

# REGULATION ROUNDUP

ISSUE 49 | March 2022

A bulletin for electrical, gas and plumbing industry workers brought to you by the Office of the Technical Regulator

## IN THIS ISSUE

### Message from the Technical Regulator

Welcome to the 48th edition  
of Regulation Roundup.

### Plumbing

Important information on  
Heated Water Temperature

# 26

#### FOR TECHNICAL ENQUIRIES:

##### Electrical

P: (08) 8226 5518 | (8:00am – 4:30pm)

##### Gas

P: (08) 8226 5722 | (8:00am – 4:30pm)

##### Plumbing

P: 1300 760 311 | (8:30am – 4:30pm)



Electrical  
Bulletin

# 3



Gas  
Bulletin

# 14



Plumbing  
Bulletin

# 22



Government of  
South Australia

be energy safe

[www.sa.gov.au/otr](http://www.sa.gov.au/otr)

# Message from the Technical Regulator

## Welcome to issue 49 of Regulation Roundup.

It is with a sad note that we have seen the passing of Tom Sika. Tom had a wealth of experience within the gas industry and is a major loss to the office. Many in the industry will miss the helpful advice that Tom was always willing to provide. We however welcome Ron Jessen who has been appointed to Tom's role within the office. We have also seen the retirement of Robert Knowles from the plumbing group. Robert has served the plumbing industry for many years and will be a great loss to the office.

This time of year sees the commencement of our Roadshow series, We are hoping to deliver face to face roadshows in accordance with applicable Covid safe requirements. There are again many topic issues that will be covered at the roadshows.

Regulation Roundup is again packed with very useful information and I would encourage you all to have a read of it. We always try to cover the new and updated requirement that all of the industry needs to know.

**Robert Faut, Technical Regulator**

## In this issue

Message from the Technical Regulator

### Electrical Bulletin

AS/NZS 3000:2018 +A2 Transition Period is over

AS/NZS 5033:2021-Installation and safety requirements for photovoltaic (PV) arrays

Extra Low Voltage (ELV) and the ECOC (Correction)

New Proclaimed Energy Products

Electric Shock Report Incidents

OTR Fire Report: Solar/Battery/Electrical fires

Changeover devices

Power Quality Response Modes

OTR Electrical Expiations Issued

Smart Meter Minimum Technical Standard and associated Deemed to Comply Wiring Arrangements (DCWA)

2022 NECA SA/NT Roadshow Seminar Series  
Calling all Electricians!

2022 NECA SA/NT Roadshow Seminar Series  
Draft Dates And Venues

Distributed Energy Resource Compliance

SAPN Revised Service and Installation Rules

### Gas Bulletin

Vale – Tom E Sika

Vent Lines

[2](#)

[3](#)

[3](#)

[4](#)

[4](#)

[4](#)

[4](#)

[5](#)

[6](#)

[6](#)

[7](#)

[8](#)

[8](#)

[8](#)

[9](#)

[10](#)

[11](#)

[13](#)

[14](#)

[14](#)

[14](#)

[14](#)

Hose Shenanigans

Issuing Electronic Certificates of Compliance

Clearly NOT COMMISSIONED

Gas – Quiz

Test Points on Regulator Requirements

Test for Soundness For Existing Gas Installations

Are You and Your Workers Correctly Licensed?

Proprietary Multilayer Piping (Composite Pipe) Installations

Gas – Quiz Answers

### Plumbing Bulletin

Testing of Temperature Control Device

World Plumbing Day

2022 Plumbing Roadshow

Rob Knowles Retirement Day 17th December 2021

It Pays to Check – Sewer Entering Stormwater  
Infrastructure Incident

Plumbing Advisory Note: Backflow - external hose taps

Backflow on External Garden Taps – New Advisory Note

Important information on Heated Water Temperature

New Inspector – Welcome Jason Schlink

List of Common Australian Standards

### Contact List

[15](#)

[15](#)

[16](#)

[17](#)

[18](#)

[19](#)

[19](#)

[20](#)

[21](#)

[22](#)

[22](#)

[22](#)

[23](#)

[24](#)

[24](#)

[25](#)

[26](#)

[26](#)

[27](#)

[27](#)

[29](#)

CONTENTS



# Electrical Bulletin

## AS/NZS 3000:2018 +A2 Transition Period is over

AS/NZS3000:2018 +A2 was published on April 30, 2021 and as of October 31, 2021 the 6 month transition period has expired. This means all the changes made by amendment 2 are now in effect and must be adopted into any new works being performed.

The full list of the tables, figures, appendices, and clause numbers that have changed are contained at the end of this article. We have also provided a brief overview for your information. This overview is not complete and in no way excludes the need to obtain a copy of the amended document.

Remember the **onus is on the Electrical worker / Contractor** to maintain an understanding of the rules and how they have changed.

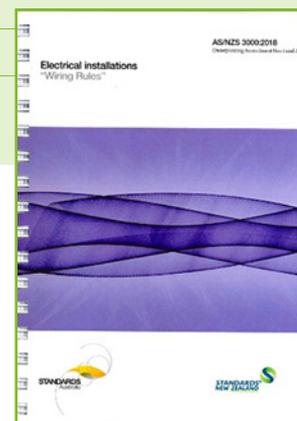
1.5.3.1	Accessing Live parts without the use of a tool, clarification to requirements.
2.6.2.2.1	All RCDs installed must be capable of operating on any supply waveform they are subjected to.
2.6.2.2.2	RCDs shall interrupt ALL active Conductors, and in some instances also the neutral conductor. Type A RCDs are the recommended type to be installed for general type installations.
As of 30 April 2023, Type AC RCDs shall not be installed.	
2.6.3.2.2	Multiple residential RCD requirements for Lifts, Air Conditioners etc.
2.6.3.2.5	For all alterations covered by 2.6.3.2.2 to 2.6.3.2.4, RCDs shall be installed at the origin of a circuit. (e.g. at the switchboard)
2.6.3.2.6	Repairs that meet the certain criteria may not require the installation of an RCD.
2.10.2.2	Accessibility and emergency exit facilities, access and egress arrangement changes.
2.10.3.2	Suitability of Switchboards, referenced standards and design changes.
3.4.3	Cables in parallel, specialized exemptions.
3.6.2	Voltage drop exceptions.
3.8.3.3	Conductor Colours, specialized exemptions.
4.1.2	Selection and installation of electrical equipment, additional devices.
6.2.4.1	Bath and Shower Zones, changes to IP ratings.
8.3.2.2	Recording of Test results.
8.3.7	Polarity and Correct Circuit Testing.

### Amendment No. 2 (2021)

#### REVISED TEXT

**SUMMARY:** This Amendment applies to the Preface, Clauses 1.5.3.1, 2.6.2.2.1, 2.6.2.2.2, 2.6.3.2.2, 2.6.3.2.5, 2.6.3.2.6, 2.6.3.3.1, 2.10.2.2, 2.10.3.2, 3.4.3, 3.6.2, 3.8.3.3, 4.1.2, 4.3.1, 4.18.4, 6.2.4.1, 7.3.4.1, 8.3.2, 8.3.2.1, 8.3.2.2 (new), 8.3.7, 8.3.8 and 8.3.10, Table 6.1, Figures 7.3, 7.4, 7.5 and 7.6, Appendices A, C, C4.2, F, F1.2.4 and Index.

Published on 30 April 2021.



# AS/NZS 5033:2021 – Installation and safety requirements for photovoltaic (PV) arrays

The new edition of AS/NZS 5033 was published on 19 November 2021; Compliance with this standard will be mandated from 19 May 2022.

The Electrical Regulatory Authority Council (ERAC) has provided an FAQ document with respects to the application of the new standard, for all jurisdictions in Australia.

Of particular note, during the 6-month transition period, either edition of the standard (i.e. 2014 or 2021) can be used. However, compliance with only one edition of the standard, in its entirety, is required, i.e. PV installation cannot comply with parts of 2014 and 2021 editions combined.

For further information visit <https://www.erac.gov.au/> and select 'Installations' and 'Installation resources'.

ERAC provides various resources and publications in relation to electrical installations and solar / small scale generation.

The revision to this new standard includes substantial changes, such as:

- Changes of scope, with respect to maximum PV array power limit.
- Additional provisions for d.c. conditioning units, regarding voltage and current calculations.
- Changes to earthing and overcurrent protection requirements.
- Changes to methods of PV isolation.
- Changes to wiring systems and connector requirements.
- New signs, verification, and commissioning requirements.

Solar installers should familiarise themselves with this new standard and are encouraged to attend relevant industry group forums or sessions, and/or Registered Training Organisations, in relation to the new standard.

## Extra Low Voltage (ELV) and the ECOC (Correction)

In issue 48 of Regulation Roundup the article on Extra Low Voltage was published to remind Registered Electrical Workers, that a certificate of compliance is still required if that work forms part of a fixed installation.

The article stated "ELV cabling may be installed by an unlicensed worker". The OTR has received the following advice

from the Commissioner for Consumer and Business Services, "electrical work on ELV cabling or equipment that is part of a system connected to the public power supply at a voltage above ELV must be performed by a registered electrical worker".

If clarification of this advice is required, contact licensing at Consumer and Business Services on **131 882**.

## New Proclaimed Energy Products

Proclaimed products, also known as Level 3 equipment, are high-risk electrical appliances and accessories, that require mandatory Australian certification and approval mark, prior to sale.

From 18th December 2021, the following energy products became proclaimed:

- **Socket-outlet with supply flexible cord** – Certified to AS/NZS 3112
  - For example, a bench pop-up power outlet.
- **Submersible pump** – Certified to AS/NZS 60335.2.41

Additionally, some existing proclaimed product definitions have been amended. For further information please visit <https://www.eess.gov.au/> and select 'Equipment' and 'In-Scope Electrical Equipment' – see Risk Level 3 equipment definitions.

To check if a proclaimed product / Level 3 equipment that is marked with  is certified, a search on the ERAC National Certification Database can be done via the following web link: <https://equipment.erac.gov.au/Public/>; check that all the specifications listed on the database align with the product markings.

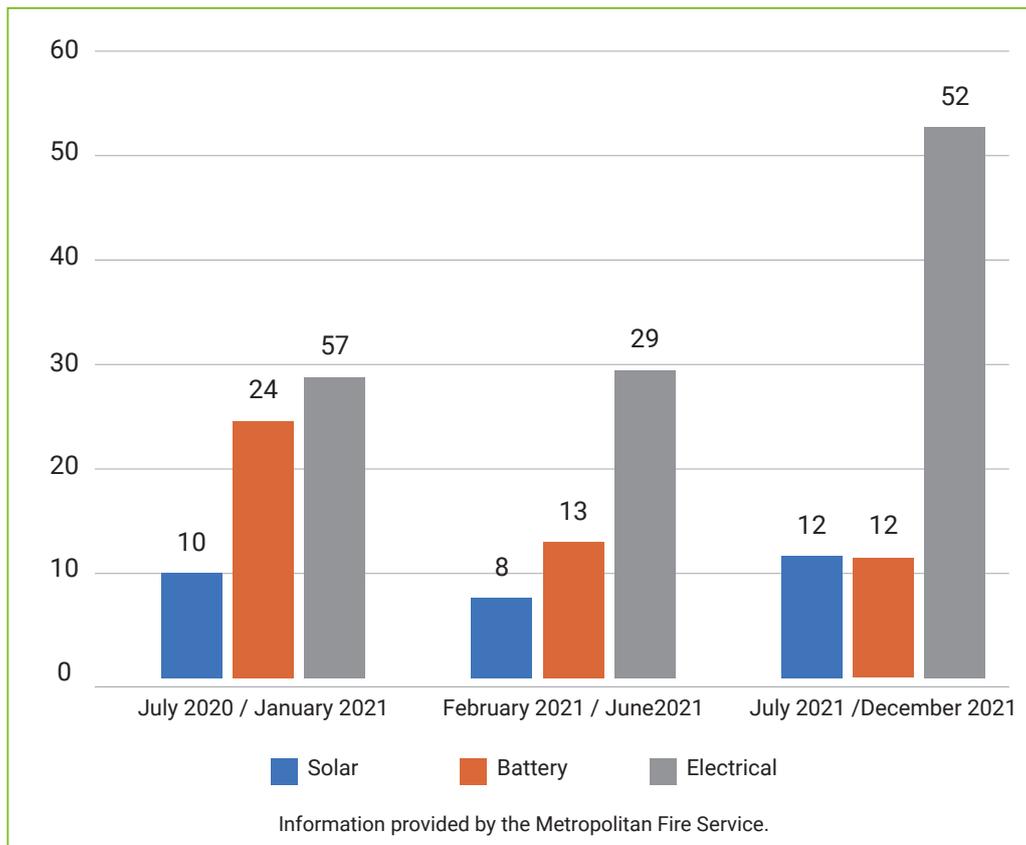
Always source electrical products from trusted Australian suppliers e.g. well known and established retailers that are experienced with the particular product you are after.

# [ Electric Shock Report Incidents ]

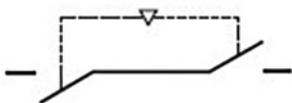
Shock Source	Cause	Contributing Factors	Injuries	Action to Make Safe
Commercial dishwasher.	Start button contaminated with water.	Operator had continually used dishwasher by starting it with wet hands.	Victim received electric shock to right hand.	Equipment taken out of service and will be replaced.
Commercial shrink wrap machine.	Operator contacted live parts behind control panel.	Operator was having difficulty turning on start button, so they removed control panel cover to attempt repair.	Victim received electric shock between right hand and leg.	Control cabinet cover replaced, and staff reviewed their work site procedures for the production line area.
Shock received between stove and fridge.	Failed Network neutral connection at pole top junction.	Electrical contractor was investigating why the stove was not working correctly unaware the possible cause was the high resistance neutral connection in the street.	Victim received electric shock between left hand and left foot.	Network Operator attended and repaired main neutral connection.
PV Array system located on house roof.	Solar system PV Array was not earthed.	Homeowner was working on the roof where the system was installed.	Victim received electric shock to right hand and foot.	Electrical contractor replaced PV Array and inverter resolving issue.
Voltage found on metal gutter.	Induced voltage due to cable paths.	Owner was using aluminium ladder to clean gutters not knowing a voltage had been induced into the gutter.	Victim received electric shock to hand.	Whilst voltage level was safe electrical contractor to bond gutter to earthing system to resolve issue.
Laundry socket outlet.	Socket outlet had arced internally.	Owner unaware of this fault when using socket outlet for washing machine.	Victim received electric shock to hand.	Socket outlet was disconnected until owner could have Electrical contractor replace it.
Light switch in bathroom.	Water ingress into switch.	Students were splashing water around the bathroom and then turned the light switch on which was now saturated.	Student received electric shock to hand.	Electrical Contractor replaced light switch after drying out wall.
Shower water.	Underground cable to shed damaged.	Damaged cable had livened up shed frame resulting in voltage on water pipes.	Victim received electric shock between hands and feet.	Network Operator isolated faulty circuit. Electrical Contractor to repair or replace cable.
Key Safe.	Homeowner had secured a key safe to the meter panel.	Homeowner inadvertently screwed through an active conductor fixing the key safe to the meter panel inside the meter enclosure.	Victim received electric shock between hand and foot.	Network Operator rectified damaged cable and removed key safe resolving the issue for the homeowner.
Overhead mains cable in the street.	Cable had been damaged and fallen to the ground.	Resident was walking dog along the street when dog contacted the live conductor on the ground. The resident did not realise the cable was live and received no shock.	Pet dog received electric shock between nose and paws.	Network Operator repaired street mains.
Roller door start stop station.	Water had entered start button.	Earlier in the day storm water had overflowed running over the roller door start switch.	Victim received electric shock to hand.	Electrical Contractor isolated and relocated start stop station away from the downpipe.
Door Handle to transportable room.	Damaged cable at adjacent light switch.	Mine worker entered transportable building and wouldn't have realised door striker was held on with extra-long screws that had pierced the adjacent light switch cable.	Victim received electric shock to hand.	Electrical contractor repaired cable damage.
Kitchen taps.	Main earth not connected.	Homeowner made contact between kettle and taps. Because no main earth was connected at the switchboard voltage was present on all earthed appliances.	Victim received electric shock to hands.	Network Operator disconnected supply until Electrical contractor could connect earthing and test installation.
Consumer Mains cable.	Backup generator supply energised consumer mains cable.	Electrical worker connecting consumers mains did not realise generator change over switch was incorrectly connected.	Victim received electric shock between hands.	Electrical contractor reconfigured wiring of the changeover switch so it operated correctly.

# OTR Fire Report

## [ Solar/Battery/Electrical fires ]



## Changeover devices



**Mechanically interlocked changeover switch**

The OTR have found products installed as “changeover devices” that were not compliant to relevant standards AS/NZS 3000, AS/NZS 3010, AS/NZS IEC 60947.6.1:2015 & SAPN Service Rules.

Some products marketed as an automatic transfer switch (ATS) or similar may not be suitable for their application. Consider if the product that **you** are **installing & certifying** is compliant & fit for its purpose. It could be a costly exercise to your business to replace non-compliant products, or worse injure someone due to inadequate fail safes, e.g. back-feed alternative supply to grid.

As per Clause 1.4.2 of AS/NZS 3010–A typical changeover device may be:

- One manual switch with multiple contacts, or two or more manual switches ganged together on a common operating shaft;
- Mechanically interlocked pair of contactors; or
- Mechanically interlocked pair of circuit breakers, with or without overcurrent protection.

When installing changeover devices, consider the following:

- Devices are required to comply with a product safety standard, for example AS/NZS IEC 60947.6.1:2015 *Multiple function equipment-Transfer switching equipment*.
- Remember to source products from a reputable Australian based local supplier.
- A single contactor arrangement **may not** meet the requirements.
- A voltage rating of at least the maximum out-of-phase voltage between contacts connected to the different sources of supply (e.g., 180°).
- Typically, only active conductors need to be switched, neutral continuity needs to be maintained to the MEN for correct fault protection (e.g., circuit breakers, RCD) operation. There may be exceptions to this in accordance with relevant standards (e.g., AS/NZS 3010).
- SA Power Networks has additional requirements for changeover devices (i.e., SAPN Service & Installation Rules):
  - Open transition transfer switches (OTTS).
  - Closed transition transfer switches (CTTS).

# [ Power Quality Response Modes ]

With the influx of Embedded Generation being connected to the network, it has become more important than ever, to ensure grid stability and security in South Australia.

From 18<sup>th</sup> December 2021, new inverter power quality response mode settings are required to be enabled for new grid-connected inverter installations, in accordance with AS/NZS 4777.2:2020. The settings also apply when replacing an existing inverter/s on any site.

It is important to note, when installing new inverters alongside existing inverter/s on the same site, to try to maintain the same settings within both systems to avoid the new system tripping and causing supply issues. Also, not to rely on manufacturer updated settings as they may align to another state; this is more common in lower range inverters.

For smaller installations, these new settings align with the current SA Power Networks [Technical Standard–TS129 Small EG Connections Technical Requirements – Capacity not exceeding 30kVA](#).

This standard gives further advice on repairs and multiple inverter sites.

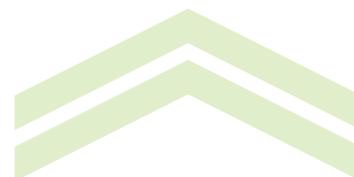
eCoC requires you to confirm your installation complies with the new settings, unless a repair is completed on a legacy system prior to 18<sup>th</sup> December 2021, in which case the settings within AS/NZS 4777.2:2015 may be applied.

Inverter manufacturers can provide guidance on how to enable these settings on their inverters.



Parameter	Value
<b>VOLT WATT Settings</b>	-
Response Mode	Enabled
VW1	253
VW2	260
Power % at VW1	100
Power % at VW2	20
<b>VOLT VAR Settings</b>	-
Response Mode	Enabled
V1	207
V2	220
V3	240
V4	258
Q (Reactive) % at V1	44
Q (Reactive) % at V2	0
Q (Reactive) % at V3	0
Q (Reactive) % at V4	-60

The VOLT WATT / VOLT VAR settings values as displayed on eCoC, when selecting AS/NZS 4777.2:2020 (Australia A)



# OTR ELECTRICAL EXPIATIONS ISSUED

Person	Non-Compliance	Breach	Expiation Fee + Levy
Contractor	eCoC was certified by a person who did not personally inspect and test the work.	Section 61 (1) (c) Electricity Act 1996	\$405
Contractor	Multiple breaches identified associated with a solar and battery installation	Section 61 (1) (a) Electricity Act 1996	\$405
Contractor	Live accessible cables with inadequate barrier	Section 61 (1) (a) Electricity Act 1996	\$810
	Insufficient inspections and tests carried out	Section 61 (1) (b) Electricity Act 1996	
Contractor	Multiple breaches identified associated with a new domestic residence	Section 61 (1) (a) Electricity Act 1996	\$405
Contractor	eCoC certified and submitted for work not performed	Section 61 (1) (c) Electricity Act 1996	\$405
Contractor	Electricity meter and service fuse removed and reinstated without authority during a switchboard refurbishment	Section 59 (1) Electricity Act 1996	\$407
Contractor	Duplicate eCoC deliberately and misleadingly issued with different start and finish dates to the actual work performed	Section 61 (1) (c) Electricity Act 1996	\$407
Contractor	Electricity meter and service fuse removed and reinstated without authority during a switchboard refurbishment	Section 59 (1) Electricity Act 1996	\$407
Electrical worker	Multiple breaches associated with a switchboard upgrade	Section 61 (1) (a) Electricity Act 1996	\$407

A total of 21 Owner/Occupiers were expiated for failing to ensure a compliant and safe electrical installation Under Section 60 (1b) of the Electricity Act 1996

## Smart Meter Minimum Technical Standard and associated Deemed to Comply Wiring Arrangements (DCWA)

Meter providers have informed the OTR, that a number of electrical contractors who are installing solar inverter installations:

1. Are not providing the DCWA 'number' label in main switchboard/meter position; This requirement came into effect last year – 27/11/2021.

Section 5.1 of the above standard requires:

*The selected DCWA number utilised for the solar inverter installation, shall be clearly identified as follows by the Electrical Contractor:*

- A label or marking is recorded within the main switchboard/meter position. This shall be permanent, indelible, legible from normal viewing levels.; AND
- Within the electronic Certificate of Compliance (eCoC) for the solar electrical installation.

*The label shall state the following:*

*OTR Deemed to Comply Wiring Arrangement 'XX'*

*Note: 'XX' being the relevant number.*

For further information visit <https://www.energymining.sa.gov.au/> and select 'Energy and Technical Regulation',

Energy supply', 'Regulatory Changes for Smarter Homes' and 'Smart Meter Requirements'.

A copy of the above standard can be found [here](#).

2. Are not installing meter isolators where required.

Meter isolators are required to be installed in new electrical installations and are typically required to be retrofitted in existing electrical installations when a solar system is installed, there may be some exemptions in accordance with the SA Power Networks Service & Installation Rules.

For further information or enquiries regarding the installation of meter isolators, contact [SA Power Networks](#).

It is important that compliance with the above requirements is achieved, to avoid solar connections being knocked back, incorrectly configured to the metering device, or interfering with any solar export monitoring / limiting function, battery charging, back-up supply arrangement etc.

Non-compliance may result in additional required site visits to rectify and customer dissatisfaction.

# 2022 NECA SA/NT Roadshow Seminar Series

## Calling all Electricians!



NECA SA/NT are pleased to announce the Roadshow Seminar Series is back in a COVID-safe way! The 2022 Seminar Series will be held across South Australia from March to June in 9 locations. Due to the current COVID-19 pandemic situation, we have had to make a few changes to the Seminar Series this year to protect everyone who attends these shows so we are running a reduced number of seminars spaced out over a longer period.

We highly encourage all electrical contractors and their workers to attend to ensure they are up-to-date with all the latest developments within the industry. The seminars will cover updates to Australian Standards, solar and isolator requirements, common compliance issues, the new Service and Installation Rules book, the new NECA Certified Contractor program and much more.

This annual seminar series is a significant training resource for the electrotechnology industry. The event this year is designed to provide licensed electricians with a greater understanding of the following topics:

- *NECA SA/NT on the new Certified Contractor program*
- *SA Power Networks on the new Service and Installation Rules book*
- *Office of the Technical Regulator on updates to Australian Standards, solar and isolator requirements, clarification on common issues, FAQs and more.*

Thanks to the Office of the Technical Regulator and SA Power Networks for their support and involvement in this initiative.

Suppliers, manufacturers and wholesalers will be on location with their new products and service displays and NECA SA/NT staff will also be on hand to answer your questions about what NECA can do for you and your business. Not to mention all attendees will have the chance to win a major prize from Milwaukee!

To attend the NECA 2022 Roadshow Seminar Series, please register via Eventbrite here: <https://bit.ly/NECA2022Roadshow>

Alternatively, you can visit our website [www.neca.asn.au/sa](http://www.neca.asn.au/sa), click on the Roadshow banner and complete the hard copy registration form.

Please be assured that we will follow any and all COVID-19 guidelines and restrictions from the venue and SA Government. This includes, but is not limited to: physical distancing, masks, sanitiser, QR check in, changes to serving of food and more. If for some reason a seminar needs to be cancelled or postponed due to COVID-19 we will provide as much notice to registered attendees as possible.

For further information please phone NECA SA/NT on (08) 8272 2966 or visit our website.

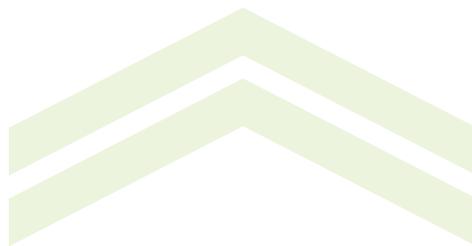
We look forward to seeing you there!

# 2022 NECA SA/NT Roadshow Seminar Series

## DATES AND VENUES



Date	Day	Location	Venue
16 March	Wednesday	Port Pirie	Port Club Rooms
23 March	Wednesday	McLaren Vale	Serafino Wines
5 April	Tuesday	Berri	Berri Hotel
15 April to 1 May – Easter Long Weekend, School Holidays and ANZAC Day			
2 May	Monday	Mount Gambier	Commodore Hotel
10 May	Tuesday	Barossa	Nuriootpa Vine Inn Hotel
18 May	Wednesday	Hahndorf	Adelaide Hills Convention Centre
30 May	Monday	Port Augusta	Central Oval
7 June	Tuesday	Adelaide	Arkaba Hotel
22 June	Wednesday	Port Lincoln	Port Lincoln Hotel



# Distributed Energy Resource Compliance

Your important role and responsibilities as a solar retailer or installer.

## Why are we talking about compliance now?

A transformation is underway in how we make and use electricity. South Australia is leading the world in the adoption of Distributed Energy Resources (DER) such as rooftop solar and home batteries. This offers a great opportunity to deliver significant value to the community and the solar industry.

We are committed to empowering the distributed energy transition. We are working to double the amount of solar we can accommodate on our network and preparing for the next wave of emerging technologies, including home batteries, electric vehicles, virtual power plants and community energy.

## Why act now?

The rise of solar PV has already resulted in a fundamental shift in the way that energy is generated and consumed, resulting in periods where the whole state is now powered by solar.

In order to continue connecting DER to the network, DER are now required to be 'smart' and able to interact with the energy system. This is driving changes to standards and the connections process, requiring new capabilities from the solar industry and increasing the importance of compliance to these standards.

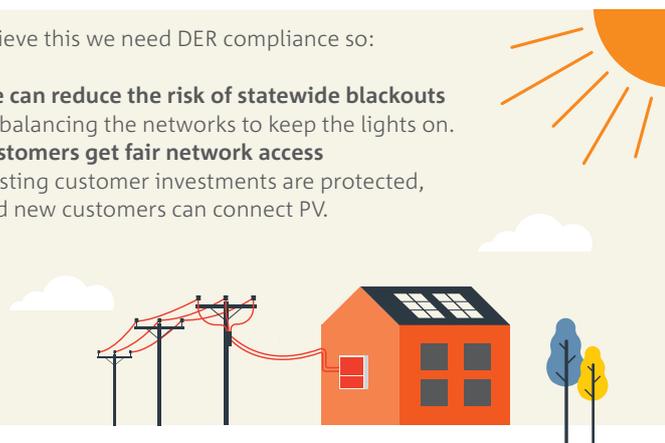
Getting this right means:

- A sustainable transition to renewable energy.
- Reduced risk of blackouts in South Australia.
- Customers get fair access to the network for new DER connections.
- Continued growth and prosperity of the solar industry in South Australia.
- We'll be able to better plan and operate the network to enable this future.

## Our Goal: To double the amount of Solar on our network by 2025

To achieve this we need DER compliance so:

- ✓ **We can reduce the risk of statewide blackouts**  
By balancing the networks to keep the lights on.
- ✓ **Customers get fair network access**  
Existing customer investments are protected, and new customers can connect PV.



## What can you do to ensure systems sold and installed are compliant?

Achieving compliance is a shared outcome and something we all need to contribute to. We need your help by completing these steps:



### Sales

Ensure options quoted to your customer meet all regulations and requirements. Get instant approval using *SmartApply*.



### Pre-install

Familiarise yourself with installation requirements from equipment providers. Utilise guides and instructions available on [our website](#).



### Install

Inverters and devices need to comply with all connection standards, including SA Power Networks' technical standards.



### Commission

Use the manufacturer's App or portal to commission the system. **Ensuring the system is connected to the internet or a smart-meter capable of disconnecting in the system emergency.**



### Close out

Close out all equipment using the *SmartInstall* web app. **Your installation isn't compliant until this step is completed.**

## Important links and reminders to assist you

- Ensure that the systems you're selling and installing are compliant with the latest Australian Standards, in particular the new AS4777.2:2020. [The Clean Energy Council maintains a list of compliant inverters.](#)
- Take the time to understand your customer's circumstances at point of sale. Site internet connectivity and the location of home internet from the system install point are important to discuss with your customer.
- Familiarise yourself with active SA Government Smarter Homes regulations, including:
  - [Relevant Agent Remote disconnection and reconnection requirements.](#) Every new or upgraded exporting system from 28 September 2020 must have a Relevant Agent and be capable of being remotely disconnected and reconnected by the Relevant Agent. You can nominate a Relevant Agent at time of network connection using SmartApply and this must be configured and working correctly at time of installation. If the nomination changes, you can contact us to update it.
  - [Smart Meter wiring requirements.](#) A meter installed at a connection point must be capable of separately measuring and controlling an electricity generating plant and controllable load from the essential load.
  - From 1 July 2022, SA Government [Dynamic Export Limits](#) requirements will apply. This means that all exporting generation systems need to comply with the Office of the Technical Regulator's remote updating methods and export limiting methods guidelines.
- **SA Power Networks [SmartInstall close out web application](#) is a requirement for all DER installations. A qualified installer needs to use SmartInstall onsite at the time of installation.**
- Understand the approved export limit arrangement and have a plan for the installation.

## What are we doing to support the solar industry?

SA Power Networks' role is to make sure that systems connected to the network are compliant with relevant regulations and technical standards, ensuring they will operate within the technical limits of the energy system.

Our dedicated New Energy Services Team has been set up to engage with, train and provide tailored, ongoing support to solar retailers and installers, so that we can work together to meet compliance goals.

From January 2022, this team will proactively start working with solar retailers and installers to ensure systems you are selling and installing are compliant. The process includes six stages and follows a traffic light system of escalation if non compliant.

- 1 • SAPN to engage solar retailers and installers.  
• SAPN to build awareness of obligations.  
• Together, establish remediation plans.
- 2 • Retailers/installers to report on plans.  
• SAPN to monitor progress.
- 3 • SAPN to issue a formal warning.  
• SAPN to notify SA Gov OTR, CEC, CER.
- 4 • Retailers/installers to report on plans.  
• SAPN to monitor progress.
- 5 • SAPN to block SmartApply instant approval.  
• SAPN to monitor progress.
- 6 • SAPN to block new SmartApply applications.  
• SAPN to notify SA Gov OTR, CEC, CER.

If we identify any issues with compliance, we will contact you to explore how we can work together to improve your compliance.

However, if compliance levels do not improve, we will begin taking further steps as outlined in the 'amber' section and subsequent 'red' section.

At each stage of the process, we will provide an opportunity for you to engage and determine a pathway to compliance, and our intention will always be to work with you to bring you back into the 'green'.

Working with solar retailers and installers so far shows that with the right level of understanding around obligations, and commitment to make changes, staying in the 'green' is straightforward.

### Get in touch

Our team is available to answer your enquiries.

New Energy Services

✉ [newenergyservices@sapowernetworks.com.au](mailto:newenergyservices@sapowernetworks.com.au)

📞 13 12 61 – select option 2

# SAPN Revised Service and Installation Rules

Over the past few months SA Power Networks has been undertaking an extensive review of the Service and Installation Rules. SA Power Networks has been working closely with the Office of the Technical Regulator, industry bodies and industry working groups to simplify the document and provide greater clarity.

Following feedback from designers and contactors SA Power Networks has reviewed and made changes to the connection requirements detailed in the Service and Installation Rules. These changes include:

For commercial installations the main switchboard may be installed inside the building where access can be provided. Though the preferred location is outside, we understand this is not always possible.

There are more flexible arrangements for the location of domestic main switchboards.

We have increased the allowable length of unprotected and protected consumer mains.

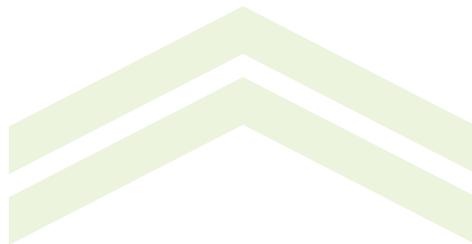
We have reduced the required separation between customer equipment and SA Power Networks equipment in CMEN areas.

With the changing electricity needs of our customers, a new section on distributed energy resources (DER) has been created that include the requirements for virtual power plant (VPP) and multiple tenant embedded generation systems.

The revised Service and Installation Rules are planned for release in March 2022. If you have any questions regarding the Service and Installation Rules, please contact SA Power Networks at [SIR@sapowernetworks.com.au](mailto:SIR@sapowernetworks.com.au).



Empowering South Australia





## Gas Bulletin



### Vale – Tom E Sika

It is with a heavy heart that we inform you of Tom's passing on the 15/9/21.

He was well respected and will be greatly missed by his peers and the wider gas industry. Acknowledgements have come far and wide nationally with heart-warming expressions such as; fine and technically outstanding man, generous and compassionate, enormously respected, great friend and mentor, modest, dedicated, committed and made a big impact to the gas industry.

Tom commenced his career in the industry as an apprentice gas fitter with SAGASCO in 1977. Throughout the next 24 years, he developed his skills working in a variety of areas consisting of domestic, commercial, industrial, metering, cathodic protection, mains and services, type B appliances and R&D, just to name a few.

The skills and knowledge he attained was his precursor to him becoming a well-respected inspector with the OTR in 2000 and Manager, in 2014. In these roles he certainly was a positive influence for the gas industry via his involvement with utilities, contractors, Australian Standards, certification bodies, manufacturers, and interstate Regulators.



### Vent Lines

**If you find that you have to extend the vent so it terminates in a compliant location:**

- For a vent line not exceeding 10m in length the size shall be the vent connection size
- Where the vent line will exceed 10m but no longer than 30m in length, the size shall be one standard pipe size larger than the vent connection size

This is a non-compliant installation as the vent line is smaller than the connection size.



Vent connection reduced from 20mm to 15mm

# [ Hose Shenanigans ]



Just a quick visual inspection would identify that these hoses need some TLC. Not only will the radiant heat of the appliance damage the hose over time, but the hose being kinked in two places will damage the hose and restrict the gas flow.

We'd love to say this is a one-off occurrence, but unfortunately, it's not. This is oh so common.

AS/NZS 5601.1:2013 Clause 5.9.5 states hoses should be free from kinks, strains, abrasion, heat damage and vermin, amongst other things. Clearly this installation does not meet any of the above.

Working pressure recorded at the burner was 1.4kPa on an LPG installation, well below the desired 2.75kPa as stated on the appliance manufacturer's data badge.

This also raises concerns that even though the gas fitter had acknowledged on a legal document (eCoC) that the appliance had been commissioned, clearly it hadn't.

AS/NZS 5601.1:2013 Clause 2.2.8, 2.6.8 and 6.11 all discuss commissioning appliances.

The OTR are continually reminding gas fitters through communications, such as the Reg Round Up and audit feedback, that you must ensure you commission the appliances you are installing. This seems to be falling on deaf ears with some people, which could result in an expiation.

## Issuing Electronic Certificates of Compliance

Electronic Certificates of Compliance (ECOC) are required by the Gas Act 1997 to be issued to owners/operators after completion of gas installation & conversion work. The licensed gas fitter must complete all the tests & checks and certify the installation/conversion. The ECOC must be issued by the gas fitter and the licensed contractor.

If the work has been performed by a restricted gas fitter who can only 'work under technical direction of a gas fitting worker', then the gas fitting worker who provides this technical direction must sign off and submit the eCoC as proof, demonstrating the following:

- all work is completed
- a pressure test for soundness has been performed and is sound
- all appliances and materials are certified for use within Australia
- pipe work and appliances are compliant with the AS/NZS 5601
- appliances have been commissioned as per the manufacturer's instructions

# [ Clearly NOT COMMISSIONED ]

Don't think by just tearing the manufacturer's tag off the test point is an indicator that an appliance has been commissioned, our auditing process will prove otherwise. Appliances must have the minimum pressures at the inlet connection as per Table 5.1, while operating most of the appliances connect to the installation.



In individually metered single occupancy premises, the minimum pressure shall be available at each appliance with all appliances connected to the consumer piping operating at maximum gas consumption.

**TABLE 5.1**

**MINIMUM PRESSURE AT APPLIANCE INLET**

Family of gases	Minimum pressure at appliance inlet, kPa
2nd (NG, SNG)	1.13
3rd (LP Gas)	2.75

NOTE: The appliance inlet is the inlet to the first appliance control device other than the appliance manual shut-off valve if fitted.



## Gas – Quiz

1. What type of pressure test point is used to measure pressures above 7 kPa?
2. Can you use a hose assembly to connect an under cooker connection on a freestanding cooker?
3. What horizontal distance is required from an external water heater flue to a PVC vent pipe?
4. Are you allowed to convert any Type A gas appliance from NG to LPG?
5. How many litres of LP gas in a kilogram of Propane liquid?
6. One Kilowatt of natural gas equals how many Megajoules?
7. Why are LPG tanks painted white not silver? Is it
  - a. So I can see it at night under a silvery moon or
  - b. White is the most reflective colour to keep tanks cool in our hot climate or.
  - c. Silver paint is costly and requires recoating more often.
  - d. White is a good background colour for LPG supplier labels / stickers.
8. Can a sub-meter be installed on the ground?
9. When testing for leaks can Oxygen be used as a substitute for air or the applicable fuel gas?
10. If I install / commission / repair a Type B appliance can I leave it operating without certification.
11. Can I withhold a gas certificate of compliance on grounds of non-payment by my client, (i.e. Commercial Dispute)?
12. What is the maximum temperature that a PVC-U flue pipe can be subject to?
13. A Universal LP (ULP) appliance can use what gases?
14. Can I use Polyethylene (PE) pipe under a building or above ground?
15. What is the maximum pressure for screwed cast iron fittings on galvanised steel pipe?
16. Can I install a cooker with a flexible hose if the manufacturer instructions do not make any reference to them?
17. Do I need to perform a spillage test if I install a space heater / wall furnace or other internal open flued appliance within a building?
18. Is the maximum permissible unflued heater for Natural Gas in South Australia?
  - a. 6MJ/h,
  - b. 12MJ/h
  - c. 18MJ/h
  - d. 25 MJ/h
19. Can space heaters be installed in bedrooms?
20. Can I issue a gas certificate of compliance on behalf of an unlicensed mate or acquaintance?
21. Is 5 minutes sufficient for all pressure tests for soundness?

# Test Points On Regulator Requirements

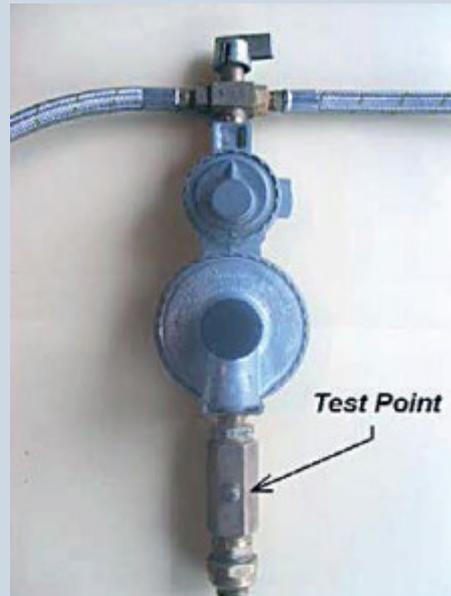
Pressure test points shall be accessible and provided at, or adjacent to, the—

(a) outlet of gas pressure regulators installed in the gas pipework.

For pressures up to 7 kPa – You have 2 alternatives –

- Remove the 6 mm or 8 mm ( 1 /8" or 1/4" BSP) plug on the regulator and fit a test point or

- Install a test point as part of a socket immediately downstream of the regulator outlet.



For pressures above 7 kPa you are required to use a self-sealing test point, (similar function as to a valve on a basketball). The most popular of these is the 'Pete's Plug'. These require a special probe fitting known as a 'Pete's Plug Adaptor' to sample the gas pressure. The adaptor should be connected to your pressure gauge or instrument via a suitable flexible tube and mechanical fittings.



Pete's Plug 1/4" BSP



Pete's Plug Adaptor

# Test for Soundness For Existing Gas Installations

Gasfitters should adopt best practice and (manometer) pressure test all existing gas installations prior to commencing alteration work. Refer clause 2.2.5. If a leak is present, then the owner is to be advised of the fault prior to disturbing the system.

Advising the consumer that there is an existing escape in the outlet service and recording it on the ECOC will protect you from any come back from the consumer. It is then the consumer's responsibility to have the escape rectified either by engaging you or other gas contractor.

Where the consumer piping has been altered, repaired or extended (including appliance installations) it is compulsory to pressure test the outlet service before turning the gas supply back on, Ref: Clause 3.5.2. The work you had performed must be checked for leaks and repaired and repeat the test prior turning on the supply.

During the OTR's proactive audits, any installation that fails a pressure test, and the installer has not notified the owner of the escape by ECOC will result in the gas worker being directed to return to site to investigate the escape, inspect and test any gas pipes or any aspects of the install that may have been disturbed during the installation.

If a gas escape is found and is not part of your installation work, then you are required to advise the customer the size of the leak and the best course of action to have it rectified and re-issue a gas ECOC to the consumer advising them in writing of your advice/findings.

If an owner refuses to authorise rectification of an escape you can contact the OTR so we can follow up with the owner, if the escape is deemed dangerous and the owner has refused for the gas to be isolated you will need to issue an Immediate Dangerous Report (IDR) by ECOC, this will be flagged to the OTR immediately for the OTR to action with the owner.

## Are You and Your Workers Correctly Licensed?

The Office of Consumer & Business Affairs (CBS) is the licensing authority for gasfitters in South Australia. As part of our audit process, we check the current license status of persons completing electronic Certificates of Compliance to verify if an installer is appropriately licensed.

If a check with CBS confirms a gas worker does not hold an appropriate gas fitting license to work unsupervised or to certify work, we are obliged to advise CBS, who may investigate any issue of licensing.

The Gas Act and Regulations provide the Technical Regulator with powers to require information, direct rectification, expiate or prosecute persons where gas work is non-compliant. Please ensure that the persons completing the ECOC hold an appropriate license, this includes workers and contractors.

To check license status of workers and contractors the CBS you can visit CBS licensing website [here](#).

For further details or questions on licensing please contact on 131 882 or visit their website at [www.cbs.sa.gov.au](http://www.cbs.sa.gov.au)

# Proprietary Multilayer Piping (Composite Pipe) Installations

Composite pipe is an appealing approved product used extensively in the industry. However, we are continually finding composite outlet services being installed without a reversion to standard thread or composite outlet services installed with only a composite expansion tee fitted.

Installing expansion tees into composite is satisfactory for the convenience of installing future appliances however this does not satisfy the AS/NZS 5601 gas installation standard for reversion to standard thread.

Remember reversion needs to be installed if the outlet service is longer than 10m and there is more than one appliance connected. Reversions are to be installed in the main run of the outlet service in accessible locations prior to the first and last branch off points. Ref Clause 5.2.13 Proprietary multilayer piping. The standard requires either a short length of copper tube or a barrel union be used for reversion. The OTR does approve the use of galvanised cross point fittings and galvanised tees joined together to be used as reversion fittings.

The intent of a reversion fitting is to permit the future extension or connection to a non-compatible piping system or replace a portion of a damaged service. This is to protect the customer from difficulties that may arise from non-availability of the proprietary system.



Expansion tees as above are not acceptable as reversion to standard thread.



Two galvanised tees joined together or a galvanised cross point are acceptable for reversion.



Reversion to standard thread; short length of copper tube or a barrel union.

## Gas – Quiz Answers

1. Self-sealing (Petes Plug)
2. No- refer to clause 6.10.1.10.
3. 75mm for fan assisted and 150mm for natural draught.
4. Only if marked on the data plate for alternative gas types.
5. 2 litres (approximately)
6. 3.6 Mj
7. b.
8. No. refer to clause 5.11.6.2 (k)
9. No. Oxygen must not be used–refer to Clause 3.6
10. No. Type B appliances must be certified by an OTR authorised certifier before commercial operation. This is the responsibility of the installer where gas is available, or the person that makes gas available if gas was not available at the time of installation.
11. No. You must issue a gas certificate of compliance within 30 days of completing the work
12. 60 Degrees C. – refer to Clause 4.7.5, table 4.2
13. Propane or Butane
14. No.–refer to Clause 5.4.1 (PE is referred to as plastic piping).
15. 7 kPa
16. Yes–normally manufacturers will prohibit the use of a flexible connection if they are not suitable. If unsure contact the manufacturer.
17. Yes–refer to clause 6.11.4 (commissioning appliances)
18. (c) 18 MJ/h
19. Yes–providing it is flued, has a flame safeguard and permanent ventilation.
20. Only if you want to accept the legal responsibility for work performed by other semi or unskilled installers. We suggest that you inspect / test the work thoroughly and note what you have done on the gas COC. i.e. “Inspected accessible work and pressure tested installation by others”.
21. No. The test duration is 5 minutes for up to 30 litres plus 5 minutes for each 30 litres or part thereof, to a maximum of 300 litres. After which it is a 12 or 24 hour pressure test. If we had a 63 litre service, we need  $63 / 30 = 2 \times 5 = 10 + 5$  (stabilisation) = 15 minutes.



## Plumbing Bulletin

# [ Testing of Temperature Control Devices ]

Temperature limits on heated water are essential for minimizing the risk of scalding. At greatest risk from scalding are children, the aged, the sick and people with disabilities, particularly those in institutional care.

Accordingly, sanitary fixtures used primarily for personal hygiene purposes require tempering of the heated water to mitigate this risk.

Where temperature control is achieved with either tempering valves or thermostatic mixing valves, these valves must be tested on a yearly basis to ensure their continued functionality and protect occupiers.

Consumers of plumbing products are responsible for maintaining the plumbing equipment located on their property and should engage the services of suitably licensed plumbers to test these valves for operational effectiveness on a regular basis.

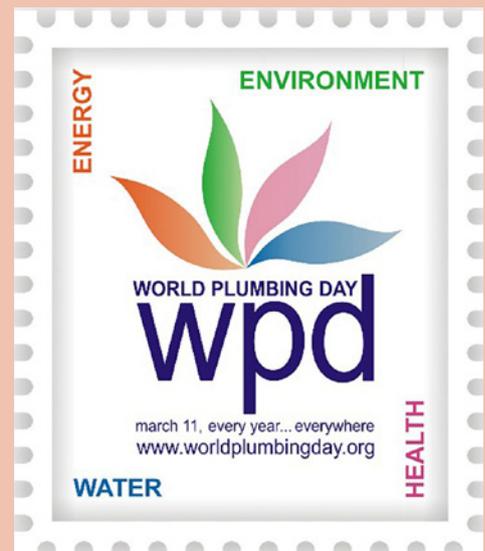
## World Plumbing Day

The 11<sup>th</sup> of March every year is World Plumbing day, a day to celebrate all things plumbing and recognise the importance that Plumbing, and Plumbers play in today society.

World Plumbing Day was an initiative by the World Plumbing Council, it aims to spread awareness of the importance of plumbing and plumbers in protecting public health and improving access to clean water and sanitation. Sadly 30% of people in the world still don't have access to clean safe drinking water at home and 60% don't have access to safely managed sanitation, although this has decreased from 71% since 2000. (UNICEF + WHO)

How will you celebrate world plumbing day this year?

More information can be found on the website [www.worldplumbingday.org](http://www.worldplumbingday.org)





**Master Plumbers**  
SOUTH AUSTRALIA

**INCLUDES  
PRODUCT  
EXPO FROM  
4.30PM!**  
*\*Food & drinks  
provided!*

# 2022 PLUMBING ROADSHOW

Join us for our 2022 Plumbing Roadshow and Mini Trade Expo, presented by Master Plumbers SA and The Office of the Technical Regulator.

DAY	DATE	TIME	LOCATION	VENUE
Tuesday	5th April	4.30 - 8.30pm	Port Lincoln	City of Port Lincoln (Nautilus Arts Centre)
Wednesday	6th April	4.30 - 8.30pm	Port Augusta	Access Training Centre
Thursday	7th April	4.30 - 8.30pm	Port Pirie	Port Football & Community Club
Wednesday	13th April	4.30 - 8.30pm	Clare	Clare Town Hall
Wednesday	11th May	4.30 - 8.30pm	Nairne	Nairne Soldier Memorial Hall
Thursday	19th May	4.30 - 8.30pm	Tonsley	TAFE SA (Tonsley Campus)
Wednesday	25th May	4.30 - 8.30pm	Elizabeth	St Patrick's Technical College
Tuesday	7th June	4.30 - 8.30pm	Berri	Barmera Football Club
Wednesday	15th June	4.30 - 8.30pm	Ceduna	Ceduna Foreshore Hotel
Tuesday	21st June	4.30 - 8.30pm	Mount Gambier*	City of Mount Gambier
Wednesday	6th July	4.30 - 8.30pm	Walleroo	Walleroo Town Hall

## TOPICS

- **UPCOMING CHANGES TO PLUMBING CODE OF AUSTRALIA 2022, INCLUDING:**
  - ▶ HEATED WATER REQUIREMENTS
  - ▶ BACKFLOW REQUIREMENTS
  - ▶ LEAD FREE PLUMBING FITTINGS
  - ▶ WATER EFFICIENCY
- **CHANGES IN AS/NZS 3500.1: 2021**
  - ▶ STEEL FRAMED BUILDINGS
  - ▶ SEPARATION OF SERVICES
- **CHANGES IN AS/NZS 3500.2: 2021**
  - ▶ P.A.P.A. STACK SYSTEMS
  - ▶ JUNCTIONS IN DRAINS
- **CHANGES IN AS/NZS 3500.4: 2021**
  - ▶ CIRCULATED HEATED WATER SYSTEMS
- **AS/NZS 2419.1: 2021 (FIRE SERVICE UPDATE)**

## EVENT DETAILS

**4.30PM - 5.00PM | MINI TRADE EXHIBITION**  
**5.00PM - 8.30PM | PLUMBING PRESENTATION**

## COST

**MPA MEMBERS | FREE**  
**NON MEMBER | \$25 PER PERSON**

PRESENTED BY



Government of South Australia  
Department for Energy and Mining



It is recommended that all plumbers attend the 2022 Plumbing Roadshow.

**REGISTER NOW**

PLEASE VISIT [WWW.MPASA.COM.AU](http://WWW.MPASA.COM.AU) FOR FULL DETAILS AND TO REGISTER

# Rob Knowles Retirement Day 17th December 2021

Rob Knowles's working career spanned 53 years, during this time Rob had a wide range of job positions through his career.

Rob started his career undertaking a fitter and turning apprenticeship, followed by a stint as a marine engineer at sea for 2 years. Rob also worked for Reliance Manufacturing Company (RMC) as the State Sales Manager for 17 years.

In 2007 Rob entered the plumbing regulation arena by joining SA Water and then the Office of the Technical Regulator in the role of Plumbing Backflow and water services coordinator.

Highlights from Rob's career have been:

- Speaking at the world plumbing conference at Melbourne in 2019
- Working on numerous standards Committees, in particular WS 023
- Being a fire service and backflow trail blazer in South Australia.
- Working at SA Health as a mobilised force covid ambassador



## It Pays to Check – Sewer Entering Stormwater Infrastructure Incident

The OTR late last year was notified by SA WATER that there was a suspected incident involving the sewer pipe on a property potentially connecting to council Stormwater infrastructure. These types of issues are often notified from a member of the public as smells can begin to appear in the stormwater system.

Upon further investigation from the OTR and SA WATER it was determined that plumbing works had recently been undertaken at the address. The plumber had been contracted to divert the sewer pipe at the rear of the property for the installation of a new swimming pool.

After contacting the plumber and looking at photos provided, they couldn't confirm that a cross connection was not a possibility. At the rear of the property there was both sewer and stormwater easements. Testing confirmed that a cross connection of the sewer and local councils' infrastructure had occurred.

A CCTV inspection was able to show the extent of the damage the cross connection had caused.

This type of incident could have been easily avoided by conducting some simple water tests prior to the disconnection and relocation of the sanity drainage pipe and testing of the stormwater system. Plans could have also been referenced as they show both sewer and stormwater connections at the rear of the property.

The plumber was found to be liable for the damages caused to the council stormwater infrastructure and was responsible for the clean-up costs.

SA water and council stormwater assets are freely available via the DIAL before you DIG website. Internal sewer drain plans are available via the website below.

Dial before you dig: <https://www.1100.com.au/>

To see South Australian internal sewer plans, click [here](#).



Above: Stormwater pipe 13m downstream of property with sewer effluent.

Office of the Technical Regulator

## Backflow - External hose taps

Plumbing Advisory Note – issued February 2022

The aim of this Advisory Note is to inform stakeholders of the legislative requirements for the minimum backflow on external hose taps.

The Plumbing Code of Australia (PCA) sets out the requirements for backflow. The PCA has determined that external screw nose bib taps require a minimum “low” hazard device. The need for a medium or high hazard device may be required if there is another hazard within 18m of the hose tap, e.g. Grease arrestor

Suitable “low” hazard devices are found in AS/NZS 3500.1 2021 Table 4.4.1 and include, but are not limited to:

- Pipe interrupter device (PID)
- Break tank (BT)
- Hose connection vacuum breaker (HCVB)
- Dual check valve (DUAL CV)

Backflow devices must comply with the backflow standard AS2845.1:2010. A garden tap with integral non return valve would not meet these requirements.

### When does this come into effect?

These legislative requirements are already in effect and plumbers should be providing backflow on external hose taps already.

Owners of existing buildings should be made aware of the benefits of updating their drinking supply systems by providing low hazard backflow devices to existing taps.

### Legislative requirements

#### BS5.1.4 Individual protection

(a) The following are Low Hazard for the purpose of individual protection

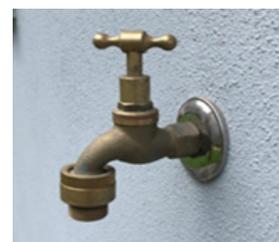
(vi) External hose taps, with no hazards within 18m

A Vacuum breaker will be the simplest way to retrofit a low hazard backflow device to a hose tap.

### Background

Outside garden taps are used for all types of applications within a property. The drinking water supply must be protected from possible backsiphonage events. Backsiphonage events can occur when there are variations in water pressure, an example is a burst main on the street or water pump failures on multi storey buildings. The PCA has deemed garden taps with no identified hazards to be a low-risk hazard.

*Note: Recycled water hose taps do not require additional backflow protection.*



# Backflow on External Garden Taps – New Advisory Note

The OTR would like to advise that we have published a new Plumbing advisory note relating to the upcoming changes affecting backflow requirements on external hose taps.

External hose taps on all properties including class 1 buildings will require backflow protection. The minimum requirement will be a “low” hazard device and in most cases, this can be achieved by installing a vacuum breaker on the outlet of the tap. Medium or High hazard devices may be required depending if there are additional hazards

within 18m from the hose tap. External garden taps are a backflow risk as they are used for such a broad range of applications. This can include fertilising gardens or simply filling a pool with a garden hose therefore protecting each hose tap with a low-cost device is beneficial to protect the consumer.

These requirements will come into effect with the release of the Plumbing Code of Australia 2022 on the 1<sup>st</sup> of September 2022. Practitioners should discuss these changes with stakeholders to avoid out of pocket expenses.

## Important information on Heated Water Temperature

### Hot water safety

Hot water scalding can happen when the temperature from a hot water tap is too high.

Ten degrees can mean the difference between a safe contact time with hot water and third-degree burns occurring.

#### Burn times from hot tap water:

- at 60°C it can take just five seconds for an adult, and 1 second for a child, before third-degree burns occur.
- at 50°C it can take five minutes for an adult or child before third-degree burns occur.

**Important Note: The above water temperatures are not bathing temperatures. You should still mix cold water with hot water for baths and showers.**

### Maximum water temperature

By law, the maximum temperature for heated water connected to plumbing fixtures used primarily for personal hygiene, such as showers, baths, hand basins, and bidets, must not be higher than 50°C.

In public buildings intended for use by children, the elderly, or people with a disability, the water temperature must not be more than 45°C in the following areas:

- residential areas of aged care buildings
- patient care areas in health care buildings
- early childhood centres
- schools
- designated accessible facilities in common areas of public buildings.

### Installing a water temperature control device

While the maximum delivery temperature of heated water mustn't be higher than 50°C at fixture outlets, heated water needs to be stored above 60°C in a hot water system to prevent stagnation and bacteria growth, such as legionella.

To make sure the water that comes out of the tap is at a lower temperature, a thermostatic mixing valve, a pre-set instantaneous water heater, or a tempering valve should be installed.

Hot water systems installed before 1998 are unlikely to have temperature control devices fitted. Speak to a licensed plumber about your options for installing a temperature control device.

All water temperature control devices need regular maintenance and performance testing.

The maximum water settings are not bathing temperatures. You should still mix cold water with hot water for baths and showers.

Children and the elderly are more likely to suffer burns than other age groups as their skin tends to be softer, and they're less likely to be able to protect themselves.

The maximum bathing temperature recommended for young children is 37°C to 38°C.

You can reduce the risk of burns in the bathroom by:

- installing a water temperature control device
- always running cold water first
- never leaving a child alone in the bathroom.

# [ New Inspector – Welcome Jason Schlink ]

The Plumbing group is pleased to announce that the recent vacancy for a Plumbing Installations Inspector has been filled.

Jason Schlink presented solid experience in the plumbing arena and was successful in applying to work with the Department for Energy and Mining within the Energy and Technical Regulation division.

Jason was previously employed with Advanced commercial plumbing and Cushman and Wakefield (formally Smith Brothers) where he has gained considerable knowledge in residential, commercial, and industrial plumbing and drainage.

Jason was born in Streaky bay on the Eyre Peninsula but now resides in the Southern suburbs or Adelaide. When Jason's not working you will find him at his local Golf course.

Considering a change in career? The Office of Technical Regulator will be seeking expressions of interest for a Plumbing installations Inspector in the coming months.

## List of Common Australian Standards

Australian Standard	Current Publication Date	Public comment / Open/ Closed
<b>ELECTRICAL STANDARDS</b>		
<b>AS/NZS 3000: 2018 +Amend 1 &amp; Amend 2</b> <i>Wiring Rules</i>	30/04/2021	
<b>AS/NZS3000 Amend 3</b> <i>Wiring Rules</i>	01/06/2012	Public comment
<b>AS/NZS 3002</b> <i>Shows, Carnivals and Events</i>	25/06/2021	
<b>AS/NZS 3003</b> <i>Patient Areas</i>	26/03/2018	
<b>AS/NZS 3004.1</b> <i>Marinas and Boats</i>	27/06/2014	
<b>AS/NZS 3004.2</b> <i>Boat Installations</i>	27/07/2015	
<b>AS/NZS 3008.1</b> <i>Selection of Cables</i>	02/02/2017	
<b>AS/NZS 3010: 2017 + Amend 1</b> <i>Generation Sets</i>	01/04/2020	
<b>AS/NZS 3012: 2019</b> <i>Construction and Demolition Sites</i>	04/11/2019	
<b>AS/NZS 5139</b> <i>Safety of Battery systems with Power Conversion equipment</i>	11/10/2019	
<b>AS/NZS 4777.1</b> <i>Grid connection of energy systems via Inverters</i>	30/9/2016	
<b>AS/NZS 4777.2:2020 + Amend 1</b> <i>Grid connection of energy systems via Inverters – Inverter requirements</i>	18/12/2020	
<b>AS/NZS 5033</b> <i>Installation Safety requirements for Photovoltaic (PV)arrays</i>	19/11/2021	
<b>SAPN Service &amp; Installation Rules #32</b>	29/02/2020	Draft

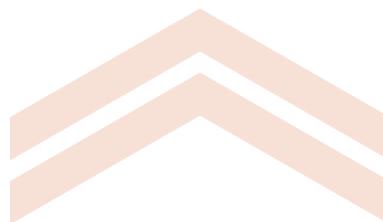
List of Common Australian Standards continued...

# List of Common Australian Standards cont...



Australian Standard	Current Publication Date	Public comment / Open/ Closed
<b>GAS STANDARDS</b>		
<b>AS/NZS 5601 Part 1 Amend 4</b> <i>General Installations</i>	01/10/2020	
<b>AS/NZS 5601 Part 2 Amend 1</b> <i>LP Gas Installations in Caravans &amp; Boats non-propulsive purposes</i>	26/02/2021	
<b>AS 4575</b> <i>Gas Appliances – Servicing Type A Appliances</i>	09/08/2019	
<b>AS 3814</b> <i>Industrial &amp; Commercial gas-fired appliances</i>	25/10/2018	
<b>AS/NZS 4645.1</b> <i>Gas distribution networks – Network Management</i>	28/02/2018	
<b>AS/NZS 4645.2</b> <i>Gas distribution networks – Steel Pipe systems</i>	28/02/2018	
<b>AS/NZS 4645.3</b> <i>Gas distribution networks – Plastic Pipe systems</i>	28/02/2018	
<b>AS/NZS 1596</b> <i>The Storage &amp; Handling of LP Gas</i>	19/04/2014	
<b>PLUMBING STANDARDS</b>		
<b>Plumbing Standard Issued by the Technical Regulator</b>	2020	
<b>AS/NZS 3500 Plumbing and drainage Part 0-</b> <i>Glossary of terms</i>	14/05/2021	
<b>AS/NZS 3500 Plumbing and drainage Part 1:</b> <i>Water services</i>	28/05/2021	
<b>AS/NZS 3500 Plumbing and drainage Part 2:</b> <i>Sanitary plumbing and drainage</i>	28/05/2021	
<b>AS/NZS 3500 Plumbing and drainage Part 4:</b> <i>Heated water services</i>	28/05/2021	
<b>NCC Volume 3- Plumbing Code of Australia</b>	01/05/2019	
<b>AS/NZS 2845.2 Water supply- Backflow prevention devices</b> <b>Part 2: Registered air gaps and break tanks</b>	30/06/2010	
<b>AS/NZS 2845.3 Water supply- Backflow prevention devices</b> <b>Part3: Field testing and maintenance of testable devices</b>	14/02/2020	
<b>AS 2419.1 Fire hydrant installations</b> <b>Part 1: System design, installation, and commissioning</b>	03/09/2021	

At Standards Australia you can view the draft with the latest comments and provide your feedback [here](#).



# [ Contact List ]

## **Electrical Technical Advice**

### **Office of the Technical Regulator**

Level 8, 11 Waymouth Street, Adelaide  
(Reception on Level 4)

Phone: (08) 8226 5518 (8:00am-4:30pm)

Fax: (08) 8226 5529

Email: [otrmail@sa.gov.au](mailto:otrmail@sa.gov.au)

## **Gas Technical Advice**

### **Office of the Technical Regulator**

Level 8, 11 Waymouth Street, Adelaide  
(Reception on Level 4)

Phone: (08) 8226 5722 (8:30am-4:30pm)

Fax: (08) 8226 5866

Email: [otr@sa.gov.au](mailto:otr@sa.gov.au)

## **Plumbing Technical Advice**

### **Office of the Technical Regulator**

Level 8, 11 Waymouth Street, Adelaide  
(Reception on Level 4)

Phone: 1300 760 311 (8:30am-4:30pm)

Email: [otr.plumbenquiries@sa.gov.au](mailto:otr.plumbenquiries@sa.gov.au)

[www.sa.gov.au/otrplumbing](http://www.sa.gov.au/otrplumbing)

## **eCoC Team**

### **Department for Energy and Mining**

Phone: 8429 3394

Email: [dsd.otre-coc@sa.gov.au](mailto:dsd.otre-coc@sa.gov.au)

## **General Information**

### **Licence and Address Change**

Consumer & Business Services

Phone: 131 882

Email: [occupational@sa.gov.au](mailto:occupational@sa.gov.au)

## **Appointments and Information**

### **SA Power Networks**

Builders & Contractors Line

Phone: 1300 6500 14

Fax: 1300 6500 16

### **Australian Standards**

Standards Australia

[www.standards.com.au](http://www.standards.com.au)

## **AGA**

Phone: (03) 9580 4500

[www.gas.asn.au](http://www.gas.asn.au)

## **Training**

### **Gas**

### **Master Plumbers Association**

1 South Road, Thebarton

Phone: (08) 8292 4000

Fax: (08) 8292 4040

### **Gas Services SA**

4/543 Churchill Rd, Kilburn

Phone: (08) 8162 5640

Fax: (08) 8162 5638

### **Gastrain**

U1, 61-65 Tapleys Hill Road,  
Hendon 5014

(PO Box 83, Royal Park 5014)

Phone: (08) 8447 7783

Phone: 1300 955 583

Fax: (08) 8447 7753

[www.gastrain.com.au](http://www.gastrain.com.au)

### **Electrical and Gas TAFE info**

(for all training enquiries)

Phone: 1800 882 661

### **Peer Veet**

Rescue and Resuscitation, First Aid  
& other Industry related courses:

1042 Port Road, Albert Park

Phone: (08) 8348 1200

[www.peer.com.au](http://www.peer.com.au)

## **Electrical**

### **Power Lines/Cables**

### **Clearance Zones**

Between vegetation and power lines  
or building/structures and power lines  
contact the **Office of the Technical**

### **Regulator**

Phone: (08) 8226 5667

**SA Power Networks (SAPN)**

Phone: 13 12 61

## **For locations of Gas, Electricity or Telecommunications**

### **"Dial Before You Dig"**

This service is still available when doing  
emergency excavations at short notice.

Phone: 1100

[www.dialbeforeyoudig.com.au](http://www.dialbeforeyoudig.com.au)

## **For after-hours locations or gas emergency (including LPG)**

**Origin Energy LPG:** 1800 808 526

**Kleenheat:** 1800 093 336

**Elgas:** 1800 819 783

**APA Group Gas leaks:** 1800 427 532

(1800 GAS LEAK)

## **For gas or electrical major incident reporting 24 hours / 7 days (South Australia only)**

### **Office of the Technical Regulator**

Phone: 1800 558 811

This number also appears in the 24-hour  
emergency numbers section at the front  
of the South Australian White Pages

## **Gas Trade contact**

### **APA Group Gas Distribution**

### **Network Operator**

Phone: 1300 001 001

# [ Additional websites for further information ]

## **South Australian Parliament for Acts and Regulations**

[www.legislation.sa.gov.au](http://www.legislation.sa.gov.au)

## **SafeWork SA**

[www.safework.sa.gov.au](http://www.safework.sa.gov.au)

## **Gas Energy Australia (formerly ALPGA)**

[gasenergyaustralia.asn.au](http://gasenergyaustralia.asn.au)

## **Australian Competition and Consumer Commission (ACCC)**

[www.accc.gov.au](http://www.accc.gov.au)

## **Australian Gas Networks Ltd**

(formerly Envestra)

[www.australiangasnetworks.com.au](http://www.australiangasnetworks.com.au)

## **Elgas**

[www.elgas.com.au](http://www.elgas.com.au)

## **Origin Energy**

[www.originenergy.com.au](http://www.originenergy.com.au)

## **Kleenheat**

[www.kleenheat.com.au](http://www.kleenheat.com.au)

## **Australian Standards**

<https://infostore.saiglobal.com/store/>

## **The Backflow Shop – new address:**

27 South Road, Hindmarsh

[www.backflowshop.com.au](http://www.backflowshop.com.au)

## **Tomlinson Energy**

26 Phillips Street

Thebarton SA 5031

[www.tomlinsonenergy.com.au](http://www.tomlinsonenergy.com.au)