

eNERGY

bulletin



Government of Western Australia
Department of Commerce
Energy Safety

In this issue

Consultation - Regulations banning live work

The consultation period on the Occupational Safety and Health and Electricity Licensing Amendment (Live Work) Regulations 2017 is now open

[Draft amendments](#) to the Occupational Safety and Health Regulations 1996 and the Electricity (Licensing) Regulations 1991 are now available on our website for comment.

Accompanying the consultation draft are:

- [Explanatory notes](#) about each change and how the regulation might affect your business; and
- a [draft copy of the Code of Practice](#) - Work on or near energised electrical installations.

The changes are consistent with best work practice and similar to regulations and provisions operating in New South Wales, South Australia, Queensland and Tasmania which adopted the Model Work, Safety and Health legislation.

Your comments on the draft amendments to the legislation and the Code of Practice would be appreciated.

The closing date for comments is 5pm on Friday 31 March 2017.

For further information please visit www.energysafety.wa.gov.au

Ken Bowron

DIRECTOR OF ENERGY SAFETY

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eNotice update

What is eNotice?

eNotice is a free web based facility for the electronic lodgement of Gas Notices of Completion and Electricity 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, wherever an internet connection is available.

The number of people using eNotice is steadily increasing. Industry feedback is that the system is very easy to use, quicker than paper lodgement and its automated features reduce errors and rework. This is providing cost benefits and efficiencies to gas fitters, gas suppliers, electrical contractors, network operators and EnergySafety.

Paper notices can still be used. However, it is intended that these will be phased out in the near future.

Why not give it a try?

Invitations to start using eNotice have now been emailed or posted to all gas fitters and electrical contractors in WA.

Some people may feel they are just too busy to try using eNotice or are reluctant to move away from the familiar paper forms and manual lodgement process. However, the very positive feedback from industry shows that, once registered, new users quickly find that lodging notices and certificates via eNotice is fast, easy and convenient. This translates into significant time and cost savings.

Video tutorials and other supporting information are provided on the [EnergySafety website](http://www.energysafety.wa.gov.au) to assist with registration and lodgement.

To register as a user, or if you would like further information, visit www.energysafety.wa.gov.au and click on eNotice.

Gas eNotice update

Some 1,000 gas fitters have now registered to use eNotice and 9,000 notices have been lodged.

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

If you are interested, please contact Senior Gas Inspector Barry Mounfield on 6251 1946.

Electricity eNotice update

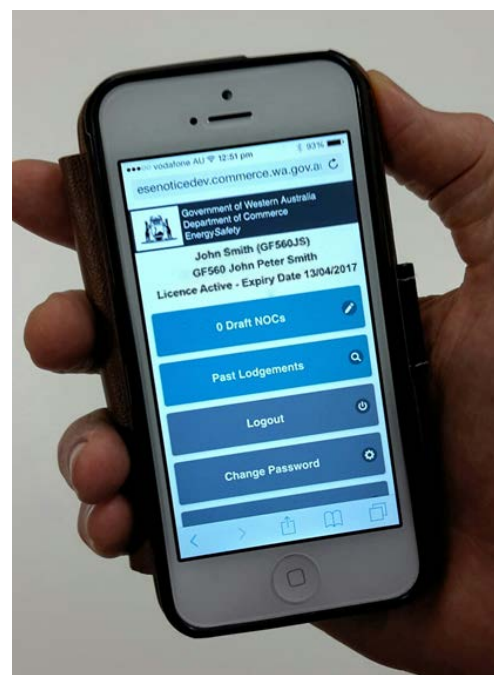
More than 1,500 electrical contractors and electricians have registered to use eNotice and 8,000 notices and safety certificates have been lodged.

Note: If you use Western Power's ETIC system to lodge your Notices, please continue to do so. Western Power will let you know when they are ready to transition you over to eNotice, which is likely to occur around mid-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 [eNotice setup](#) information on our website. [Video tutorials](#) and other supporting information are also provided to assist you.

Visit www.energysafety.wa.gov.au and click on eNotice.



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 Regulations.

Electrical apprentices require adequate supervision for their safety and training, the safety of others and to ensure electrical work is carried out correctly. The primary duty of care rests with the employer or supervising electrical worker to determine the level of supervision required to maintain safety. The form 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](#).

Reminder for employers entering into an apprenticeship

Employers entering into an Apprenticeship Agreement in any of the following Trade Streams:

- Electrical Mechanics;
- Engineering Tradesperson (Electrical); or
- Electrical Instrumentation Tradesperson

must be a holder of an Electrical Contractor's Licence to ensure that the apprentice gains the essential on-the-job experience.

Training Licence and changing employers

If you are an apprentice changing your employer, you must first obtain approval from the Department of Training and Workforce Development Apprenticeship Office.

You must then complete an Electricians Training Licence application form, including your new employer's details and submit it to EnergySafety's Licensing office.

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 illegally.

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 person;
- the licence number, type and expiry date of the persons licence; and
- the period or periods during which the person was employed in the business.

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

Failure to install MEN results in a \$50,000 fine

In a recent sentencing in Perth Magistrate's Court, an electrician's failure to install an MEN connection was described by the presiding Magistrate to be "a serious and significant oversight and one which relates to what one might think is a fairly basic and essential part of electrical work and also an issue of public safety [as] householders are entitled to rely upon electrical contractors. Indeed, they have no choice to do other than rely upon work done by electrical contractors."

This matter was brought to light by a recent Western Power investigation where a property owner had engaged the services of an electrical contractor to carry out electrical work including upgrading the switchboard with circuit breakers, rewiring ceiling fans and installing residual current devices (RCDs). The electrical installing work was carried out by an electrician, who was also the Director and Nominee of the contracting business, with assistance provided by a fifth year apprentice.

On completion of the work, the electrical contractor submitted a Notice of Completion to Western Power stating that the work was safe, complete and complied with the Electricity (Licensing) Regulations 1991.

Seven months after the work was carried out, the property owner contacted network operator Western Power to report electric shocks had been received by both his wife and daughter.

His daughter had received a severe electric shock to both her arms and chest area after she had picked up a metallic food warmer tray that was plugged into a socket outlet with the electricity switch "Off". The shock left her with stiffness in her arms and chest which remained for several days after the incident.

The warmer tray was bonded via the oven's internal earth bond and the earth pin of the plug to the installation's earthing system. The circuit breaker for the oven circuit had been rendered inoperable under the fault conditions because a multiple earthed neutral (MEN) connection link had not been installed at the main switchboard. This prevented the fault current required for the protection to operate.

His wife had also received an electric shock from a metallic tap located in the garden. She also experienced tingles from running water coming out of the taps at the kitchen sink.

An electric shock was received from the garden tap because it was bonded to the earthing system via the copper pipework.

The Western Power network officer dispatched to site identified an active to earth fault had occurred on the oven circuit, which he immediately disconnected and tagged the oven 'Out of Service'.

To make the installation safe, the network officer also installed an MEN link at the main neutral bar in the main switchboard and also issued an Inspector's Order for an electrical contractor to check and test the installation. The omission of the MEN link is a very serious defect.

Investigation found that while the electrical contractor used a checking and testing sheet for the installation, he did not have valid checking and testing procedures in place. It also became evident that both the electrician and the apprentice had deficiencies in the understanding of some of the basic technical knowledge required by electrical workers.



The main switchboard with no MEN connection

On finding the electrician guilty of carrying out substandard work and the electrical contractor guilty for submitting a Notice for work that was not complete, the Magistrate stated "these are not dangers which are obvious and the court must therefore impose penalties which reflect that public safety policy and penalties which are designed to enforce compliance in **safety requirements**, or in other words, the penalties imposed by the courts must act as a deterrent not just to you personally, but all those within the electrical industry to ensure that they remain vigilant at all times about matters pertaining to safety". Given the complacency on his work, the Magistrate thereby imposed a \$35,000 penalty for the charge against the electrical

contractor and a \$15,000 penalty for the charge against the electrician with associated court costs. No prosecution action was taken against the apprentice.

In his concluding remarks, the Magistrate said "the electrical industry provides regular **updates** and information to contractors to ensure that everyone remains familiar with developments in the industry and again, it's of concern that something so fundamental was overlooked on this occasion."

Electrical Licensing Board - competency assessment

Questioning by EnergySafety Inspectors revealed the electrician responsible for the above defect did not have a clear understanding of the mandatory checking and testing procedures required under Section 8 of AS/NZS 3000: 2007, Wiring Rules or the MEN earthing system. The electrician was therefore referred to the Electrical Licensing Board.

The Board determined that under Regulation 29(2) of the Electricity (Licensing) Regulations 1991, the electrician be required to undertake a Competency Assessment.

Regulation 29(2) states:

"Where the Board is not satisfied as to the ability of a person who holds a licence or permit, or has applied under these regulations for a licence or permit, to carry out electrical work in a safe and satisfactory manner, the Board may require him or her to undergo such theoretical or practical assessment, examination or trade test as the Board specifies."

As the electrician failed the competency assessment, his electrical worker's licence was suspended. Because he was also a nominee for his electrical contracting business, the contractor's licence was also suspended.

The electrical apprentice was also referred to the Board after deficiencies were identified with his comprehension of the inspection and testing requirements of Section 8. The Board determined the apprentice be given one of two options: either undertake a competency assessment or complete the Electrical Trades Licensing Course. The apprentice chose the latter, which he successfully completed.

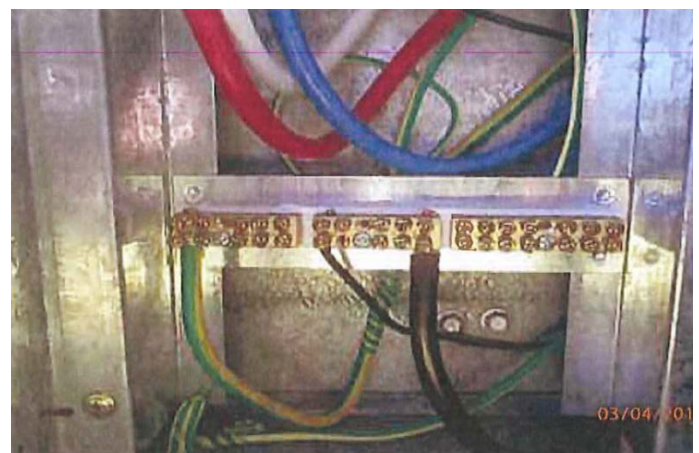
Energised installation left without MEN connection for three weeks

In another similar matter, an electrical contractor had carried out installing work at a property including the installation of:

- underground consumers main between the network operator's connection pillar and the main switchboard (pole mounted);
- a meter panel at the main switchboard; and
- a distribution board (pole mounted and energised from the main switchboard) and associated electrical equipment.

The installation had been connected to the electricity supply for over three weeks. It was very fortunate that no residents at the property received a serious electric shock from the unsafe installation.

After issuing an Inspector's Order for the MEN omission and several other minor defects, the Inspector made the installation safe by isolating the electricity supply to the distribution board, fitting an "Out of Service" tag to the circuit breaker at the main switchboard and installing a temporary MEN link at the sub-board. An Inspector's Order was also issued for an electrical contractor to carry out the checking and testing of the main switchboard before the "Out of Service" tag could be removed.



Main switchboard with no MEN connection

At interview, the electrical contractor stated that while he does use a testing and checking sheet, he doesn't have any testing and checking procedures in place. The only checking

and testing he carried out for this job was a visual check and a test of the cable for any damage to the insulation, for which he made no record.

The electrical contractor's comprehension of the earthing arrangements was found to be inadequate. He held the mistaken belief that if a MEN link is installed on the main switchboard, a second MEN or running earth conductor is not required for the distribution board.

In sentencing, the contractor (sole trader) was found guilty of breaches 49(1) and 52(3) and received a penalty of \$5,000 with court costs of \$1,000.

Your technical questions answered

Here are some of the technical queries received by EnergySafety Inspectors and the advice provided.

EW: Am I authorised to undertake the testing and tagging of appliances with my electrician's licence?

ES: Yes. For equipment used on construction sites, testing should be carried out to AS/NZS 3012: 2010, Electrical installations – constructions and demolition sites. For other installations, AS/NZS 3760: 2010, In-service safety inspection and testing of electrical equipment should be used.

EW: Is there a maximum height to install a switchboard?

ES: AS/NZS 3000: 2007, Wiring Rules does not provide a maximum height for the installation of a switchboard. However, the equipment and switches enclosed need to be readily accessible as per Clause 2.3.3.3. As defined in AS/NZS 3000: 2007, Wiring Rules, Clause 1.4.2, readily accessible is defined as capable of being reached quickly and without climbing over or removing obstructions, mounting upon a chair or using a movable ladder, and in any case not more than two metres above the ground, floor or platform.

Also, a main switch must generally be not more than two metres above the ground, floor or suitable platform. The exception for the main switch not needing to be readily accessible where unauthorised operation may impair safety and the electrical installation is where it is:

- located on public land;
- associated with telephone cabinets, traffic control signals and street furniture, such as bus shelters, and the like; and

- otherwise controlled and protected in accordance with the requirements of this Standard.

As for the minimum installation height for a switchboard, Clause 2.9.2.5 requires a switchboard to be installed at a minimum of 1.2m from the ground, floor or platform. An exception to this Clause allows a switchboard to be installed below a height of 1.2m if access to 'live' parts has been arranged in accordance with Clause 2.9.3.1.

EW: Can we create an electronic version of a Log Book for our site?

ES: EnergySafety's Licensing Office provides In-House Licence holders with an approved version of the Log Book to use. Any other form/book (e.g. an electronic version of the log book), requires approval from the Director of Energy Safety.

EW: If an electric shock has been received from an installation connected to a stand alone generator (i.e. not connected to a network operator's grid), does this still need to be reported?

ES: Yes. Regulation 63(2) of the Electricity (Licensing) Regulations 1991 requires that immediately after a person becomes aware that an electrical accident has occurred, the person is to report the accident to the relevant network operator, or, in instances where the network operator cannot be identified, to the Director of Energy Safety. There are no exceptions for the reporting of electric shocks. **All** shocks must be reported. In this instance, the electric shock must be reported to EnergySafety given the generator is not connected to a network operator's grid.

EW: Which standards are applicable to a wind turbine plant with a HV installation as well as any works carried out at the plant?

ES: AS 2067:2016, Substations and high voltage installations exceeding 1 kV a.c. would be applicable to the HV supply. Any other electrical installing work is required to adhere to the relevant clauses within AS/NZS 3000:2007, Wiring Rules.

EW: I am carrying out work in a hotel where the rooms are supplied by a central distribution board covering all circuits in each individual unit. Some of the lighting circuits may not be RCD protected. How many RCDs are required to be installed in this instance?

ES: Even though the accommodation in hotels/motels is on a short-stay basis, the requirements for RCDs are the same for residential premises under legislation. Under legislation, at least two RCDs are required to protect the lighting and socket outlets. AS/NZS 3000:2007, Wiring Rules, Clause 2.6 provides further details on the minimum number of RCDs.

EW: Due to work scheduling, I need to submit a Notice of Completion today however, our nominee isn't on site today to sign off on the Notice. Is there someone else who could sign the Notice on his behalf?

ES: Without exception, only an appointed nominee for an electrical contractor can sign off on Notices of Completion. This is not a role that can be taken on by any electrician.

To become a nominee, an electrician must be nominated by an electrical contractor to undertake the required training for the role. On appointment by the Electrical Licensing Board, the nominee certifies notifiable electrical installing work carried out by the electrical contractor; controls the work to be carried out as well as monitors the work standards of electricians.

Unsafe appliances on sale at the 2016 IGA Perth Royal Show

EnergySafety's annual electrical safety compliance inspection of electrical appliances for sale at the 2017 IGA Perth Royal Show resulted in the issuing of an Infringement Notice for a stall holder selling non-approved appliances.

A therapeutic massage pillow for use on car seats was found to be on sale with an unapproved (prescribed) charger/power supply. The appliance had been imported from China.

Multifunctional Vehicle-mounted Massage Pillow

1. Built-in four massage heads
2. Easy to use the controller
3. Clockwise and anticlockwise massage modes, with different massage temperature
4. Infrared heating helps to accelerate blood circulation

SM9130

Therapeutic massage pillow



Non-approved charger/power supply

Under legislation, an imported appliance requires approval from the Director of Energy Safety before being sold, hired, displayed for sale or hire or advertised for sale. Unapproved appliances pose a risk to consumers as they have not been properly assessed to determine if they pose fire or electric shock risks.

Items that are approved for sale in Australia are listed under the Electrical Regulatory Authorities Council (ERAC) National Database available at www.erac.gov.au

ERAC online search facility for approved appliances

As shown above, approved appliances can be searched via the brand, model, supplier name or number, certificate or equipment number.

NSW Government Fair Trading also offers a [Public Register of Certificate Approvals for Electrical Items](#) in NSW.

While the stall holder had confirmed with the relevant medical body that the appliance could be sold, he was

unaware of EnergySafety's approval requirements for imported electrical appliances.

A recall of the unapproved charger / supply is being arranged.

Onslow set to harness over 50% of its electricity from solar

Planning is underway for Australia's largest electricity distribution microgrid to be constructed in the north-west town of Onslow.

The Onslow Power Project is a collaboration between network operator Horizon Power, oil and gas company Chevron Australia and the Department of State Development. The objective is to provide a more efficient, economically and environmentally sustainable solution for Onslow's electricity supply.

Chevron Australia is interested in the project given their liquefied natural gas (LNG) Wheatstone Project is based 200km north of Onslow. The company has provided more than \$250 million towards improving infrastructure in the region. The Department of State Development has also contributed approximately \$70 million in funding to the project.

The new energy infrastructure will cater for the town's growing demand for energy, offering a more contemporary design incorporating advances in renewable and battery storage technology.

Additions to Horizon Power's distribution network include a new transmission line and a 33kV/11kV zone substation.

Horizon Power plans to complete the project in 2018.

Unsafe installation of airconditioning isolators

EnergySafety has received reports of electrical contractors installing isolators on the panels of external airconditioning compressors.

This creates an unsafe and dangerous situation for restricted electrical licence holders who require the removal of the

panel (the isolator is mounted on) to isolate the electricity supply. There is a risk of receiving an electric shock as the incoming electricity supply to the isolator is live.



Incorrectly mounted isolator switch fitted to the panel of the external airconditioning unit

AS/NZS 3000:2007, Wiring Rules, Clause 4.19 states:

*Airconditioning and heat pump systems incorporating a compressor shall be provided with a lockable isolating switch installed **adjacent** to the unit, which isolates all parts of the system including ancillary equipment, from the same location.*

An isolator fitted onto a supporting frame located next to the airconditioning unit would satisfy this requirement.

Potential electrical hazard with equipotential bonds

Electricians are reminded of the shock risk when connecting/disconnecting or repairing equipotential bonds to metallic water pipes (i.e. copper) or other interconnected conductive materials.

The main cause of these incidents is a fault with the electricity supply to, or on the premise which results in a neutral voltage rise. When this occurs, any metallic, conductive materials connected to the earthing system becomes live.

When the equipotential bond is connected/disconnected, a difference in potential may result in the worker receiving a serious or fatal electric shock.

Risk controls

Prior to the connection/disconnection or the repair of equipotential bonds, the following control measures should be considered:

- Before commencing a job, ask the customer about the condition of the existing electrical installation and whether they have experienced any 'tingling' sensations when making contact with the water pipes, taps or appliances. If so, do not carry out any work on the equipotential bond. Advise the customer that an electrical fault is suspected and report the accident to the relevant network operator.
- If practicable, find the main switch for the premise and turn the electricity supply "Off". To make the installation safe, fit a Danger tag, or lock the switchboard to ensure the electricity supply remains "Off" until the work has been completed.
- Use the correct personal protection equipment (PPE) (e.g. low voltage, insulated gloves) when connecting/disconnecting or repairing equipotential bonds.
- Before connecting or after disconnecting, check for voltage.

ARENA funding for Carnegie Clean Energy's Integrated Microgrid

Carnegie Clean Energy is the 100% owner and developer of the CETO Wave Energy Technology converting ocean swell into zero-emission renewable power and desalinated freshwater.

CETO offers the potential to revolutionise power and water production globally as it harnesses the enormous renewable energy present in our ocean's waves converting it into two of the most valuable commodities underpinning the sustainable growth of the planet: zero-emission electricity and desalinated water.

The CETO system differs from other wave energy devices as it operates under water where it is safer from large storms and invisible from the shore. The fully submerged buoys drive pumps and generators contained offshore within the buoy itself, with subsea cables to power desalination plants and also to export into the electricity grid (see CETO 6 schematic over page).

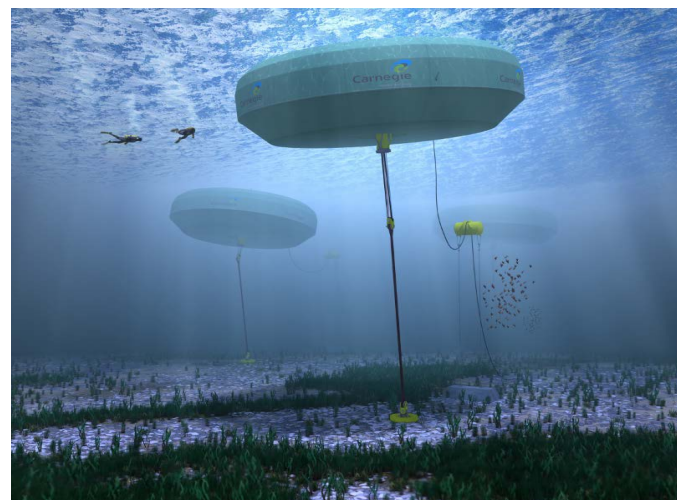
The CETO 5 Perth Wave Energy Project was Carnegie's first demonstration of a grid and freshwater connected CETO array. The array was located 3km offshore from the water

and power production facility on Garden Island, Western Australia.

The success of this project led to the confidence of Carnegie's project partners Australian Renewable Energy Agency (ARENA) and Western Power to again join with Carnegie in commencing design on the Garden Island Microgrid.

Carnegie's Garden Island Microgrid Project (GIMG) will be the world's first wave integrated microgrid system combining wave, solar PV, battery storage and desalination. The Project will be located onshore at Garden Island and connected to the off shore CETO 6 Project.

The GIMG is supported by \$2.5m in funding from the Federal Government's ARENA. It will supply electricity and water to HMAS Stirling and consist of a 2MW solar PV array, 2MW/0.5MWh battery energy storage system, a microgrid control system and augmentation of the grid connection between Garden Island and Western Power's network. The GIMG will also integrate the supply of electricity from Carnegie's CETO 6 technology and the Perth Wave Energy Project's existing desalination plant.

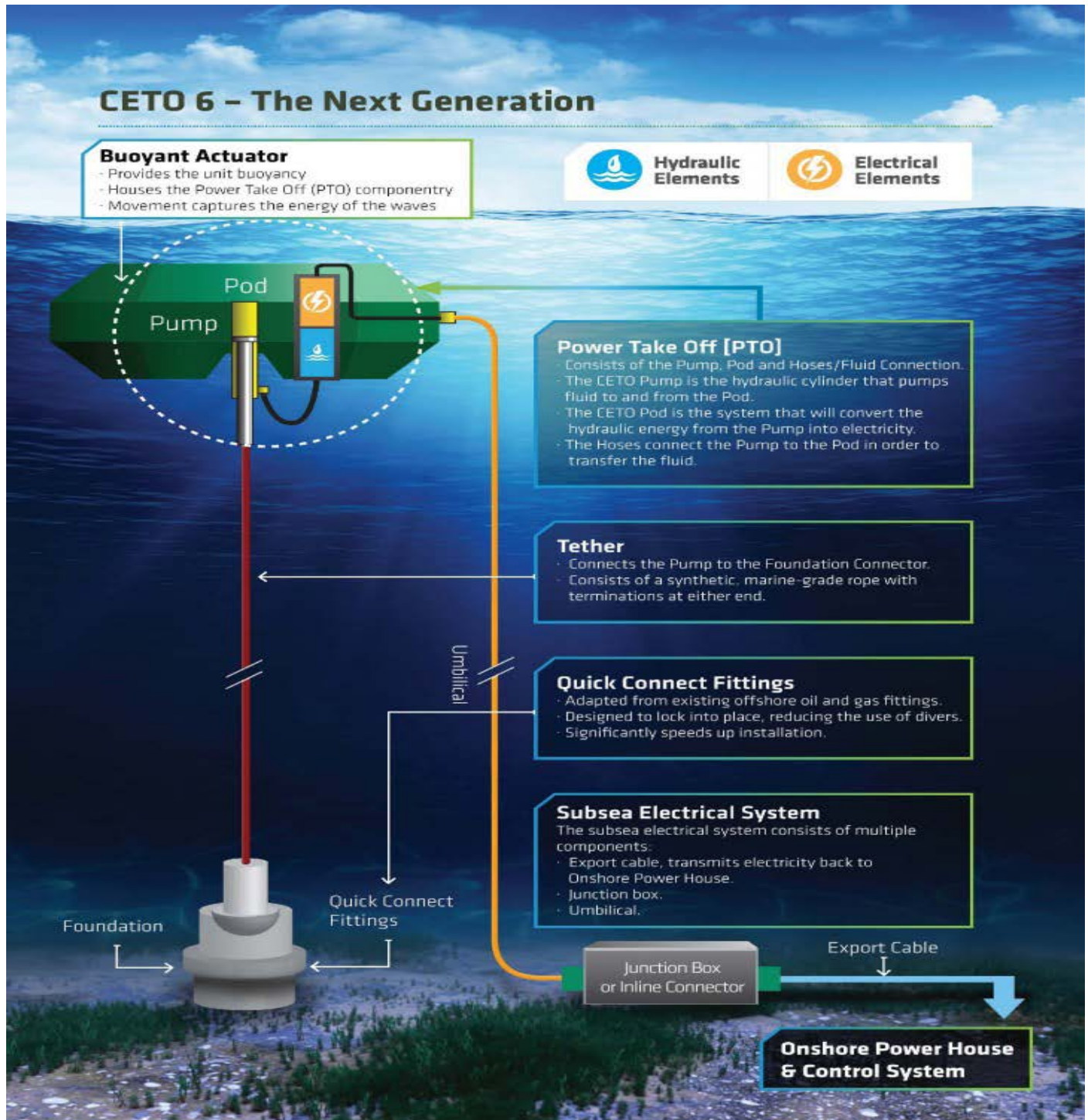


CETO 6 array

Carnegie also recently completed the acquisition of leading Australian solar/battery microgrid designer and constructor, Energy Made Clean Pty Ltd which places Carnegie Clean Energy at the forefront of designing, developing, financing, constructing, operating and maintaining microgrids by utilising a world-first combination of its CETO wave technology, solar, wind, energy storage, desalination and diesel in both on and off-grid applications in Australia and internationally.

There will be continuous improvements made in CETO's evolution with great potential for improvements and expansion in wave energy, given the southern coastline of Australia has some of the best waves in the world. According to CSIRO's 2012 report *Ocean Renewable*

Energy, the waves between Geraldton, in Western Australia, and the southern tip of Tasmania generate the equivalent of 1,300TWh a year, or five times the country's total energy requirements.



CETO 6 schematic

Electricity Licensing Statistics

Statistics as of 4 January 2017

Licence Category	Total number
Electricians	39,874
Electrical Contractor's Licence	5,623
Electrician's Training Licence	3,912
Restricted Electrical Licence - RE	3,667
Restricted Electrical Licence - NR	566
Electrical Worker's Permit	293
In-House Licence Holders	259
Provisional Electrician's Licence	159
Restricted Training Approval	113
TOTAL	54,466

Completion of Horizon Power's award winning meter replacement program

Horizon Power completed its multi-million dollar state government funded Advanced Metering Infrastructure (AMI) meter replacement program in October 2016 for towns in the Goldfields/Mid West, Esperance/Goldfields, Pilbara and Kimberley regions including Karratha, Port Hedland, Derby and Broome.

The project, which commenced in July 2015, has seen over 47,000 old legacy meters replaced with single and three phase Landis and Gyr electronic meters which can be read remotely.

The new meters provide many benefits to Horizon Power including estimated bills now being a thing of the past for the vast majority of customers with the automation of metering, faster fault identification and in time, the incorporation of much higher levels of renewable energy using the new AMI platform.

The project was completed ahead of schedule and on budget. It also received national industry recognition at the

Australian Utility Week Conference held recently in Sydney where it was awarded Best Value AMI Project.

Federal Court imposes three year ban on solar installer

Unleash Solar Pty Ltd, a South Australian-owned solar system supplier and installer has been brought before the Federal Court of Australia by the Western Australian Department of Commerce's Consumer Protection division on several charges including misleading and deceptive conduct and the non-supply of goods to customers.

In a bid to entice more consumers to install solar power, between 1 August 2010 and 1 August 2011, the Western Australian government ran a Residential Net Feed-in Tariff Scheme (FiT Scheme) which provided financial incentives for solar energy consumers to export electricity into the public network grid.

With the cut-off date for the scheme looming, the company, which had been carrying on business in Western Australia since 2010, continued advertising and urging consumers not to 'miss out'. It was inundated with consumer requests for photovoltaic (PV) systems to be installed. Most PV system installers recognised that they could not accept work and promise to meet the deadlines imposed by the closure of the scheme.

Investigation by Consumer Protection revealed the following breaches of Australian Consumer Law:

- The company had made false or misleading representations in a letter to at least four consumers about the FiT Scheme. Even though the application period for the scheme had lapsed, the company made false or misleading representations relating to the benefits they could still receive after the closure date.
- The company also entered into contracts with six consumers and accepted deposits for the installation of solar systems. The company failed to supply and install them as agreed.
- To attract business, in connection with the supply of solar panel systems, the company offered a gift of a five or ten year supply of PowerBoost, (a biodegradable, liquid solar panel cleaner worth approximately \$500) to eleven consumers and failed to supply this item to them.

The matter was heard before Justice McKerracher who

stated "the conduct of the respondents took advantage of consumers' knowledge of, and desire to obtain, these government incentives as well as the general desire of some consumers to, where possible, be more environmentally friendly."

For these offences, Justice McKerracher ordered the company (which has been in liquidation since 2013) to pay a total of \$390,000 and the Director a total of \$145,000 as "it is important, in these circumstances, for a penalty to discourage similar businesses looking to enter a growth market from acting in a way that exploits consumers and is misleading or deceptive solely for the short-term commercial gain of that business."

A three year ban was also imposed on the company's Director to ensure his deceptive practices would not affect customers in the immediate future.

EnergySafety engages Installation Inspectors

EnergySafety welcomes Kenneth Christie, Alan McGuire and Brad Moore to the team.

Kenneth, Alan and Brad have many years of experience in the mining, transportation, manufacturing and defence forces industries and have been specifically engaged to carry out installation inspections where there is no network operator.

If you are an electrician interested in a role where you will make a difference to electrical safety for consumers and industry in Western Australia, please visit the Jobs WA website www.jobs.wa.gov.au for information on how to apply for the Senior Electrical Inspector pool. Applications for Senior Electrical Inspectors will be taken up to 30 June 2017.

Karratha Airport's cloud predictive technology trial

Karratha Airport's recently opened \$7.3m 1 MW Solar Farm is an Australian first for the commercial sector. It is the first airport to combine solar energy and battery storage with innovative Cloud Predictive Technology.

The farm built by CPS National with \$2.3m of funding

assistance from the Australian Renewable Energy Agency (ARENA), is seen as a long-term renewable energy solution to reduce the cost of the airport's electricity demands. Karratha Airport has signed a twenty-one year purchase agreement to have electricity supplied by the farm.

The Cloud Predictive Technology used in the trial includes a 3D CloudCAM developed by Fulcrum 3D. The CloudCAM integrates a camera with a pyranometer (measures solar radiation), humitter (measures humidity and temperature) and communications to track cloud movement and measure cloud cover during the day.

The measurements taken by CloudCAM are used to optimise the efficiency of the battery storage by predicting weather patterns. Advance forecasts are being provided (up to fifteen minutes) under ideal conditions.

Costs of running the farm will be reduced as the battery life is extended and less maintenance required.

The farm connected to Horizon Power's North West Interconnected System (NWIS), is expected to generate at least 30% of the airport's electricity demands by the end of its first operational year.

Electrical Safety Certificates not required for maintenance work

Regulation 52B(1) of the Electricity (Licensing) Regulations 1991 requires electrical contractors to complete an Electrical Safety Certificate covering installation work completed and to furnish it to the person for whom the work was done. Under R.52B(3)(a) a certificate is not required for maintenance work. This means, Electrical Contractor's need to be clear about the distinctions between installing and maintenance work.

The Regulations define electrical installing and maintenance work as follows:

- **electrical installing work** means electrical work that consists of assembling and fixing in place, altering or adding to any electrical installation or maintaining, removing, or, connecting to fixed wiring, any electrical equipment;
- **maintenance work** means repairing defective electrical equipment or replacing electrical equipment with electrical equipment having an equal or substantially similar engineering specification.

The words 'substantially similar' are important. Often the equipment needing replacement is no longer available. Replacing like with like is not possible. The contractor has to find a similar product able to perform the duties of the original. This may not be possible. Since the original item was installed, later models have widened, sometimes substantially, the capabilities and functions of the product.

Selecting such equipment as a replacement could be seen as 'adding to' the installation and be captured by the definition of electrical installing work. EnergySafety will give due consideration to the plight of contractors facing such a dilemma, provided reasonable efforts have been made to find a like product. Simply fitting whatever the contractor happens to have in his van may not suffice.

Repairing an item of electrical equipment and returning it to service clearly is maintenance and no certificate is necessary. Replacement of an item of electrical equipment is considered to be a repair.

However, if a switchboard needs to be replaced (following a fire, for example) this would go beyond a simple repair job. A Notice of Completion and an Electrical Safety Certificate would be required. Similarly, replacing sub-main or circuit cables with like for like would be installing work and require a certificate.

Relocating an item of electrical equipment, whether or not existing cabling is re-used, is installing work, not maintenance and a certificate must be provided. Adding an item of equipment to an existing circuit also is installing work requiring a certificate.

Similarly, replacing a section of fixed wiring, because it has been damaged for example, along the same route and with the same type and rating of cable, is maintenance. If it is decided to remove the cabling and run the circuit along a different route to avoid future damage, the work would be installing, requiring a certificate.

Sometimes clients decide to take advantage of equipment breakdowns to make changes to the capacity or location of the items involved. This would involve enhanced items of equipment and running new cables. Again, this would fall within the definition of installing work and a certificate must be prepared.

While replacing like with like may involve 'fixing in place' it usually will not require 'assembling' or 'altering or adding to'. The installing definition includes 'maintaining' for the reasons mentioned above. Some maintenance may require installation work.

The following table gives additional examples.

Is an Electrical Safety Certificate required?	Yes	No
Replace a section of damaged cable using the same route with like for like		✓
Re-place an item of electrical equipment with like for like		✓
Repair an item of electrical equipment and return it to service in-situ		✓
Replace an appliance with like for like		✓
Replace a light fitting with like for like		✓
Replace a faulty RCD with like for like rating		✓
Addition of one single final sub-circuit including its protective device	✓	
Addition of two or more final sub-circuits including their protective devices	✓	
Addition of one (or more) socket outlets (or light points) to the same existing final sub-circuit	✓	

Is an Electrical Safety Certificate required?	Yes	No
Addition of one (or more) socket outlets (or light points) to different final sub-circuits	✓	
Addition of one RCD to protect one existing final sub-circuit	✓	
Addition of one RCD to protect more than one existing final sub-circuit	✓	
Addition of two or more RCDs to protect two or more existing final sub-circuits	✓	
Addition of one smoke alarm to an existing final sub-circuit	✓	
Replace one fuse with a circuit breaker	✓	
Upgrading of one or more sub-mains	✓	
Addition of one or more sub-mains	✓	
Replace one circuit breaker with one RCBO (combination RCD/MCB)	✓	
Replace two or more circuit breakers with RCBOs (combination RCD/MCB)	✓	
Replace more than one fuse with CBs	✓	
Installation of a solar panels and inverter system	✓	
Replace a defective main switch	✓	
Replace a defective hot water system or air conditioner with an item of equivalent specification	✓	
Replace a switchboard	✓	
Replace sub-main or an entire circuit cable with like for like	✓	
Re-route a section of cable	✓	
Re-locate and reconnect electrical equipment	✓	
Replace an item of electrical equipment with a higher capacity model	✓	

Removal of Service Protection Devices

To de-energise a domestic electrical installation, electricians employed by a licensed electrical contractor are authorised to remove the service protection device (SPD) fuse holder of the installation. The SPD bases and fuse holders are owned by the property owner but the fuse cartridges may be supplied and installed by network operators or their authorised contractors. SPDs are no longer sealed by network operators.

Removing the SPD fuse will enable electricians to replace a main switch or change a network operator's meter (when authorised to do so) while they are de-energised. In some cases, the SPD may be located under the meter cover. A

network operator may require its meter to be sealed after changeover or temporary removal of the SPD fuses.

Electricians should first turn off the main switch and use the appropriate personal protective equipment when removing and replacing SPD fuse holders. The incoming terminal of the SPD base remains energised and is subject to the full fault current potential of the consumers mains.

Electricians should retain custody of the SPD fuse carrier while carrying out their work. It should not be simply left in the switchboard enclosure, where another person could re-insert it.

If the supply-side live terminal of the fuse base can be accessed, electricians need to insert a blank fuse carrier bearing a 'Danger' tag, especially if their task is likely to take some time.



Danger tag placed on the SPD



Danger tag on the main switch

Standards update

Standard	Published Date	Supersedes
AS/NZS 60335.2.201-2016, Household and similar electrical appliances – Safety Part 2.201: Particular requirements for battery powered self-balancing personal transport devices	9 December 2016	DR 16911 CP: Household and similar electrical appliances – Safety – Particular requirements for hover boards
AS/NZS 4777.1:2016, Grid connection of energy systems via inverters - Installation requirements	30 September 2016	AS/NZS 4777.1:2005, Grid connection of energy systems via inverters - Installation requirements

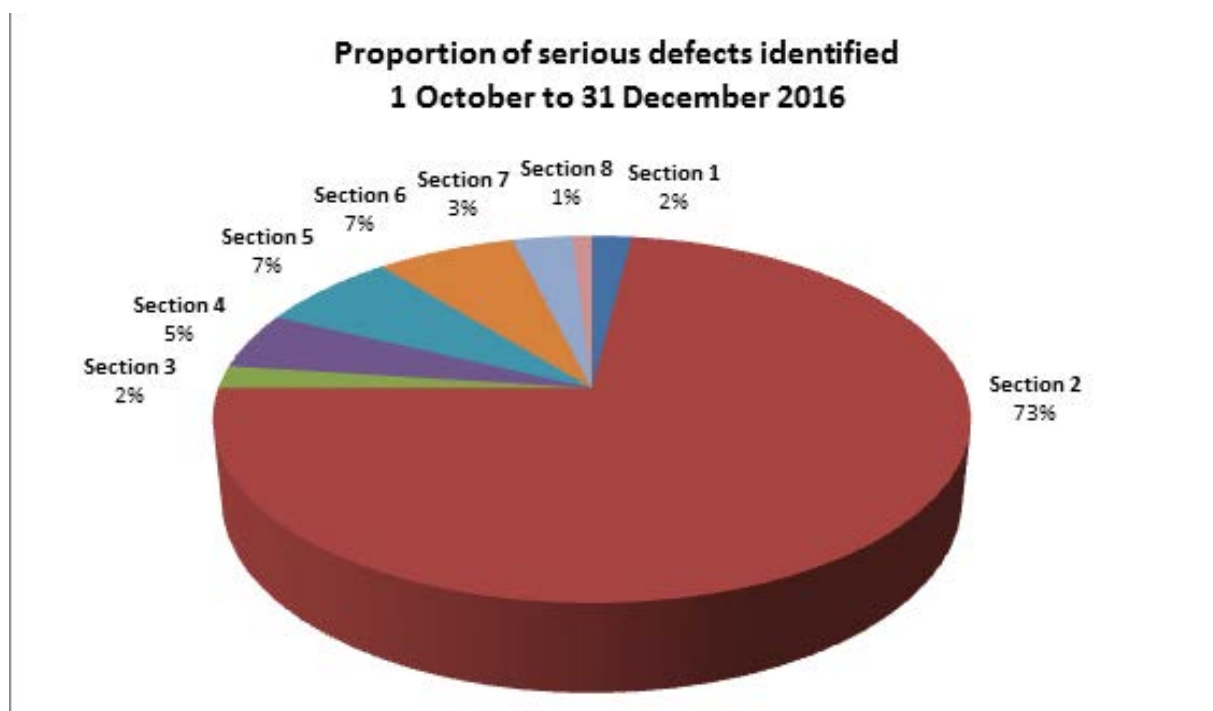
Draft Standard	Published Date	To supersede	Comments Close
AS/NZS 3003: 2016, Electrical installations – Patient Areas	7 December 2016	AS/NZS 3003: 2011, Electrical installations – Patient Areas	8 February 2017

Serious defects - 1 October to 31 December 2016

The number of serious defects taken from Inspector's Orders issued by EnergySafety and network operator inspectors between 1 October and 31 December 2016 are shown in the following chart and table.

A summary of the defects for this period is as follows:

- Number of non-serious defects = 1,421
 - Number of serious defects = 291 (17%)
- TOTAL = 1,713



Pie chart showing the proportion of serious defects from Sections 1 to 8 of AS/NZS 3000: 2007, Wiring Rules

Section	Clause	Serious defects identified
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	1.5.3.1	Live parts of the installation are not enclosed or protected to prevent direct contact
	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	Selection and installation of equipment is unsafe or not installed to manufacturer's recommendation
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	2.5.1.2	Submains and final subcircuits not protected by an overload device
	2.5.3	Inadequate protection from overcurrent
	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
	2.9.2.5	The switchboard is located in a restricted location
	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.
	2.9.7	Switchboard spread of fire protective measures do not meet requirements
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	3.7.2.2	Conductor insulation shall not be removed any further than necessary
	3.10.1.1	Insulated, unsheathed cables were not enclosed in a wiring enclosure throughout their entire length.
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.	4.1.2	Selection and installation of appliances does not meet requirements
	4.1.3	Electrical equipment is not suitable to meet external influences
	4.7.1	Cooking device not fitted with switching device in accessible position
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.	5.1.2	Selection and installation of earthing conductors do not meet requirements
	5.3.3.2	Main earthing conductor does not meet requirements
	5.3.5.1	Failure to install an MEN connection
	5.3.5.2	MEN size does not meet requirements
	5.4.1.1	Exposed conductive part/s of electrical equipment not effectively earthed as required
	5.4.3	Lighting points are not earthed (or provided with an earth) to meet requirements
	5.5.1.4	Resistance of main earthing conductor exceeds 0.5 ohm
	5.5.2	Arrangement of protective earthing conductors does not meet requirements
	5.5.3.5	Unprotected consumers mains not earthed in accordance with requirements
	5.6.2.6	Equipotential bonding of electrical equipment and conductive parts associated with the swimming or spa pool installation not arranged as required.
	5.7.4	Earth fault loop impedance does not meet requirements
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	6.2.2	The classification of zones in a damp situation do not meet requirements
	6.2.2.2	The classification of zones in a damp situation for other fixed water containers do not meet requirements
	6.2.4.2	Socket outlets installed in a damp situation does not meet requirements
	6.2.4.3	Switches and other accessories in damp situations do not meet requirements
	6.2.4.4	Luminaire/s located in a Classified Zonal Area not installed in accordance with the requirements.
	6.3.4.5	Luminaires, appliances and other equipment in damp situations do not meet requirements
	6.4.2	Classification of zones for in a fountain does not meet requirements

Section	Clause	Serious defects identified
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	7.3.2	Selection and installation of electricity generation systems do not meet specified standards.
Section 8 - Verification General, visual inspection, testing and date of initial energisation of an installation.	8.1.2	The installation was not verified to meet the standard and safe before being placed into service
	8.3.3	The installation has not been tested to the meet AS/NZS 3000 before being placed into service
	8.3.6.2	The insulation resistance between conductors and live parts does not meet requirements
	8.3.9	The earth fault-loop impedance does not meet requirements

Summary of infringements for breaches of electricity legislation

Between 1 October and 31 December 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	1,250.00
Regulation 45(1) E(L)R 1991	Failing to have the electrical contracting business licence number conspicuously displayed in advertising	1*	800.00

* Infringement issued after failing to comply with a written warning

Failure to report incidents

A Perth based plumbing company have been fined \$3,082.35 with additional court cost of \$2,105.60 for failing to report an incident that resulted in an apprentice being injured.

The company pleaded guilty for failing to report an incident to EnergySafety pursuant to Regulation 42 of the Gas Standards (Gasfitting and Consumer Gas Installation) Regulations 1999.

The incident resulted in an employee (unlicensed apprentice) receiving burns to his hands and face.

The incident occurred when the unlicensed apprentice attempted to commission a gas storage water heater he had replaced.

The probable cause of the incident was a combination of:

- failing to purge gas pipe work correctly;
- ingress of water in the gas pipe;
- failing to light an appliance in accordance with the lighting instructions;
- lack of supervision of an apprentice; and
- allowing an unlicensed person to undertake gasfitting work.

Further investigation into the incident also revealed that a gas fitter from the same company who attended site to remove the water from the gas pipe left a gas leak on an unwelded joint. Subsequently both the unlicensed apprentice and the gas fitter received an infringement notice.

All gas related incidents that cause or are likely to cause injury to a person or damage to property must be immediately reported to the relevant gas supplier. The reporting of such incidents allows for further investigation to determine the cause of the incident and take the appropriate action to prevent reoccurrence.

In this instance it would appear that the incident was not reported due to the gasfitting work being undertaken by an unlicensed employee.

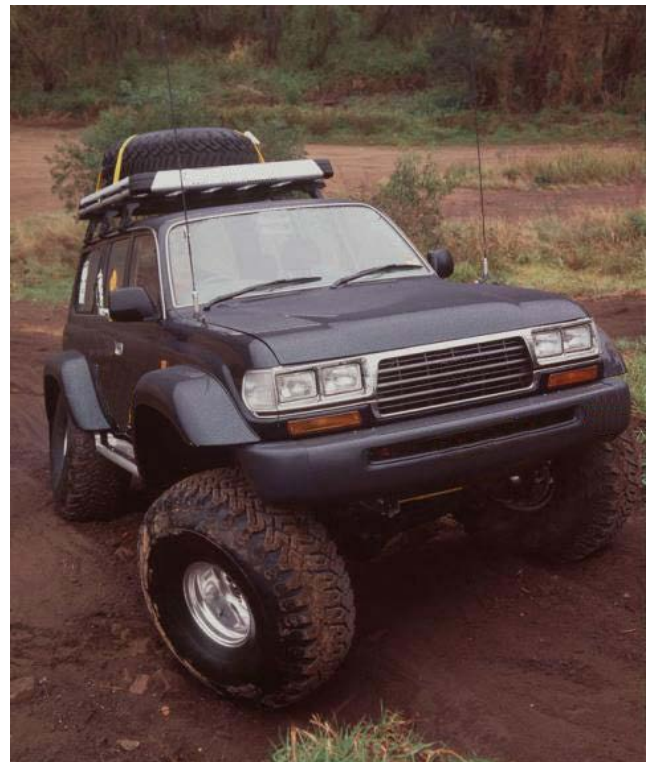
Work hardening of rigid service and fill lines

AS/NZS 1425:2007 Clause 4.2.2(c) States: *Rigid piping shall not be used between parts which can move relative to each other, e.g. between body/chassis and a flexibly mounted engine/fuel tank.*

Due to the flexible hose extractables issue, EnergySafety engineering staff developed a rigid piping alternative where specified loops in copper service lines were acceptable between body and chassis. Further information can be found on [EnergySafety's website](#).

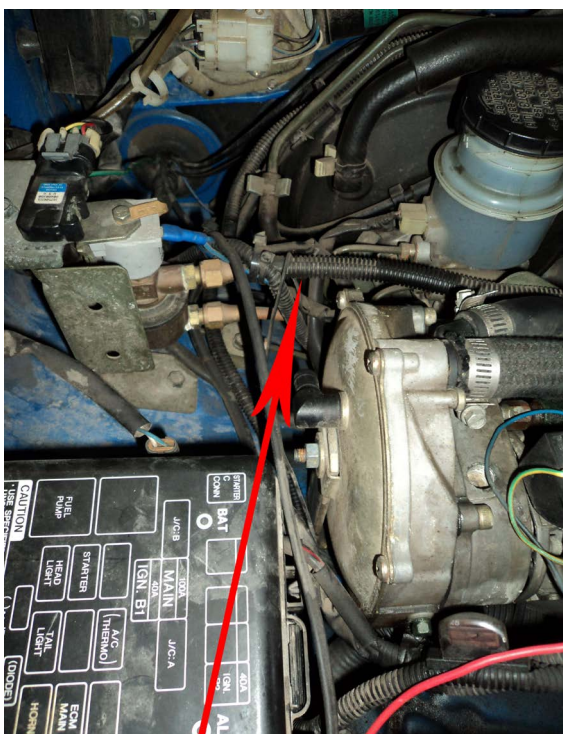
Recent reduction of extractables in some manufacturer's flexible piping has allowed gas fitters to use greater lengths of flexible piping which should alleviate some installation difficulties and reduce the need for copper loops.

Inspections have revealed that in some circumstances rigid service lines have fractured although the installation methods are compliant. This phenomenon would be more prevalent on four wheel drive and all terrain vehicles that are being subjected to extended use on corrugated/rough roads and/or extreme terrain.



The autogas installation needs to be designed to accommodate the stresses associated with extreme body to chassis movement

An example of such fracture is between the vaporiser/regulator and the engine bay automatic fuel shut off device (AFSOD). In this case the installation was on a four wheel drive which had been used extensively on rough terrain. The vaporiser/regulator was mounted on a substantial metal bracket, attached to the engine bay wall, and the AFSOD was securely mounted to the engine bay wall. The bracket was fixed at the bottom end only which allowed some minor flexibility. Under rough road surface conditions this was enough to work harden and fracture the copper piping. This problem has been alleviated by the replacement of the copper piping with suitable flexible piping. Fixing the vaporiser/regulator bracket at both ends would also alleviate such independent movement.



Area of fracture

EnergySafety encourages gas fitters to be mindful of the potential for work hardening of rigid metal piping on all vehicles with special attention to four wheel drive and all terrain vehicles. It should be remembered that the Standard requirements are a minimum and such situations should be considered prior to Installation.

Commercial kitchens and range hood clearances

All commercial kitchens require range hoods for extracting the grease laden cooking vapours. Incorporated in the range hood are filters to capture these vapours. Australian Standards AS/NZS 5601:1 Gas installations specifies the mounting heights above commercial gas fired cooking appliances. In the example illustrated we have a char grill barbecue. These are open flame and as such when in operation do flare-up when fat from the meat is ignited.

You may have experienced this on an open flame char grill plate on a barbecue outside, however when this flare-up occurs in a restaurant unless there is provision to cater for these flare-ups accumulation of grease above the gas appliance could readily ignite with dire consequences hence the necessity of grease filters.

AS/NZS 5601.1:2013 Clause 6.10.2.2 Clearances to a grease filter states:

The clearance between any part of a grease filter and the nearest part of the cooking surface or trivet shall not be less than the clearance specified in Table 6.9

Table 6.9 Clearances to Grease Filters

Gas appliance	Minimum clearance, mm
Kabab cooker/vertical grill	200
Solid grill plate, deep fryer (top of pan)	600
Open flame gas appliance (i.e. hotplate burner)	1050
Target top Chinese cooking table, griddle barbecue, char griller /broiler or open top flare griller/broiler	1350

Where multiple appliances are serviced by one extraction system, the distance from the cooking surface of each gas appliance to the grease filter shall be such that the minimum clearance in this table is applied to each respective appliance.



Minimum clearance for char grill to grease filter

A Notice of Completion or not

The popularity of street markets has increased tenfold in the last couple of years, not just in Perth but in other cities and towns of Western Australia.

This resurgence of mobile commercial catering outlets has brought a number of issues to the fore.

Gas inspectors see a high number of non-compliant/unsafe gas installations on mobile catering installations and are duty bound to prohibit a trader using them. This can make the inspector very unpopular with the trader especially when they produce a recently signed Notice of Completion (NOC).

In order to travel on Western Australian roads, a catering van or trailer needs to be registered by the Department of Transport (DOT). To gain registration DOT inspectors require sighting a Western Australian NOC or an interstate equivalent for the gas installation.

There have been instances where to obtain an NOC, some individuals or importing companies contract an unscrupulous gas fitter to carry out a minor alteration or even just a pressure test. The gas fitter affixes a compliance badge but does not submit an NOC to EnergySafety. This

practice is seen as a ploy intended to deceive the DOT and the end purchaser into believing the gas installation is certified.

The gas supplier's copy of the NOC in this instance is never forwarded to EnergySafety in an attempt to avoid an audit inspection.

When a licensed gasfitter signs a NOC or submits an eNotice (eNoc) they are making a statutory declaration: "I hereby certify that every part of the gas installation on which the gasfitting work specified on this notice was done or that is affected by that work complies with the Gas Standards 1972 and its regulations, is safe to use and is completed to a trade finish".

Pressure testing, replacing components, adjusting or like for like replacement of regulators, is deemed servicing work that requires a servicing badge or label. It is not deemed installation work and therefore no NOC is required.

Licensed gas fitters need to ensure they are not being used to issue a NOC for mobile installations including caravans for registration purposes without carrying out the necessary checks.

Gas inspectors are seeing a number of catering trucks, vans and trailers that are being fitted out overseas or interstate, imported into Western Australia at discount prices by persons or companies. The gas appliances are generally not approved, often lack basic safety features and are connected with inferior materials.

An inspection at the Twilight Markets in Perth found a commercial catering van that had two young people working inside and a crowd of people including children close-by. Had there been an incident with the gas installation, serious harm to those inside and nearby may have resulted.

Copper consumer gas piping rising from under the trailer to the interior, had no grommet. Changing to a flexible gas hose which was secured with a hose clamp. The hose then passed through another hole in a stainless steel partition having sharp edges.

Gas appliances were then connected with gas hoses secured with hose clamps.

This hose passed through another hole in a partition. Hoses were used for the final connection to the gas appliances and in one case exposed to elevated temperatures of nearby burners. In repairing these non-compliances a second gas fitter reported the hose clamped joints just fell apart as he touched them.

The owner of this gas installation produced a copy of an NOC made out to the person he purchased the trailer from. The Vehicle Identification Number (VIN) was identified on the NOC. The first gas fitter entered a comment on the NOC in section 8 "fitted new regulator and tested." No record of the gas supplier's NOC was found.

The responsible gas fitter who signed the NOC claimed "he did not look inside the vehicle and the test was a gas tightness test". His actions were in breach of the *Gas Standards Act 1972*, in that he failed to ensure the gas installation was safe, compliant and the gas appliances were commissioned.

Had a serious gas incident occurred with this van in a public place, the incident would be investigated by EnergySafety. Likely outcomes of an investigation could result in a prosecution of the gas fitter or possible criminal negligence proceedings against persons involved.



Hose passing through a stainless steel partition



Flexible pipe secured with a hose clamp



Gas hoses secured with hose clamps

Training and assessment requirements for a Class G gasfitting permit

In Western Australia, EnergySafety is responsible for administering gas technical and safety legislation as well as licensing of gas fitters.

Part of the licensing process includes assessing what qualifications meet the requirements for issuing a gasfitting permit (or authorisation).

The current apprenticeship pathway, Certificate III in Plumbing, includes gasfitting as part of the qualification and requires a trainee to complete on-the-job training with the employer at the workplace. In addition to this on-the-job training requirement, the trainee is required to complete off-the-job training at the Registered Training Organisations (RTO) facility.

On successful completion of the apprenticeship and all the on and off-the-job training requirements, the trainee will be able to apply for a gasfitting permit which will allow them to complete gasfitting work without supervision, attach badges and submit notices of completion (including eNotices).

To ensure that minimum standards are maintained and that the legislative requirements of the *Gas Standards Act 1972* are met, only training that is recognised by the Director will be deemed acceptable and suitable for licencing purposes.

This means that gas fitters who undertake training need to ensure that the training and the RTO is recognised by the Director. Should the training or the RTO not be recognised, the gas fitter may undertake training that may not entitle them to a licence.

EnergySafety lists all recognised RTOs on their web site and the following list outlines the scope and status of current Class G training recognition at each recognised training organisation.

For further information or information on where to undertake the training visit [EnergySafety's website](#) or contact the Licensing office on 6251 2000.

Training Organisation	Recognition status
Central Regional TAFE (Geraldton)	Apprentice installation training
MPA Skills	Apprentice, non-apprentice installation and gas servicing training
North Metro TAFE (Balga)	Apprentice installation training
South Metro TAFE (Rockingham)	Apprentice installation training
South Regional TAFE (Albany and Bunbury)	Apprentice, non-apprentice installation and gas servicing training

Summary of infringements for breaches of gas legislation

Between 1 October and 31 December 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. 20(1)	Installing appliance, apparatus or part contrary to instructions or recommendations of manufacturer or designer	3	1,800.00
r. 20(4a)	Modifying appliance without approval	1	600.00
r. 28(2)	Failing to attach approved badge or label to gas installation upon completion of gasfitting work	1	400.00
r. 28(3)	Failing to give notice of completion of gasfitting work within required time	6	2,400.00
r. 30	Failing to rectify defects and give notice of rectification within required time	1	600.00
		14	7,000.00

Legend

NLH No Licence Held

GSA Gas Standards Act 1972

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

Prosecutions for breaches of Gas Legislation

Between 1 October and 31 December 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/A's Pascoes Gas and Water	NA	Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999 r. 42	Failing to report incident causing, or likely to cause, injury or damage	13 November 2015	3,082.35 Costs Awarded: 2,105.60	105.60