Electrical Note July 2022

Access Canberra Electrical Inspections team provide this guidance note to electricians in the ACT on some emerging issues affecting the electrical industry.

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AS/NZS 5033:2021 now active

AS/NZS 5033:2021

Installation and safety requirements for photovoltaic (PV) arrays was published on 18 November 2021. After a six (6) months phase in period the standard AS/NZS 5033:2021 became mandatory on 19 May 2022.

During the six-month transition period, either standard (AS/NZS 5033:2014 or AS/NZS 5033:2021) can be applied to solar PV installations, but in either case, the whole standard will need to be followed. (e.g, if you choose to use the 2021 version the whole standard is to be followed, you are **not** allowed to use some requirements in 2021 version and some of the requirements in the 2014 version).

Now that the phase in period has finished all electrical installations covered by AS/NZS 5033 need to comply with the 2021 publication.

One new clause to be aware of

> **4.4.2.1 General**
> PV d.c. cables shall: conform to IEC 62930 where not installed underground.

ERAC have published a Solar PV Cable Compliance document on the issue of compliant cable on their website to assist electricians understanding of this new requirement.
https://www.erac.gov.au/installations/installations-resources/

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Recall - Greengear LPG Generator 3kW

Product description

Greengear LPG Generator 3kW
Model GE-3000
Part Number 2701003

Greengear LPG Generator 5kW
Model GE-5000
Part Number 2701005

Greengear LPG Generator 7kW
Model GE-7000
Part Number 2701007
4-stroke, electric start engines that use LPG as a fuel to generate electrical power

What are the defects?

The LPG generators are not assessed and certified as safe for use in Australia.

What are the hazards?

Risk of carbon monoxide poisoning if the portable LPG Generator is used indoors or in an unventilated area, which could result in serious illness, injury or death.

What should consumers do?

Consumers should immediately disconnect the unit and contact Bromic on 1300 276 642 or at https://bromicplumbing.com/contact-us to register their details.

Bromic will then arrange collection of the units and offer a full refund for the returned unit.
For further information, contact Bromic Pty Ltd by phone on 1300 276 642 (Monday to Friday, 9am to 5pm) or via the website at https://bromicplumbing.com/contact-us

Additional Information

Supplier: Bromic Pty Ltd
Traders who sold this product:
Industrial and Trade Tool Suppliers
Dates available for sale: 1 Jan 2021 - 31 Dec 2021
ACCC Notice:
Bromic Pty Ltd — Greengear LPG Generator Models GE-3000, GE-5000 and GE-7000 | Product Safety Australia
Recall Notice:
https://www.productsafety.gov.au/system/files/recall/Recall%20advertisement_2728.pdf

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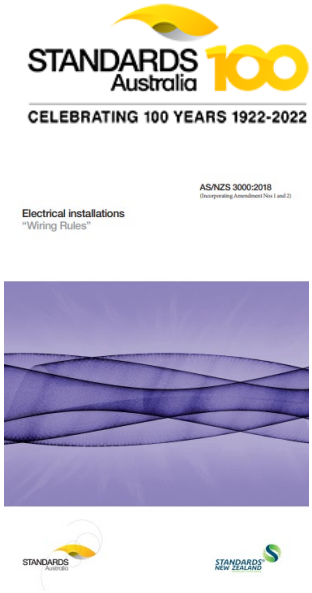
RCDs - Non-domestic & Non-residential installations & Risk Assessments



Electricians in the ACT should be aware of some important changes to the requirements for Residual Current Devices (RCD) in The Australian Wiring Rules. Your attention is drawn to the following clauses from **AS/NZS 3000:2018 A2**;

> **2.6.3.2.2** *Domestic and residential installations (AU)*
> Additional protection by RCDs with a maximum rated residual current of 30mA shall be provided for all final subcircuits in domestic and residential electrical installations.

In Domestic and residential installations, care should be taken when designing the installation to minimise nuisance RCD tripping due to combined leakage currents of electrical equipment.

> **2.6.3.2.3** *Non-domestic and non-residential installations (AU)*
> **2.6.3.2.3.3** *Requirements for additional protection*
> Additional protection by RCDs with a maximum rated residual current of 30 mA shall be provided for final subcircuits with a rating not exceeding 32 A supplying—
> (a) socket-outlets; or
> (b) lighting; or
> (c) direct connected hand-held electrical equipment, e.g. directly connected tools; or
> (d) direct connected electrical equipment that represents an increased risk of electric shock.
> Factors that may represent an increased risk of electric shock include but are not limited to—
> (i) external influences (refer Clause 1.5.14); and
> (ii) type of electrical installation and processes being conducted (e.g. workshops and particular industrial activities).
>
> NOTE: For all other final subcircuits with a rating not exceeding 32 A for direct connected equipment, additional protection by RCDs with a maximum rated residual current of 30 mA should be considered.

Electricians are advised,

- **Clause 1.5.14** *Protection against external influences*

The list provided in the clause is not exhaustive, and each installation's circumstances must be assessed for all relevant risk factors.

Where employees, customers, and visitors encounter such equipment in commercial and industrial settings, contacts are likely to be more frequent, compared with residential installations.

Access Canberra Electrical Inspections recommends that electricians fit RCDs designed to trip at 30mA leakage for all final sub-circuits up to 32A in all non-residential installations where employees and visitors can encounter electrical equipment.

Where an electrician chooses not to install an RCD on a final subcircuit under this clause, the electrician should ensure they have a risk assessment of why they elected not to install an RCD. The risk assessment should show acceptance by the Person Conducting a Business or Undertaking (PCBU) of the electrical installation.

The risk assessment may be required if there is an investigation into an accident that an RCD could have prevented.

AS/NZS 3000:2018 A2 clause 2.6.3.2.3 *exceptions*.
Where an electrician is using exceptions 2 & 3 as listed under this clause not to install an RCD on a final subcircuit, the Access Canberra electrical inspections team will need to see a copy of the risk assessment to support the decision not to install an RCD on that final subcircuit. The risk assessment is to show acceptance by the Person Conducting a Business or Undertaking (PCBU) of the electrical installation.

The risk assessment may be required if there is an investigation into an accident that an RCD could have prevented. Also, the risk assessment will assist the Electrical Inspector understand your circumstances for the exemption.

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Automatic Mutual Recognition in the ACT

The Automatic Mutual Recognition (AMR) scheme will be expanded from 1 July 2022, to allow workers to use their occupational registration or licence from their home state (where they live or complete most of their work activities) to work in other Australian states or territories without needing to pay additional fees or apply for a separate registration.

However, the Mutual Recognition Act 1992 also allows for an occupation to be exempted from the scheme for up to five years where significant risks exist to consumer protection, environment protection, animal welfare or the health and safety of workers or the public.

The Chief Minister of the ACT is satisfied that under the AMR scheme such a risk exists to activities covered by the occupations of: builder, building assessor, building surveyor, drainer, electrician, gasfitter, gas appliance worker, plumber, plumbing plan certifier, and works assessor. More information can be found Federal Register.

These occupations will be exempted from the AMR scheme until 1 July 2025.

This means that workers whose home state is not the ACT, will not be able to rely on AMR to work in the ACT until the exemption expires. Licensing arrangements for builder, building assessor, building surveyor, drainer, electrician, gasfitter, gas appliance worker, plumber, plumbing plan certifier, and works assessor occupations in the ACT do not change, and Mutual Recognition continues to be available to interstate workers to become licensed in the ACT.

If the ACT is your home state and you would like to work interstate, you may be able to use your existing ACT licence to do so. You must check that your licence is eligible for AMR in the other state or territory and comply with the rules and regulations in that state or territory. This may include notifying the local registration authority.

If you wish to use the AMR scheme in another state or territory, you will work under an Automatic Deemed Registration (ADR). This will allow you to carry out the activities permitted by your existing licence under the same terms and conditions.

All states and territories are participating in the AMR scheme, except for Queensland.

As a licensee working in another state under AMR, you must also comply with all laws that apply to your occupation and related licensed activities in the second state. This may include obtaining other approvals to carry out occupational activities such as approval of premises, equipment or vehicles; meet Public Protection Requirements (financial protections such as holding insurances or trust accounts); or obtaining a Working with Vulnerable People card.

You won't be eligible for AMR in a second state or territory if you are the subject of current disciplinary proceedings (which includes current demerit points), have conditions applied to your licence due to criminal, civil or occupational proceedings, have been refused a licence for the occupation previously, or your licence or ADR is suspended or cancelled.

For more information, go to the Access Canberra website or you can call Access Canberra on 13 22 81.

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Interval Meters Reference Neutral

Metering installers and Meter Panel manufactures are reminded that in the ACT all new metering installations should be installed as reference neutral systems to the electricity meter.

The requirement comes from AS/NZS 3000:2018 A2 clause 1.6.1 (e) ***reduce inconvenience in the event of a fault.***

It is the opinion of Access Canberra Electrical Inspections, that the use of wiring systems that have full neutral current through electrical equipment such as the electricity meter, (known in the industry as the ANNA system) where alternative wiring methods are available, is not consistent with the intent of this clause.

While AS/NZS 3000:2018 A2 ***Part 2 Installation practices*** has no deemed to comply clause on this subject, the **"principles"** of clause 2.2.1.3 would apply, even though this clause is about common neutrals in circuits of an electrical installation.

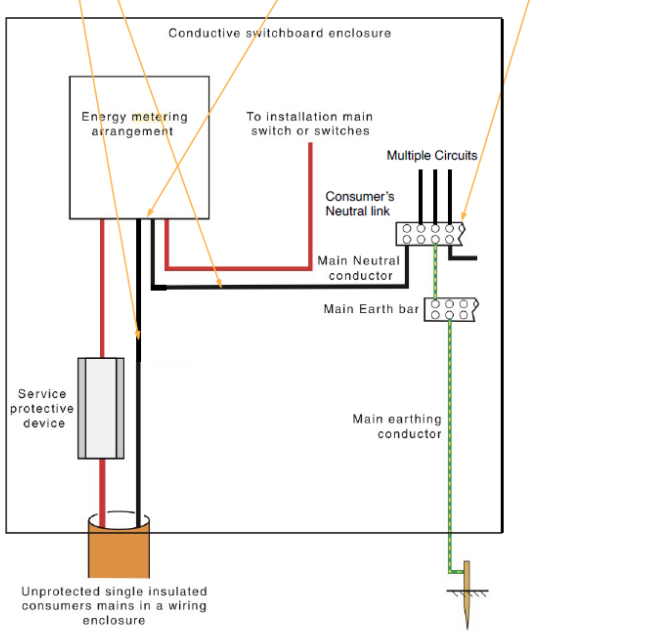
Below is an attachment providing additional information on this clause.

2.2.1.3 *Common neutral*

Each single-phase circuit, and each multiphase circuit that requires a neutral conductor for the operation of connected equipment, shall incorporate a neutral conductor.

A common neutral conductor may be used for two or more circuits originating from the same supply subject to the following conditions:

(a) The continuity of the common neutral conductor shall not depend on connections at the terminals of electrical equipment, including control switches.



Electricians are reminded to consult with their Switch Board / Meter Panel manufactures to ensure the correct systems are provided.

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Frequently Asked Questions (FAQ)

The Access Canberra electrical inspections team have published Frequently Asked Questions (FAQ) and fact sheets on several subjects that are either a concern for compliance, or where the electrical industry can benefit from our assistance.

The FAQs can be found on our web site at: Construction industry information (act.gov.au)

If you think additional content is required, send us an email.

The FAQs will be updated as new questions come in and Australian Standards are updated.

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Email Address and Contact Information

All licensed construction professionals in the ACT are required to keep their details up-to-date, and to notify Access Canberra within seven (7) days of any change. Use this link to access the change of address form.

Not only do we use your email address to keep you up to date with emerging issues affecting the electrical industry, the

- Licensing team need it to send out your licence reminders.
- Electrical inspections team need it to send out inspections reminders and results.

Where you use a work email address, consider to also use a personal email address, for those times you are on leave or change employers and we need to let you know of an important issue.

Did you know Access Canberra provides a list of construction professionals on their website? Visit Construction Professionals (act.gov.au) https://www.accesscanberra.act.gov.au/s/contstruction-professionals

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Electrical Inspector Advice, Interpretations & Defect Reviews

Advice

Electricians requiring advice on Wiring Rules interpretations should check out our FAQ page Construction industry information (act.gov.au) and should additional information be required they can contact the electrical inspections team by email; Electrical.Inspections@act.gov.au.

To aid in providing consistent advice to the electrical industry, only the electrical inspections team managers will respond to your enquiry. If you pose a question on site to an electrical inspector, this must not be considered as binding advice but as the personal opinion of that inspector.

Defect Questions

If you receive a defect notice from an electrical inspector and you have questions relating to it, please call the inspector who issued the defect notice in the first instance, their mobile number will be on the report.

Should you then have further questions that require a more complex response than the electrical inspector could provide, please email the inspections manager at Electrical.Inspections@act.gov.au.

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Contact Us

Access Canberra Electrical Inspections Team
Phone: 02 6207 7775 (8:30am to 4:30pm) Business Days
Email: Electrical.Inspections@act.gov.au
Web: https://www.accesscanberra.act.gov.au

Previous electrical notices are available at: Construction industry information (act.gov.au)

https://www.accesscanberra.act.gov.au/s/article/construction-industry-information-tab-electrician-notes

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