

eENERGY

bulletin



Government of Western Australia
Department of Commerce
Energy Safety

In this issue

Electricity eNotice now live!

Energy Safety is pleased to announce that the new eNotice system is available for all Electrical Contractors who currently use paper forms to start lodging Preliminary Notices, Notices of Completion and Electrical Safety Certificates online.

During the last 2 months eNotice has been successfully used by 100 Electrical Contractors and to date 2,000 notices and safety certificates have been lodged.

Feedback is that the system is very easy to use and quicker than paper lodgement.

One of the many benefits of eNotice is the smart features such as auto-filling data from the meter number and address validation as well as auto-filling sections of the Notice of Completion and Electrical Safety Certificate from previously provided information. This significantly reduces the time to complete a notice or safety certificate and reduces errors and re-work.

Invitations to start using eNotice have been emailed or mailed to all Electrical Contractors in WA who currently use paper forms.

To register or for further information, visit www.energysafety.wa.gov.au and click on eNotice.

Note: If you currently use Western Power's ETIC to lodge notices, you should continue to submit notices as usual, using ETIC. Western Power will transition ETIC users to eNotice over a period of time so as to reduce any impact on electrical contractors. It is likely that the transition will occur in early 2017.

To use eNotice efficiently, Electrical Contractors need to set up their account to allow their Nominees, Electricians and Administration Staff to draft or lodge Preliminary Notices, Notices of Completion and Electrical Safety Certificates.

Before you start using eNotice, it is important that you read the [User Management for Electrical Contractors' information](#) on our website. [Video tutorials](#) and other supporting information are also provided to assist you.

Further information can be found over page.

Ken Bowron
DIRECTOR OF ENERGY SAFETY

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Gas and Electrical eNotice

What is Electricity eNotice?

eNotice is a free web based facility for the electronic lodgement of Preliminary Notices, Notices of Completion and Electrical Safety Certificates. 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.

The development of Electricity eNotice involved an industry working group with representatives from eight electrical contracting firms, Western Power and Horizon Power. The working group provided invaluable insight and advice on the practical design and implementation of the system.

The use of eNotice should see a significant reduction in paper notices, providing cost benefits and efficiencies to electrical contractors, network operators and EnergySafety.

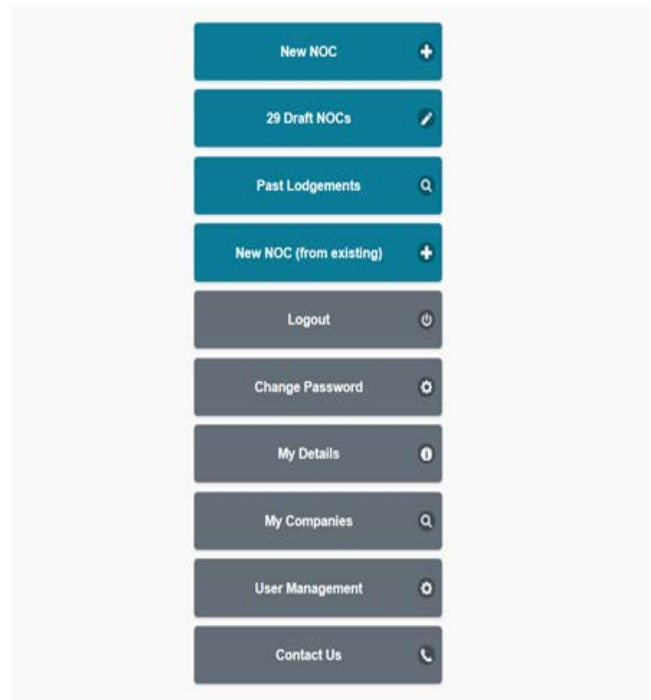
Paper notices can still be used. However, it is intended that these will eventually be phased out.

Gas eNotice update

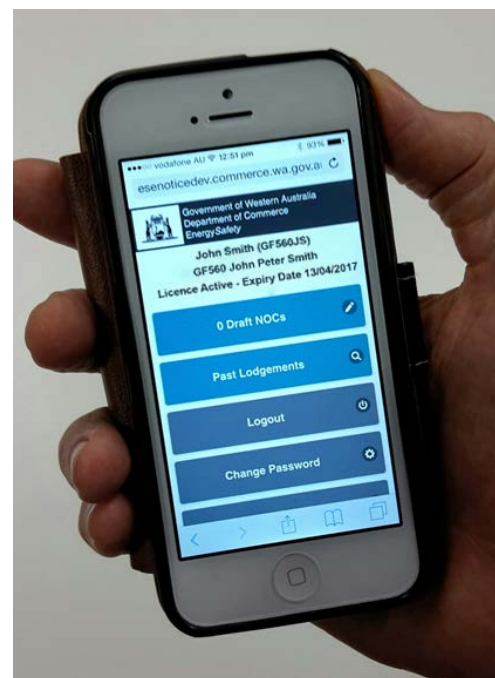
850 Gas Fitters have registered to use eNotice and 4,500 notices have been lodged. Feedback is very positive and that the system is very easy to use and quicker than paper lodgement.

EnergySafety is working with Gas Fitters at toolbox meetings to ensure that eNotice is understood and used effectively.

To register or for further information, visit www.energysafety.wa.gov.au and click on eNotice.



The eNotice user interface



eNotice is compatible with mobile devices

Supervision of Apprentices

Supervision of electrical apprentices is essential and is a requirement of the Electricity (Licensing) Regulations 1991.

Supervision must be performed by a person holding a valid licence that enables them to carry out the required electrical work without supervision. The electrical apprentice must hold an electrician's training licence. Note: a 4th year apprentice **cannot** supervise an apprentice.

Working in the electrical field without the required licences makes both the apprentice and the employer/supervisor liable for legal action under the Electricity (Licensing) Regulations 1991.

Electrical apprentices require adequate supervision for their safety and training and the safety of others. The primary duty of care rests with the employer or supervising electrical worker to determine the level of supervision required to maintain safety. The amount of supervision, either direct or general, requires continual assessment of the apprentice's experience, competence and the required task.

Electrical apprentices also have a duty of care to protect their own health and safety and that of the people around them. They should not embark on work that they feel unprepared for or that is risky.

Further information can be found in EnergySafety's publications, *Safety Guidelines for Electrical Workers* and the *Apprentice safety assessment Guidelines*.

Training licence and changing employers

If you hold an electrician training licence and are changing your employer, you must first inform the Department of Training and Workforce Development of the change.

You must then complete an electricians training licence application form, including your new employers details and submit it to EnergySafety.

Note: your electrician training licence includes your employers name on the Licence. If you are working with a different employer your Licence is invalid and you are working without a Licence.

Removing Nominees and notifying EnergySafety

It is a requirement under the Electricity (Licensing) Regulations 1991 that EnergySafety is notified in writing within 28 days of the removal of a nominee from an Electrical Contractor's licence or In-House installing work licence.

You can do this by emailing energylicensing@commerce.wa.gov.au. Please include the Licence Number and name of the Nominee to be removed.

With the development of the electricity eNotice system, you will be able to view your list of registered nominees in your electrical contractor account. The nominees registered under your electrical contractors licence with EnergySafety will automatically be listed in eNotice under user management.

Your nominees will be able to lodge notices and electrical safety certificates on your behalf, once they have registered to use eNotice.

The process for registering and removing nominees under your electrical contractors licence has not changed.

Register of workers

EnergySafety is reminding all employers that they are required to keep a record of all workers they have employed.

The record must be kept at the principal place of business for 2 years after the worker has ceased to be employed by the business.

The record must include the following:

- the name and residential address of the worker;
- the licence number, type and expiry date of the workers licence; and
- any particulars of the period during which the person has been employed in the business.

An employer may be asked to produce the record for inspection by an Inspector or by the Electrical Licensing Board.

Electrical Licensing Board

On the 1 February 2016 the new members of the Electrical Licensing Board commenced their appointment for a period of three years.

The members are:

Mr Kevan McGill – Chairman.

Mr Greg Wilton – representing the interests of electrical workers.

Mr Geoff Kelly – representing the interests of electrical workers with restricted licenses.

Mr Peter Beveridge – representing the interests of electrical contractors.

Mr Pat Tierney – representing the interests of large businesses, who are consumers of electrical services.

Mr Momcilo Andric – representing the interests of small businesses who are consumers of electrical services.

Mr Frank Hough JP – a residential consumer of electrical services.

Mr Saj Khan – represents the Director of Energy Safety.



Front Row: Robyn Nelson (Executive Officer), Kevan McGill, Saj Khan, Frank Hough

Back Row: Geoff Kelly, Greg Wilton, Peter Beveridge, Pat Tierney



Momcilo Andric

World Renewable Energy Conference 2017

Between 5 and 9 February 2017, Western Australia's Murdoch University will play host to the World Renewable Energy Congress XVI. The conference provides those in the renewable energy industry an ideal opportunity to engage with others involved with sustainable technologies.

The diverse array of subjects to be covered over the three days includes topics of interest to electricians, including electric vehicles, photovoltaic technologies, remote area power supplies (RAPS), renewable energy and transport, renewable energy for sustainable development, rooftop solar and smart grids.

For those unable to attend the three full days, there is the option to attend a one-off workshop on 'Solar Photovoltaics Power Systems for Residential, Commercial & Off-Grid Applications' to be conducted by Professor Chem Nayar of renewable energy innovators Regen Power and Dr Shaji Matthew from engineering consulting business AICA Group. The workshop will focus on solar power generation, photovoltaic (PV) arrays, inverters, battery storage and the design of grid and off-grid power systems.

Electricians interested in attending the conference and/or workshop are welcome to register at the World Renewable Energy Conference website <http://www.wrec2017.com/>

Notices - your accuracy is needed

As mentioned in *Energy Bulletin Issue 70* (April 2015), EnergySafety has been utilising a new Compliance Management System (CMS) which has streamlined the workflow processes for the Gas and Electricity Directorates. This includes the processing of Preliminary Notices and Notices of Completion.

EnergySafety has been receiving several notices from contractors where the owner/occupier and builder details supplied by electricians were found to be invalid. Common issues found were:

- Misspelling (e.g. Trace Civil instead of Tracc Civil).
- Incomplete details (e.g. 'Somertime' instead of 'Somertime Properties Pty Ltd' and 'Choice Homes' instead of 'New Choice Homes' and 'CPD' instead of 'CPD Group').
- Incorrect business/company name (e.g. 'Classic

Modular' instead of 'C & C Modular Builders', 'Sheldon Builders' instead of 'Shelford Quality Homes', 'Blue Ace Developments Pty Ltd' instead of 'Blue Genesis' and 'Fern Construction' instead of 'Firm Construction').

Electricians are urged to be mindful of the accuracy of the data input when completing paper notices. In instances where details supplied in a notice cannot be validated, it may result in unnecessary delays for the notice to be processed

Notices without an address or postcode will not be validated. In instances where notifiable work is carried out on remote installations (e.g. mine sites), please provide the post code of the nearest town and the relevant GPS coordinates.

Note: The new eNotice system will eliminate most of these issues and reduce the delays in processing. For example if you regularly do electrical work for a builder, you can record their details in eNotice under 'My builders'. Then, when lodging a preliminary notice, notice of completion or electrical safety certificate you can simply select the relevant builder and their details will automatically fill the required fields. For further information on eNotice visit www.energysafety.wa.gov.au.

RCDs for residential properties scheduled for demolition

EnergySafety receives many queries as to whether residual current devices (RCDs) should be installed in residential properties to be demolished.

In August 2009, changes in legislation required sellers of residential properties to have at least two RCDs installed at the main switchboard or distribution board for the lighting and socket outlet circuits before transfer of the property.

Sellers of residential properties where the buyer intends to demolish them for development purposes are not required to install these RCDs at the point of sale, provided notice is given to the seller by the new owner in writing, stating that the property will be demolished within six months of transfer.

If the property has not been demolished within the six month period, the buyer must then install the required number of RCDs. However, if the property is rented or leased after transfer, RCDs must be fitted immediately.

EnergySafety inspections of Christmas and Cocos (Keeling) Islands

For almost a decade, EnergySafety has undertaken inspections of gas and electrical installations on Christmas and Cocos (Keeling) Islands. Located off the north-west coast of Western Australia, the islands form the Indian Ocean Territories.

In July 2007, a Service Delivery Arrangement was finalised with the Commonwealth Government's Department of Infrastructure and Regional Development for the Indian Ocean Territories.

The agreement requires two inspections of the islands to be undertaken by EnergySafety's Chief Electrical Inspector Compliance each year to administer technical and safety regulation for consumer electrical installations.

The network operator on the islands is the Indian Ocean Territories Power Service (IOTPS).

As with the other network operators in Western Australia, IOTPS have their own electrical inspectors that have been designated by EnergySafety.

Inspections to date have identified several breaches including:

- A building contractor who carried out electrical installing work without an electrician's licence left an electrical installation in an unsafe manner and instructed an unlicensed person to carry out electrical installing work.
- Unsafe and substandard work carried out at the North West Point Immigration Detention Centre.
- A worker from New Zealand (unlicensed) who installed new circuits at Christmas Island Resort.
- An electrical contractor failing to provide an Electrical Safety Certificate to a customer who had three residual current devices (RCDs) installed at their property.
- An island resident (unlicensed) who installed a new TPS cables at a residential property.
- A property owner (unlicensed) who carried out the prewire for extensions at his own home.

EnergySafety has recently commenced the selection process for a new Chief Electrical Inspector Compliance following

long-time employee Harold Hills retirement from the position earlier this year after forty years of service.

Completion of Horizon Power's Mid-West Power Station Project

Horizon Power's Mid-West Energy project (MWEP) has been completed with the last of the six power stations commissioned in July 2016.

The new Mount Magnet gas power station was built by Contract Power Australia, a Western Australia company specialising in the construction, installation and operation of remote power stations. The facility comprises five Caterpillar containerised gas units, two Cummins diesel standby sets with a total capacity of 2.6MW.

Under a power purchase agreement with network operator Horizon Power, the MWEP project included an upgrade to the Norseman Power Station and the construction of stations at Cue, Meekatharra, Yalgoo, Wiluna, Mt Magnet and Sandstone.

Under the agreement, over a ten year period (with the possibility of an extension) the project will generate an additional 7,600 kW of electricity into Horizon Power's grid, benefitting regional towns in the mid-west of Western Australia.

The MWEP is considered a success for Horizon Power as it was completed ahead of schedule in only seven months. It also allows for the renewable technologies to be incorporated into the network grid at a later stage.

New Director Policy & Electrical Engineering

Saj Khan has been appointed EnergySafety's Director of Policy & Electrical Engineering. The position is responsible for the formulation of policy advice on electricity and gas. It also provides expert electrical engineering support to the Electricity Compliance Directorate.

Saj has been with EnergySafety since 2010 and has led several strategic policy changes during his time with the agency.

He has represented EnergySafety and Western Australia on several cross-jurisdictional initiatives and currently represents EnergySafety on the Electrical Regulatory Authorities Council (ERAC) and the Electrical Licensing Board.

Before joining the public service, Saj managed several major engineering projects and maintenance teams. His experience spans petro-chemical, mining and manufacturing industries.

Your technical questions answered

Answers to some frequently asked questions are provided below to assist industry in understanding related legal and technical requirements:

EW: Do I need a licence to carry out extra low voltage work on motorised wheel chairs?

ES: A licence is not required for extra low voltage work. However, the person carrying out the work must be deemed to be competent.

EW: What is the difference between ETIC and eNotice?

ES: ETIC is Western Power's system allowing contractors carrying out notifiable electrical work on installations connected to the Western Power grid to submit Preliminary Notices and Notices of Completion electronically. eNotice is EnergySafety's new web based facility for the submission of Preliminary Notices, Notices of Completion and Electrical Safety Certificates for installations connected to **all** network operators in Western Australia.

In the future, eNotice will be the single method for submitting notices electronically and Western Power's ETIC platform will be phased out. This is likely to occur in early 2017.

EW: Do I need an electrician's licence to carry out earth testing of earth stakes and earth grids?

ES: Yes, a full electrician's licence is required; given that a detailed assessment of the installation's earthing system would need to be carried out and proper earthing is an essential part of all electrical installations.

EW: When wiring a caravan or mobile home, do I need to submit Notices and provide an Electrical Safety Certificate to the customer?

ES: Yes, the wiring of a caravan is considered the same as the wiring of a residential premise. If the caravan is to be connected to a network operator's grid, notices must be submitted to the relevant network operator. An Electrical Safety Certificate must also be provided to the person requesting the work to be carried out.

Note: Unless they have a written exemption, WA manufacturers of caravans and mobile homes are required to submit notices to EnergySafety.

EW: Can I complete a job left unfinished by another electrician? What about the paper work?

ES: Yes, you can complete the electrical work left unfinished. However, before commencing any work, you will need to submit notices (if the work is notifiable) to the relevant network operator or EnergySafety for your portion of work carried out.

You should also provide the details of any work you are not responsible for in Section 3 – General Information of the Preliminary Notice.

It would also be advisable to inspect the electrical work carried out by the other electrical contractor to ensure it is safe and complies with the Regulations. If any defects are identified, these should be reported immediately to the relevant network operator.

EW: Is the purpose of Electrical Safety Certificates to verify whether RCD's and smoke alarms have been installed?

ES: Electrical Safety Certificates are required to be completed when electrical installing work (except maintenance work) has been carried out. Though there isn't a requirement for the Certificates to be used to verify that RCDs or smoke detectors have been installed, the certificate may serve that purpose.

While they can be used to verify that RCDs and smoke detectors are present, a full inspection of the property needs to be undertaken to confirm this, not just a visual inspection of the main switchboard. It must be verified that the RCDs protect all socket outlet and lighting circuits, which should be distributed equally between the RCDs.

EW: I hold a restricted electrical licence. Can I undertake testing of residual current devices (RCDs)?

ES: Anyone can test RCDs by pressing the test button.

EW: What paperwork is required to be completed for the installation of a generator set and to which network operator do I submit it?

ES: If a generator was installed as a temporary power supply on a site prior to connection to the network operator grid, a Preliminary Notice and Notice of Completion are to be submitted to that network operator. If the installation was to be fully and permanently powered by a generator, with no connection to a network operator, then the notices are to be submitted to EnergySafety.

EW: Is there a requirement to replace switchboard fuses with circuit breakers?

ES: While there are no requirements for an upgrade from fuses to circuit breakers, where no work is carried out, circuit breakers are considered to be safer and easier to use, particularly in rental properties.

EW: Can a multiple earthed neutral (MEN) link for an installation be installed in the generator if the generator is the only supply of power to the main switchboard of an installation or, must the MEN link always be installed in the main switchboard?

ES: Each generator installation needs to be reviewed on an individual basis. AS/NZS 3000:2007; Wiring Rules requires the MEN to be located within the main switchboard of the installation. For generator installations, this may be on a generator itself (if the board on the generator is deemed to be the main switchboard).

If the MEN link is to be removed/relocated from its original location, adequate labelling will need to be provided to indicate its new location.

EW: Is there a requirement for an electrician to have full colour vision?

ES: There is no requirement for an electrician to pass a colour blindness examination prior to obtaining an electrical licence. However, employers should be mindful of the type of cabling an electrician who is colour blind will be doing, as there may be an issue where multi-core systems are involved.

EW: What are the RCD protection requirements for lighting circuits in a commercial building that has been recently renovated?

ES: EnergySafety legislation does not have a requirement for RCDs to be installed on lighting circuits in commercial buildings which are not used as a residence.

Solar boost for WA

A Western Australia solar farm is one of twelve solar projects to have obtained funding from the Australian Renewable Energy Agency (ARENA).

The multi-million dollar 20 MW Emu Downs Solar Farm to be constructed within the existing 79.2 MW Emu Down Wind Farm near Cervantes will receive a funding boost of \$5.5 million. Several projects are under consideration for ARENA funding, with the application process highly competitive.

In 2013, natural gas infrastructure provider APT Pipeline (APT Group) declared its intention to establish a solar farm within their Emu Downs Wind Farm. The wind farm was commissioned in 2006 and comprises forty eight wind turbines and a substation supplying electricity for the operation of the Perth Seawater Desalination Plant in Kwinana.

Six solar farms in Queensland and five in NSW were also selected for ARENA funding, with the projects expected to inject approximately \$1 billion of investment into the Australian economy as well as increasing employment in the renewable energy industry.

ARENA was established by the Australian government on 1 July 2012 under the *Australian Renewable Energy Agency Act 2011* to make renewable energy more competitive, attractive and economically viable for businesses throughout Australia. The agency has two objectives which they plan on delivering by 2022 with \$2.5 billion:

- Improve the competitiveness of renewable energy technologies.
- Increase the supply of renewable energy in Australia.

Emu Downs Solar Farm is expected to be completed by the end of 2017.

Unauthorised contracting work robs contractors of income

EnergySafety has been investigating a number of electricians found to be advertising for "weekend work" while not holding the required electrical contractor's licence.

In a number of instances, electricians were also found to have been misusing their employer's property by utilising their tools to carry out electrical work outside of their hours of employment. By undertaking such work, these electricians are breaching Regulations.

Through routine inspections of the Gumtree website for non-complying advertisements, several electricians were found to have committed an offence after placing advertisements for electrical installing work without including an electrical contractor's licence number.

It is a requirement that an electrical contractor's number is displayed in all advertising so consumers can be assured the electrical work to be carried out is undertaken by a business or company meeting all of the requirements set by the safety regulations.

The display of the licence number in advertising gives consumers the opportunity to confirm with EnergySafety whether the licence number, does indeed belong to the registered business. This confirmation can be done by using the simple Licence and Registration Search available on our website www.energysafety.wa.gov.au

EnergySafety licence and registration search

This page is for: [Business / company](#) [Consumer](#) [Electrical contractor / worker](#) [Gas worker](#) [Tradesperson](#)

[Login](#)

Licence Type	-- Any Licence Type --	?
Licence Number		?
Surname / Company or Business Name		?
First Name		?
Suburb		?
Postcode		?
<input type="button" value="Search"/> <input type="button" value="Clear"/>		

EnergySafety Licence and registration search facility

Regulation 33(1) of the Electricity (Licensing) Regulations 1991 states that *subject to this regulation, a person shall not carry on business as an electrical contractor, or by any means hold himself or herself out as carrying on business as*

an electrical contractor, unless the person is authorised by an electrical contractor's licence to so carry on business. By placing advertisements for electrical installing work without holding a contractor's licence, a person is holding himself out as carrying on business as an electrical contractor and is thereby in breach of the Regulations.

A person cannot advertise for any electrical installing work unless they have successfully completed the required training modules from the Electrical Contractor Training Program and have gained a Western Australian electrical contractor's licence issued by EnergySafety's licensing office.

Any unauthorised electrical contracting work or non-complying advertisements should be reported immediately to the relevant network operator for investigation, or in instances where the network operator is unknown, to EnergySafety.

Western Power stand alone power systems pilot underway

On 11 July 2016, Western Power, in conjunction with Horizon Power and Synergy commenced a twelve-month pilot program involving the installation of six stand-alone power systems for customers in rural areas including Ravensthorpe, Lake King and Ongerup.

A stand-alone power system (pictured below) comprises of solar panels, inverter, storage battery and a backup diesel generator. The systems continuously generate and store electricity independent of the network operator grid and with diesel generator backup, they are unaffected by weather conditions.



Stand alone power system

Western Power invited customers residing in the Great Southern and Southern Wheatbelt areas to express interest in taking part in the program. A rigorous screening process for potential candidates was held between August and December 2015, with criteria to be met including:

- Whether the net benefit of potential power line replacements is greater than the total costs of stand-alone power systems required for all the customers connected.
- The power line and related asset age must be greater than thirty years.
- The site is readily accessible, has minimal shade and has suitable ground cover (i.e. not too rocky).
- The proximity of the potential stand-alone power system sites to the customer's point of connection to the electricity supply.

Tim, one of the trial participants, has one of the smallest systems installed with his expected usage around 15 to 20 kWh/day. During peak periods of the year, with shearing under way in August, Tim employs a full shearing team (including a cook) that lives on site for up to three weeks.

With high loads, short days, cloud cover and cold weather during the Winter season, the usage soars to an average of 43 kWh (average solar usage is 31 kWh and the generator average 19 kWh) and on some days it hits 60 plus kWh. This tripling of consumption above design use has been handled well by the stand alone power systems, albeit, with significant diesel generation.

Participants will be generating electricity off the grid and will provide performance information and feedback to Western Power. If, after the twelve months, the program results are deemed successful, Western Power may invest in more of the systems and participants will be given the option to stay connected to the stand-alone system or be reconnected to the network.

The program is the second of its kind in Western Australia. Earlier this year, Horizon Power installed five stand-alone systems at rural properties affected by last spring's destructive bushfires near Esperance.

This has been a good test, allowing Western Power to confirm optimal sizing of solar and battery systems for average load profiles, covering the short periods of load exceeding solar and battery supply, preventing over-sized capital equipment.

Interview with Frank Bonomi - Winner of NECA WA Excellence Award - Work Health & Safety

Frank Bonomi, Director of Bon Electrics recently won NECA WA's Excellence Award – Work Health & Safety. Frank undertook his electrical apprenticeship under the direction of EEC Pty Ltd. Upon completion in 1978, Frank spent eleven years working at RAAF Base Pearce as a maintenance electrician for the Department of Housing & Construction. In 1989 he established Bon Electrics. EnergySafety recently spoke with Frank about his win and to discuss health and safety in the workplace.

ES: Congratulations on winning NECA's Excellence Award – Work Health & Safety. Please explain to our readers how your nomination came about?

FB: We decided to nominate for the award as we had not seen another electronic platform operating within industry to the same standard. We are a smaller firm and the infrastructure available to us was limited. We felt what we had achieved given our resources demonstrated industry excellence.



Frank Bonomi and the Bon Electrics team

ES: Please tell us about your OH & S Complete Electronic Platform and what are some of the benefits of its use?

FB: The platform was designed using multiple applications and integration and was written to enable the platforms to communicate seamlessly. For example, the tradesperson can mark on the Safe Work Method Statement (SWMS) document what type of work they are undertaking and then reference information from the OH&S manual, which then

automatically uploads to their job notes.

In addition, there are numerous benefits throughout every layer of the platform including:

- The team onsite are able to quickly search and reference OH&S policies and procedures using keyword search functionality.
- Employees are immediately notified if there are any changes to policies or procedures.
- All OH&S forms and test sheets are held within a forms based application and are automatically filed against the relevant job, which removes administration processing requirements.
- Documentation cannot be lost or misplaced which reduces the risk of any non-compliances.
- Appropriate controls are in place with auto notification options available to management. For example, after an incident/accident report has been completed, senior management automatically receive a copy of the report via email once the form has been submitted.
- The ability to identify which documents/policies are being regularly accessed by our team which assists us in identifying any areas in which the team may require additional training.
- Tailoring safety documentation/forms to project specific requirements. Once the document has been uploaded it is easy to make alterations.
- The platform plots the GPS location of the user and date and time stamps the form once it has been completed. This allows us to ensure our workers are completing the documentation at the appropriate stage of a job's life cycle.

ES: How important is this win for you and your employees?

FB: When we commenced operating an accredited OH&S system in 2011, it was a significant undertaking. This award represents how our company is maturing and developing. The award belongs to our team. Our team embraced this new platform and were enthusiastic about what we were trying to achieve. This award shows our commitment to change and sets the standard.

ES: What OH&S training does your company provide employees?

FB: We carry out fortnightly OH&S training as a minimum utilising the NECA Health Safety, Environment and Quality (HSEQ) Management System as our training guide. Our entire workforce have been trained in senior first aid/CPR and numerous team members undertake safe operating tickets that are specific to their roles.

ES: During your career as an electrician, what are some of the most alarming risks to the health and safety of yourself or others that you have seen taken by fellow electricians in the interests of saving time or cutting costs?

FB: The largest concern I have within industry is shortcuts around checking and testing. It is the most integral part of the job but sometimes under prioritised.

ES: In an industry fraught with many potential hazards, what do you believe are the key factors in contributing to and maintaining a healthy and safe work environment for your employees?

FB: The most important factor is to remember you are the professional, you know what is required to complete the job safely and it is your responsibility to ensure the safety of your workforce and your clients.

ES: What are some of the most valuable work and safety tips you would like to share with electrical contractors who have just started up in this industry?

FB: Protect your licence! You carried out a four year apprenticeship and invested in a contractor's licence to gain the skills to operate safely. Don't allow commercial pressures compromise the safety and standards of your work. You are risking your livelihood and someone's life against it!

ES: What is your opinion on the proposed industry changes to OH&S legislation regarding banning 'live' work?

FB: We, as a business, support the banning of live work. However we do understand there are circumstances where live work has to be considered due to the nature of work being conducted. It is the responsibility of the electrical contractor to ensure they have appropriate controls in place to ensure the safety of their team prior to carrying out live work.

ES: What are some of the other changes to industry practices you would like to see implemented to contribute to safer working environments for electricians?

FB: It would be encouraging to see tougher penalties and disincentives for unlicensed electrical work and non-compliant products. I would like to see specific and stringent testing in place to ensure products are safe prior to being released onto the market. Currently, product compliance is the onus of the electrical contractor and I believe it should be with the importer. These issues represent significant danger to electrical workers and clients.

Trade services company uses employee's electrical contracting licence

A business offering trade services including solar, electrical and plumbing services has been found guilty in Perth Magistrate's Court for carrying on business as an electrical contractor without holding an electrical contractor's licence.

EnergySafety investigations revealed the Director of the business had placed advertisements for electrical contracting work in the Perth, Fremantle & Inner South East Region Yellow Pages, three business websites (including a Facebook page), as well as signage on business vehicles and a Transperth bus.

As the business did not hold an electrical contractor's licence, they contracted a licensed electrical contractor to undertake electrical work and then used the contractor's licence number on their advertising.

Approximately six hundred jobs were carried out by electricians employed by the franchise between November 2012 and July 2014.

The Magistrate ruled that the accused wrongfully used the electrical contractor's licence of one of their employees instead of holding their own and imposed a fine of \$5,000 with court costs of \$5,291.80.

Cunderdin to receive Western Australia's largest solar farm

In a renewable energy project set to eclipse Western Australia's largest solar farm (10.6 MW solar farm at Sandfire Degrossa's gold and copper mine), solar energy provider Sun Brilliance will be constructing a 100 MW solar farm in the southern wheatbelt town of Cunderdin.

The farm will be a single-tracking system, which means an array of solar photovoltaic (PV) panels are aligned on a single axis and will tilt to follow the direction of the sun as it rises in the east and sets in the west. A 120 MVA, 132 KV/22kV substation is also proposed to be constructed at the site.

The project was scaled initially as a 25 MW solar farm, but due to ever increasing prices for electricity and renewable energy large-scale generation certification (LSGC) for projects (which are issued by the Australian Government's Clean Energy Regulator), cost effectiveness dictated the farm size to increase to 100 MW.

Sun Brilliance has submitted an application to Western Power to connect the farm to the South-West Interconnected System (SWIS) via a 132 kV transmission line running 2km south of the property.

For funding, the project will rely entirely on investors and lenders and will forego any Government assistance (e.g. grants from Australian Renewable Energy Agency (ARENA)). There will also be no set power purchase contracts in place.

It is expected that construction of the farm will commence in January 2017 with an estimated completion date of July 2017.

Product Recall

Connexia 8 and 4 socket surge protected power boards with 2 USB ports (black and white)

A recall was issued on 19 July 2016 for the affected models:

- CONNEXIA55021 (white) date stamp 04/15
- CONNEXIA55023 (black) date stamp 04/15
- CONNEXIA55017 (white) date stamp 08/15

The affected power boards were sold nationally from the Catch of the Day website

www.catchoftheday.com.au

between 1 May 2015 and 30 May 2016.

There is a risk that these units can overheat which can cause the outer sheath to melt and the breakdown of the insulation. There is also a potential fire hazard.

Contact details:

Telephone: (03) 9558 9666

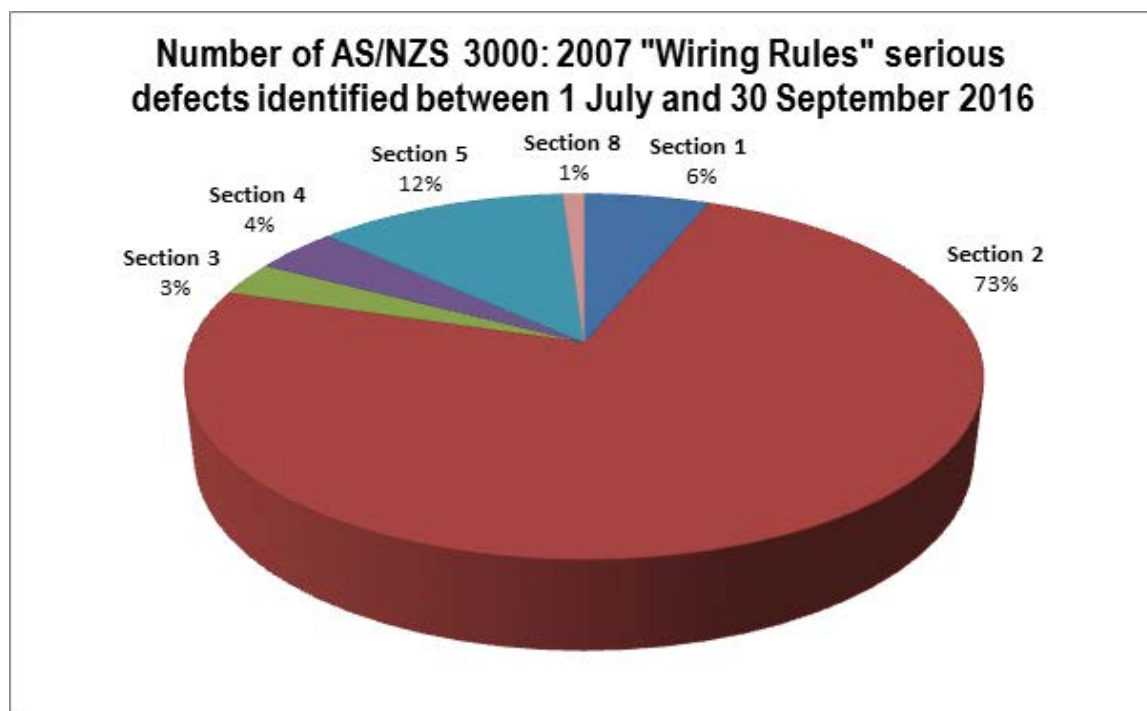
Email: producthelp@musicway.com.au



Connexia 8 and 4 socket surge protected power boards with 2 USB ports

Serious Defects 1 July - 30 September 2016

The following chart shows the number of serious defects taken from Inspector's Orders issued by EnergySafety and network operator inspectors for the 1 July to 30 September 2016 quarter while undertaking routine sample inspections or carrying out investigations into unsafe and substandard electrical work.



Section of AS/NZS 3000: 2007	Serious defects identified
<p>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</p>	<p>1.5.4.1 No protection provided against dangers that may arise from contact with parts of the electrical installation that are live in normal service. 1.7.1 Electrical equipment is unsafe or defective 1.7.3 Equipment selection does not meet essential safety requirements</p>
<p>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</p>	<p>2.5.1.2 Submains and final subcircuits not protected by an overload device 2.6.2.4 RCD protected final subcircuits not arranged as required 2.6.3 Final subcircuits not provided with 30mA RCD protection 2.6.3.1 (a) Final subcircuits for socket outlets not provided with 30mA RCD protection 2.9.3.1 Live parts are not arranged so that basic protection is provided by enclosures, in accordance with the provisions of Clause 1.5.4. 2.9.6 Switchboard wiring is not adequate to meet thermal and magnetic effects 2.9.7 Switchboard spread of fire protective measures do not meet requirements</p>
<p>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</p>	<p>3.1.2 Wiring systems not selected and installed to meet requirements 3.7.3 Failure to provide adequate protection against external influences for joints in cables</p>
<p>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.</p>	<p>4.1.2 Where contact can be made with live terminal/conductors without the use of a tool i.e. exposed live parts/conductors (including fittings left off) and wiring joints (including taped joints) 4.5.1.1 Lamp holders not adequately protected 4.5.2.3.1 Recessed luminaires not installed to meet requirements</p>
<p>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.</p>	<p>5.3.1 Equipment is not earthed to meet requirements 5.3.3.1.1 (a) Cross-sectional area of the protective earthing conductor does not ensure adequate current-carrying capacity to clear the prospective fault current 5.3.5.1 Failure to install an MEN connection 5.3.5.2 MEN size does not meet requirements 5.3.6.1 Failure to install an adequate earth electrode 5.3.6.3 Earth electrode is not installed at an adequate depth. 5.3.6.4(a) Connection of main earthing conductor to earth electrode is not accessible. 5.4.1.1 Exposed conductive part/s of electrical equipment not effectively earthed as required 5.4.6.1 Parts of structural metalwork, including conductive building materials, were not earthed 5.5.1.2 Connection of main earthing conductor to electrode does not meet requirements 5.5.1.4 Resistance of main earthing conductor exceeds 0.5 ohm 5.5.2.1 Failure to provide adequate earthing arrangements for submain and subcircuit protective earthing conductors 5.5.3.4 Exposed conductive part/s of switchboard enclosure not effectively earthed. 5.5.3.5 Unprotected consumers mains not earthed in accordance with requirements 5.7.4 Earth fault loop impedance does not meet requirements</p>
<p>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</p>	<p>Nil</p>
<p>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</p>	<p>Nil</p>
<p>Section 8 – Verification General, visual inspection, testing and date of initial energisation of an installation.</p>	<p>8.2.1 A visual inspection was not made of the completed work to verify compliance</p>
<p>Number of defects = 1,243 Number of serious defects = 233 Total number of defects = 1, 476</p>	

Prosecutions for breaches of electricity legislation

Between 1 July and 30 September 2016

Name (and suburb of residence at time of offence)	Licence Number	Legislation and Breach	Offence	Date of Offence	Fine (\$)	Court costs (\$)
Jason Aaron Nominees Pty Ltd T/As Pascoes Gas and Water (Willetton)	NLH	E(L)R 1991 Regulation 33(1)	Carrying on business as an electrical contractor without a licence	Between 13 February and 13 April 2014	5,000.00	5,291.80
Shane Hogarth (Dun Craig)	EW122301	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	16 January 2014	15,000.00	3,500.00
Dun Craig Electrical Pty Ltd T/A Dun Craig Electrical Services (Dun Craig)	EC008257	E(L)R 1991 Regulation 52(3)	Sending notice of completion of notifiable work in relation to uncompleted work		35,000.00	3,000.00
Cornelis Van Der Veen (Byford)	EW118503	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	25 February 2014	5,000.00	1,000.00
Cornelis and Margaret Van Der Veen T/As C.M. Electrics (Byford)	EC003124	E(L)R 1991 Regulation 52(3)	Sending notice of completion of notifiable work in relation to uncompleted work			

Name (and suburb of residence at time of offence)	Licence Number	Legislation and Breach	Offence	Date of Offence	Fine (\$)	Court costs (\$)
Powercare (WA) Pty Ltd (Byford)	EC007306	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	19 April 2013	45,000.00	12,000.00
		E(L)R 1991 Regulation 52B(1)	Failing to prepare and deliver an electrical safety certificate for electrical installing work to person for whom work carried out	21 November 2013		
		E(L)R 1991 Regulation 63(2)	Person fails to report an electrical accident when immediately they become aware	19 April 2013		

Close call due to two gas installations

EnergySafety investigated an incident in Bunbury recently whereby two gas supplies had been installed on a rental property.

The owner of the property originally had an LP Gas installation with a cooker in the kitchen and a bayonet point in the lounge. The hood, regulator, pigtails and cylinders had been installed down the side of the house. A gas meter box had been installed adjacent to the gas cylinders with the intention to reconnect to natural gas.

In the meantime the owner relocated and decided to rent out the property, managed by a real estate agent. A tenant was signed up, however the agent suggested that the gas cooker should be replaced and arranged for a gas fitter to undertake this work. A natural gas cooker was purchased. In disconnecting the old LP Gas installation, the gas fitter pushed the existing copper gas pipe through the wooden floor then extended the natural gas pipe from the gas meter box, tested the gas installation and commissioned the gas cooker.

On moving in, the tenant had no hot water and had sighted a storage water heater outside and believed it must have been on LP Gas. Having seen the LP Gas connection at the side of the house they called a local gas supplier and arranged an account and delivery of a gas cylinder.

The following day the delivery driver dropped off a gas cylinder did the usual visual checks then turned off the gas cylinder. The tenant was present at this time and asked the driver to turn the gas on, the paperwork was completed and the driver left. The tenant then departed to do further shopping. Some 45 minutes later the tenant returned, opened the front door and immediately smelt gas within the house. Contacting the LP Gas supplier a representative visited the property a short time later and vented the house further. The representative advised the gas fitter be contacted to attend to the smell. The cause of the gas escape was the LP Gas pipe that had been pushed under the floor by the gas fitter and not capped off. In fact there was no need for LP Gas as the water heater was an electric storage water heater.

Fortunately this incident ended without any further consequences. If indeed the leaking LP Gas had been accidentally ignited there may have been an explosion, a fire and possible injuries or fatalities.

The lesson here is for gas fitters to strongly discourage two

gas installations in a house or premise and if making one gas system redundant removing or capping off the old gas installation. In this case the gas fitter failed to cap off the old LP Gas copper pipe.

Further investigation revealed that the gas fitter had not submitted a Notice of Completion for this work or affixed a completion badge. The gas fitter was issued an Infringement Notice.



Natural gas meter box and pipe



LP Gas installation

Compliance checks of the Mid-West and Pilbara Regions

EnergySafety's gas Inspection Branch conducts compliance checks of the work undertaken by Type B gas appliance approval inspectors. A large portion of this work is in regional and remote areas of Western Australia. A Senior Gas Inspector commenced this task with a compliance check of a recently approved roto-moulding machine installed at a business at Dalwallinu, producing rain water tanks, feed and water troughs for the agricultural sector.

Roto-moulding is a process whereby a mould is heated, a measured amount of virgin plastic granules is placed in the mould, the mould is rotated until the plastic forms the shape of the mould then allowed to cool. As is the case here the mould is heated in a gas fired oven. Smaller moulds can be directly heated by one or a number of gas burners. Being a Type B gas appliance the approvals inspector is required to appraise the appliance then undertake testing in accordance with Australian Standards AS/NZS 3814, commercial and industrial gas appliances prior to the gas appliance being permanently connected to a gas supply.

Power stations at Mt Magnet and Plutonic Gold Mine were also visited. The power stations at Mt Magnet and Plutonic had a number of gas engines directly coupled to alternators (Gensets) replacing older diesel gensets. These are also Type B gas appliances that require the approvals process.

Recently completed and on-line are two power stations at Newman (Alinta Power and Yarnima) and a third power station nearby at West Angeles that all have gas turbines installed. The gas turbines at Yarnima also have integrated Heat Recovery Steam Generators (HRSG) to improve the overall efficiency of the station.

At the time of Inspection, the South Hedland power station was still under construction and the turbines were on commissioning gas. Upstream of the gas turbines, two gas compressors and two water bath heaters were installed to condition the gas prior to the entry into the power station. These are all Type B gas appliances.

At Cape Preston (Sino Iron [Karratha]) there were seven gas turbines five with HRSG installed.

With the larger industrial sites including power stations it is important to have the consumer gas pipe identified. Australian Standard AS/NZS 5601.1:2013 clause 5.1.12 states - except for single occupancy residential premises above ground consumer piping shall be identified if the pressure is above 7kPa or if below 7kPa the pipe is not readily identified as consumer piping. The marking shall comply with Figure 5.1 which includes the type and operating pressure of the gas. The identification markings shall be placed every 8m and adjacent to branches, junctions, valves, wall and floor penetrations and tailpipes.

Whilst in the region the opportunity was taken to visit the local LPG suppliers and nearby caravan parks. The parks gas appliances in the camp kitchens and the ablution blocks were checked for compliance.



The roto moulding oven at Dalwallinu



South Hedland Power Station under construction



The gas turbine (Alinta Power) installed at Newman



Yarnima Power Station Heat Recovery Steam Generator at Newman

Gas Fitter trainees are required to be licensed - Class G

The legislative requirements of the *Gas Standards Act 1972* states that any person doing gasfitting work is required to hold a gasfitting permit or authorisation. This requirement extends to trainees (such as apprentices) who will be doing gasfitting work under supervision as part of their training and will need to hold a permit restricted to working under supervision (training permit).

This requirement for a trainee to hold a training permit has been endorsed by the Department of Training as well as industry as it helps to prevent unlicensed operatives inadvertently carrying out gasfitting work whilst undertaking training and or assessment.

Training that focuses on working safely and competently in the workplace will help to improve the quality and safety of the industry as well as to reduce the risk to all gas consumers and to the general public.

The pathway to achieve this training permit is through a one day training session at TAFE and independent training providers who are based in the metropolitan area and regionally.

The training sessions are based on gas legislation, gas safety and basic combustion principles and the training is aimed at trainees who are entering the industry for the first time.

Supervising gas fitters (employers and other persons supervising trainees) will need to ensure that the trainee actually holds the training permit and that it is witnessed, prior to an individual being permitted to carry out any gasfitting work, even under supervision.

Recently a question was raised: "would the application number given to the trainee when applying for a permit be sufficient to allow a trainee to carry out gasfitting work?"

In essence the answer would be no. It is possible, that an application could be declined, which would mean that a trainee may then complete gasfitting work without an appropriate permit. This could result in an infringement fine being issued (currently \$1,000) or the trainee and supervising gasfitter being prosecuted.

Information on how to apply for a training permit or

on where to undertake the training is available on the [EnergySafety website](#) or contact the Licensing office directly on 6251 2000.

Perth Royal Show 2016

Each year EnergySafety conducts a number of compliance inspections of catering outlets that have gas connected for cooking at the showgrounds. The inspections are carried out a day or two before the grounds are opened to the public, allowing a short period of time for identified non-compliances to be rectified.

This year was no different to previous years, in that the inspector had to be ever diligent in protecting the public, workers and property from the misinformed or sometimes belligerent traders. The following is a small sample of the good, the bad and the ugly at this year's show.

The Good



4 x 45Kg LP Gas cylinders secured in a cage

A temporary food hall marquee with a temporary commercial catering kitchen was supplied by 4 x 45kg LP Gas cylinders installed more than 1 metre outside of the marquee. The gasfitters secured the cylinders in a cage in an area unable to be accessed by the public. The consumer piping was 50mm off the ground and protected. A Notice of Completion was issued, a compliance badge and a propriety fitting badge was attached under the hood.



Compliance badge and propriety fitting badge attached

The Bad



Gas water heater with a modified flue

A catering van built in the Eastern States had installed a gas water heater with a modified flue system. Evidence was produced by the owner that it was deemed compliant in that state. The inspector badged the heater 'Do Not Use' and issued the owner an Inspectors Order prohibiting its use during the show. A copy of the order was given to The Royal Agricultural Society (RAS) management for follow up.

The Ugly

Another catering van had the LP Gas cylinders 100mm from the entrance and 160mm from an air vent into the caravan. There were also no insulating strips between the cylinders and their clamping bands. One pigtail was not connected to a cylinder.

The cylinders were turned off and Badged 'Do Not Use'.

The owner was issued an Inspectors Order prohibiting their use in this location. A copy of the order was given to RAS management. Fortunately for the owner the non-compliance was sighted early enough for a gas fitter to relocate the cylinders and regulator to a compliant location for the duration of the show.



LP Gas cylinders installed too close to the entrance



No insulating strips were installed between the cylinders and their clamping bands



LP Gas cylinders installed too close to the air vent

Most traders are happy to comply and grateful for the guidance from EnergySafety as it is often their own families working at the show.

Non-compliant and dangerous water heater installation

A concerned gas fitter recently informed EnergySafety of a non-compliant and precarious installation of a gas water heater. An EnergySafety inspector attended the site and found that a water heater had been installed propped up on pavers and positioned above a tap. A Notice of Defect was issued and the installation has since been rectified.

In addition to the obvious safety concerns this installation is not in accordance with r 20 (Installation of an appliance, apparatus or part) of the Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999.

Such disregard for the regulatory requirements and safety is deemed as serious and is subject to disciplinary action. An individual may incur an infringement or be prosecuted with a maximum penalty of \$50,000.

EnergySafety encourages and supports the vast majority of gas fitters that strive to carry out gasfitting work in a compliant and tradesman like manner and will continue to encourage, educate and where appropriate penalise those that are falling short.



Hot water system propped up on pavers



Hot water system installed above a tap



Base of the hot water system balancing on the paver

Condensing gas appliances

Europe has had condensing gas appliances for a number of years. These water heaters/ boilers are known as combi-boilers and can be likened to the electrical inverter appliances. Both are considered the pinnacle of appliance efficiency.

Manufacturers are about to release into Australia these combi-boilers suitable for installation in larger residences and commercial buildings. Having a 6 -7 star efficiency rating they provide a viable alternative for water heating and central heating.

There are potential long term benefits from reduced running costs and are considered "Green" for the environment, even

though the capital investment may be higher than the current combination of separate water heating and space heating alternatives. They can be used for a variety of applications including water heating, radiators and underfloor heating. They are moderately easy to install with the right knowledge and guidance from the manufacturers. EnergySafety is keen to encourage workshops by the manufacturers to share knowledge and insight into the installation of these combi-boilers.

Here is a recent example of a combi-boiler installation where the manufacturer's advice would have been beneficial. The inspection identified:

- The water circuit pipework was crossed between flow and return;
- Six radiators were connected to a continuous flow water heater which is not approved for heating systems;
- The wrong type of flue kit was installed;
- No pipework was installed to remove condensate from the appliance; and
- The installer sourced an external box cover from the manufacturer due to its outside location. This appliance was an internal appliance and could have been installed in the adjacent garage.

As a result of this investigation it was identified that this appliance cover was not approved under the Australian Gas Association's product Certification Scheme. This is now being addressed by the manufacturer.



Non-compliant Combi-boiler installation



Non-compliant combi-boiler installation



Panel of the combi-boiler

Summary of infringements for breaches of gas legislation

Between 1 July and 30 September 2016

Legislation and breach	Offence	Number of Infringements	Fine (\$)
R.28(3)	Failing to give notice of completion of gasfitting work within required time	1	400.00
R. 20(1)	Installing appliance, apparatus or part contrary to instructions or recommendations of manufacturer or designer	2	1,200.00
R. 28(2)	Failing to attach approved badge or label to gas installation upon completion of gasfitting work	3	1,200.00
R. 36(1)	Using Type B appliance without certificate of compliance	1	1,000.00
R. 18(2)	Failing to ensure gas installation complies with prescribed requirements.	1	600.00
R. 34(1)	Failing to keep records of employed gas fitters in required manner	1	1,250.00
R. 13A(2)	Engaging in an operation or carrying out work or process, of a kind prescribed to be of nature of gas fitting work otherwise than in a prescribed capacity and without a certificate of competency, permit or authorisation	2	3,000.00
R. 37	Failing to ensure prescribed activity is carried out in accordance with accepted safety case	1	10,000.00
		12	18,650.00

Legend

NLH No Licence Held

GSA Gas Standards Act 1972

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