 | 1,355.60 |
| | | E(L)R 1991 Regulation 33(1) | Carrying on business as an electrical contractor without a licence | Between 31 January and 13 February 2015 | 1,000.00 | |
| | | E(L)R 1991 Regulation 59(1)(c) | Wrongfully representing himself as being the person being referred to in an electrical licence | Between 29 January and 6 February 2015 | 2,000.00 | |

# Summary of infringements for breaches of electricity legislation

Between 1 April and 30 June 2016

| Legislation and breach | Offence | Number of Infringements | Fine ($) |
|---|---|---|---|
| Regulation 19(1) E(L)R 1991 | Carrying out electrical work without a licence or permit | 1 | 1,000.00 |

**Legend**

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

# Gas Installations in multi-storey residential buildings

**The multi-storey project.**
The multi-storey project commenced some 3 years ago in order to comply with the requirements of the Gas Standards (Gas Supply and System Safety) Regulations 2000. These regulations encompass gas network operators/ gas suppliers having consumers in multi-storey residential buildings supplied from either a gas main distribution network or supplied from gas cylinders or bulk tanks.

In many instances, the gas service delivery line (gas service) into older buildings were constructed of galvanised wrought iron (GWI) or rigid polyvinyl chloride (PVC) pipes. Over time these pipes have become either rusted (GWI) or brittle (PVC) and require replacement. Master gas meters in these buildings were installed in unsealed meter boxes, sometimes found together in locations no longer considered safe.

The project involved replacing these services and relocating the master gas meters to a suitable location. This also meant altering the consumer's side of the gas meter to accommodate the relocated gas meters. Prior to commencing any work in the field, an exhaustive risk assessment was undertaken by the network operator of all the buildings to identify the priority for replacement. Highest on the list were those above three storeys.

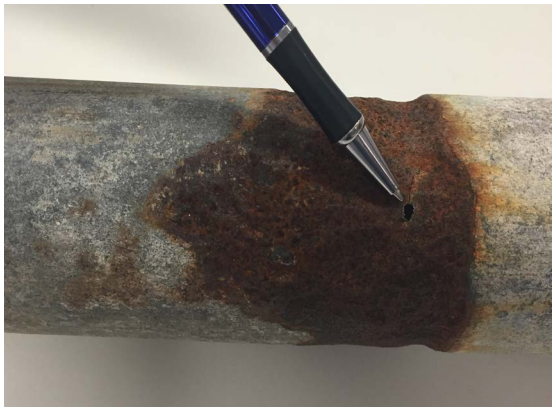
As this work entailed disconnecting the supply of gas to the building, liason with the building strata management body was crucial to ensure the least disruption to consumers. Where individual gas installations were found not sound (leaking), rectifying this work was at the owner's expense and would not be reconnected until repaired.

**Reported gas leaks in Multi-storey residential buildings**
There are occasions when a smell of gas is reported in a residential multi-storey building. The first response is to determine the source of the gas leak and isolate the gas supply. This has resulted in the network operator/gas supplier disconnecting the supply of gas to the building. If the leak is identified on the consuming side of the master gas meter this requires the installation to be made gas tight. In the case where there is only one master gas meter and the installation comprises subsidiary gas meters that are customer owned, the whole gas installation may be affected requiring urgent attention (see image of a hole found on a consumer's pipe discovered recently in a residential multi-storey building near Hyde Park in Perth. This portion of pipe was located embedded in the floor slab between floors that had been subjected to excessive moisture).

Where there are numerous owners within the complex, an urgent meeting of all owners (strata management body) had to be called to allow funding for repairs to be undertaken. This has resulted on occasions where gas had to be disconnected for an extended period of time and alternate water heating and cooking arrangements have been required until gas can be reinstated. Only when full compliance of the total installation is completed will the network operator/gas supplier resume the gas supply.

Energy*Safety* is mindful of these disruptions, however if urgent action is not taken consequences can be catastrophic.

Of an estimated 900 multi-storey residential buildings, ATCO Gas Australia (network operator) together with Energy*Safety* have completed 200 upgrades as at 30 June 2016.



*Hole in galvanised wrought iron pipe*

*Rusted galvanised wrought iron pipe*

# Water heater installations in multi-residential buildings

An increase in the number of notice of defects issued for non-compliant water heater installations has highlighted the need to remind gas fitters of the requirements of installing water heaters on a wall in locations other than a single residential premise.

**AS/NZS 5601.1:2013**
**6.3.13 Appliance on roof, wall or elevated structure in locations other than single residential premises**
(c) Where an appliance is mounted on a wall, the height of the base of the appliance from the ground or floor level shall not exceed 2.5 metres unless permanent means of access, or another means of access, which is acceptable to the Technical Regulator, can be arranged by the property owner or his representative.

Apart from installing the appliance as required by the manufacturers installation instructions, there is also a maximum height limit of 2.5 metres from the ground or floor unless there is a permanent means of access.

*Non-compliant water heater installations*

When replacing a water heater, the gas installation must comply with the current requirements, if not the appliance will have to be relocated to a compliant location at considerable cost and inconvenience to the gasfitter.

If the appliance cannot be installed in a compliant location, an application for a variation to the Regulations must be submitted to Energy*Safety* for consideration and approval prior to the installation of the appliance.

*Non-compliant water heater installations*

# Gas Standards (Portable Gas Cooking Appliances) Prohibition Order 2016

The Director of Energy Safety has formed the opinion that the use of portable cooking appliances incorporating an enclosed cartridge, also known as lunchbox cookers; is or is likely to become unsafe or dangerous if used;

(i) indoors; or
(ii) in any commercial application.

On 10 June 2016 the Director published a prohibition order under section 13H of the Gas Standards Act 1972 prohibiting the use of these appliances in these conditions.

The prohibition order can be viewed in the Government Gazette No. 93 on www.slp.wa.gov.au.

# Amendments to AS/NZS 5601

On the 11 May 2016 Standards Australia published amendments to AS/NZS 5601.1:2013 and AS/NZS 5601.2:2013. These amendments are adopted on publication in Western Australia; however there is a six month period where compliance with the unamended standard is deemed to comply with the amended standard.

The amendments can be downloaded for free from SAI Global at http://infostore.saiglobal.com/store/Details.aspx?ProductID=1855298 however you will be required to register and login.

There are many amendments to the standard most of these are editorial corrections, however some of the amendments introduce changes or new requirements. The following are some of the more noteworthy amendments.

**AS/NZS 5601.1:2013 Clause 5.2.8 Means of disconnection**
The requirement for a means of disconnection on the outlet side of an inline isolation valve has been deleted.
Note the requirement for a means of disconnection on the outlet of an appliance isolation valve remains.

**AS/NZS 5601.1:2013 Clause 5.4.6 Marker tape**
Multilayer pipe when installed in a trench now requires marking tape above it.

**AS/NZS 5601.1:2013 Clause 5.9.1 Hose assembly requirements**
The standard now prohibits joining together of hose assemblies.

**AS/NZS 5601.1:2013 Clause 6.8.6 Chimneys**
Where the integrity of a chimney being used as a flue is in doubt a flue liner must be installed.

**AS/NZS 5601.1:2013 Clause 6.10.1.14 Domestic gas cooking appliances in combined living/sleeping areas**
It is now permitted to install domestic gas cooking appliances in rooms that are used for living and contain sleeping areas provided there is a range hood ducted to outside over the cooking appliance.

**AS/NZS 5601.1:2013 Clause 6.10.1.15 Commercial catering equipment in residential premises**
Where commercial catering equipment is to be installed in residential premises it must

- be approved by the manufacturer for this use;
- comply with the clearances for commercial catering equipment; and
- have an interlocked extraction system fitted.

**AS/NZS 5601.1:2013 Appendix R Spillage tests for flued appliances**
This appendix has been updated and now contains a flow chart to aid in the application of the appendix.

**AS/NZS 5601.2:2013 Figure 3.2(B) Typical cylinder mounting location on the A-Frame of caravans**
This figure has been added to indicate the required clearances from A frame mounted LP Gas cylinders.

**AS/NZS 5601.2:2013 Appendix F Testing Gas Installations**
The requirement to perform a leakage test at the operating pressure to the appliance control valve has been added.

# Identified issues with AS 1375

Since the publication of AS 1375: 2013; Industrial fuel-fired appliances in October 2013, a number of issues have been identified that if applied as in the standard may lead to incorrect outcomes. These include incorrect calculation examples and incorrect data presented in some of the tables.

**Appendix D8 Examples**
The example calculations of critical time given in Appendix D8 are correct in formulation but incorrect in application. The examples round off calculated values to one significant figure not retaining sufficient significant places. This introduces the potential for significant variation in the calculated critical time. With the natural gas calculation in Appendix D8.2 using one significant figure gives a critical time of 285.0 seconds this reduces to 268.9 seconds where calculations are to three significant figures.
It is suggested that when calculating critical times that at least three significant figures are maintained throughout the calculation.

**Appendix F**
There are several errors in the calculation examples in this appendix. If you use these examples it is suggested that you verify the results by independent means.

**Appendix G Table G4**
The maximum developed explosion pressures in Tables G4(A) to G4(E) are labelled as being in units of kPa, the values are in units of bar. Use of the values as in kPa rather

than in bar will reduce any calculated result that uses these figures by a factor of 100.

Table G4(B) indicates the maximum explosion pressure of peat as 84 kPa (bar) this value appears to be incorrect as other references list values comparable to those of Lignite. If you refer to the maximum explosion pressure in this table then correct the value for the correct units.

**Appendix G Table G7**
This table assigns flame speeds to substances that are not recognisable from the names listed. If you refer to this table then ensure that you are referring to the correct substance name.

**Appendix G Table G8**
Indicates the flame speed for ethylene (ethene) attributed to France and Pritchard as zero, this appears to be incorrect. It is recommended that you do not use this value.

## Gas-tightness testing in caravans and boats

The requirements referred to in this article are applicable to caravan and boat gas installations other than those used for propulsion applications.

There has been some industry confusion as to the required gas-tightness testing for caravan and boat gas installations. Regulation 26(1) of the Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 states: "If a gas fitter installs or does any work on a consumer's gas installation, the gas fitter must ensure that, before the installation is commissioned:

1. the requirements of these regulations as to pressure testing are satisfied and the system is made gas tight; and
2. if the gas supply is available for connection, the system is purged of all air or other gas except the gas on which the system is to operate.

The gas-tightness testing requirements, for caravans and boats, are found in AS/NZS 5601.2:2013 Clauses 2.2.4 and 9.1 and Appendix F. This Standard has recently been amended. The amendments are available for view and download on the SAI Global website. The testing requirements detailed in Appendix F have been amended and made clearer for readers. It is imperative that gas fitters working on caravan and boat gas installations read and understand the testing requirements and the other amendments to allow for appropriate application.

The tests required are a pipework test and an installation gas tightness test.

Disconnect the piping from the installation regulator and cap the piping. With the appliance isolation valves off, any gas installation piping (other than downstream of individual appliance isolation valves) is required to be tested at 14 kPa for 5 minutes after a 2 minute stabilisation period post pressure source isolation. If there is no loss of pressure recorded then the piping is considered sound.

Then with the piping to regulator connection remade and the appliance isolation valves open the whole gas installation is to be subjected to operating pressure (usually 2.75-3.00kPa) for a further 5 minutes after a 2 minute stabilisation period post pressure source isolation. If there is no loss of pressure recorded then the gas fitter and the installation meet the pressure testing and pressure holding requirements.

The acceptable testing mediums are the intended gas, air or inert gas.

Again read Appendix F. If you have any questions please feel free to contact the Gas Inspection Branch on 6251 1904.

## How not to secure a freestanding cooking appliance

Failure to install an appliance in accordance with the regulations and the manufacturer's installation instructions may cause persons serious injury or worse. In the instance illustrated over page, a child stood on the open oven door, causing the cooker to fall forward as the appropriate (certified) anti-tilt device had not been installed. The improvised chains, which may have been installed as a hose assembly restraint or with some anti-tilt intent, pulled free from unsound anchorages.

There were several points of non-compliance contributing to this incident:

- the as certified anti-tilt device was not utilised; and
- the hose restraint (chain) was anchored to plasterboard rendering the anchorage points ineffective.

There have been previous instances where the incorrect, or failure to fit the, anti-tilt device has directly resulted in persons receiving serious injuries and damage to the associated appliances.

Gas fitters are required to ensure:

- That the manufacturer's installation instructions are adhered to when installing gas appliances and this includes used appliances.
- Any required anchorage points are appropriate and of suitable strength.

Take the time to do the job properly and ensure compliance with the Regulations, the Standard and the manufacturer's installation instructions. Don't be responsible for personal injury and/or property damage.

*Result of non-compliant installation*

*Inadequate restraints*

*Damaged anchorage point*

## Inglewood street markets

Energy*Safety* recently conducted a compliance inspection at the Monday evening markets held on Beaufort Street in Inglewood.

The inspection revealed a number of non-compliant gas installations in foodvans and a number of unapproved appliances. Inspector's Orders were issued prohibiting the use of the non-compliant gas appliance/gas installation.

The approval process for Type A appliances can be found on the Energy*Safety* website including contact details for Independent Type A gas appliance Inspectors.

*Home made gas appliance*

If gas fitters see appliances at markets that have obviously been modified or they believe they are unsafe they should report them to Energy*Safety*.

*Home made gas appliance*

*BBQ modified to restrict air flow around burners and plates so that a large pan could fit on burners*

# Summary of infringements for breaches of gas legislation

Between 1 April and 30 June 2016

| Legislation and breach | Offence | Number of Infringements | Fine ($) |
|---|---|---|---|
| R. 18(2) | Failing to ensure gas installation complies with prescribed requirements | 2 | 1,200.00 |
| R. 26(1)(a) | Failing to ensure gas installation meets requirements as to pressure testing and is gas-tight | 1 | 600.00 |
| R. 28(3) | Failing to give notice of completion of gasfitting work within required time | 1 | 400.00 |
| | **TOTAL** | **4** | **2,200.00** |

**Legend**

NLH No Licence Held
GSA *Gas Standards Act 1972*
GSR Gas Standards (Gasfitting and Consumer Gas Installatons) Regulations 1999