Metering Topics FAQ

Contestable Electricity Interval Meter Services

The ACT moved to contestable electricity interval meter services in December 2017, with the power of choice reforms, this guide is aimed at providing information to existing and new providers of electricity interval meters in the ACT.

The Word Doc version of this electrical note has been optimised to work with the Navigation Pane enabled. Go to *View* tab then enable *Navigation Pane*.

Question - Licensing

What the requirements in the ACT to work on interval meters?

Answer

The installer of an electricity interval meter in the ACT is to hold an ACT Unrestricted Electricians Licence endorsed for interval metering work.

Electricians that hold an ACT Unrestricted Electricians Licence can apply for an endorsement to add Interval Metering to the licence. You will need to have completed UEENEEG171A or equivalent.

Further information and how to apply for metering endorsement is available at:
https://www.planning.act.gov.au/build-buy-renovate/for-industry/construction-licences/conditions-and-endorsements/interval-metering-endorsements

Please Note:

The electricity distributor in the ACT (Evoenergy) have additional requirements for persons working on or near their network. This notice does not include the additional requirements of Evoenergy, please visit their website for information on these additional requirements.
https://www.evoenergy.com.au/residents/safety-advice/worker-safety

Further reading

How to apply for metering endorsement
Evoenergy - https://www.evoenergy.com.au/
Evoenergy worker safety - https://www.evoenergy.com.au/residents/safety-advice/worker-safety

Question – Electrical Contractor Licence

I am a Metering Coordinator (MC) do I need an ACT Electrical Contractor Licence? I also run an installation company, at what point does a company need an ACT Electrical Contractor Licence and does it need endorsement?

Answer - In The ACT

The Metering Coordinator (MC) does not need an ACT electrical contractor licence unless they directly employ electricians that work in the ACT.

- Where the Metering Coordinator (MC) only use licenced sub-contractors or Field Service Providers (FSB), they do not need an ACT Electrical Contractors Licence.
- Where a (Metering Installation) company provides electrical work and has electricians as
    - employees, the company is required to have an ACT Electrical Contractor Licence and where the work is for interval metering, it is to be endorsed for interval metering.
    - sub-contractors, the company is not required to have an ACT Electrical Contractor Licence.
- The electricians working for the metering installation company are required to have an ACT Unrestricted Electrical Licence that has been endorsed for interval metering.
- In the ACT, an electrician working as a sole trader does not require a contractor licence.

Further information and how to apply for metering endorsement is available at:
https://www.planning.act.gov.au/build-buy-renovate/for-industry/construction-licences/conditions-and-endorsements/interval-metering-endorsements

Without the correct endorsement for interval metering on the electrical contractor's licence and on the electrician's licence, you are not allowed to work on interval meters in the ACT.

Under the *Construction Occupation (Licensing) Act 2004*, penalties apply to the Electrician and Electrical Contractor for working unlicensed or without the correct endorsement.

The Person Conducting a Business or Undertaking (PCBU) should check that their contractors and/or employees are correctly licenced, as failure to do so may also be a breach of WorfSafe ACT regulations. We strongly encourage all companies from the Electricity retailer, Metering Coordinator, Metering Providers to the metering installers, check that all people and companies are correctly licenced and trained.

Please Note:

The electricity distributor in the ACT (Evoenergy) have additional requirements for persons working on or near their network. Please visit their web site for additional information.
https://www.evoenergy.com.au/residents/safety-advice/worker-safety

Further reading

How to apply for metering endorsement
Evoenergy - https://www.evoenergy.com.au/
Evoenergy worker safety - https://www.evoenergy.com.au/residents/safety-advice/worker-safety

Question – Examples of Endorsed Licence

Where can I find information on correctly licenced electrical contractors and electricians?
Also, can you provide examples of correctly licenced electrical contractors and electricians?

Answer

Without providing an endorsement or recommendation of any company or individual, the following examples are from the public register of professionals and are used solely for illustrative purposes.

All electrical contractors and electricians that work on interval meters are to have in the Class Condition / Endorsement line of their licence, the statement that it is also for interval metering

Examples.

The public register of licenced professionals is located on the Access Canberra website at:
https://www.accesscanberra.act.gov.au/app/services/licence/#/
Go to Electricians,
In the Filter box use, interval metering as the filter, then to search electrical contractors only, deselect all categories except Electrical Contractor.
The Electrical Contractors with the required endorsement (interval metering) will now display.
Near the top of the list is ACTEWAGL DISTRIBUTION (NEW ENERGY), select details, then the screen shot below displays. You can repeat for electricians as well, by only having the category Unrestricted selected.

An example from our public register of an electrical contractor who **can** work on interval meters

ACTEWAGL DISTRIBUTION (NEW ENERGY)

Occupation:	Electrician
Licence No:	**20191041**
Expiry Date:	**28 October 2022**
Class Description:	Electrical Contractor
Class Condition / Endorsement:	Also Valid for Interval Metering Work.

An example from our public register of an electrician who **can** work on interval meters.

BARRY RICHARD VINEY

Occupation:	Electrician
Licence No:	**19812238**
Expiry Date:	**3 July 2021**
Class Description:	Unrestricted
Class Condition / Endorsement:	Also valid for interval metering work.

An example of an electrician who cannot work on interval meters.

MICHAEL HENRY MOSSLAR

Occupation:	Electrician
Licence No:	**19863688**
Expiry Date:	**3 July 2021**
Class Description:	Unrestricted
Class Condition / Endorsement:	None

Further information

Further information and how to apply for metering endorsement is available on the Planning ACT website at: https://www.planning.act.gov.au/build-buy-renovate/for-industry/construction-licences/conditions-and-endorsements/interval-metering-endorsements

Certificates of Electrical Safety (CES)

All electrical work is to be reported to the regulator by the submission of a CES form, (except for work done by the Utility/Distributor on the distribution network). The installation, removal, and replacement of interval meters requires a CES form to be submitted. Addition information on the submission processes is available on the Planning ACT website at: https://www.planning.act.gov.au/build-buy-renovate/for-industry/regulation/inspections/electrical-inspections

Under the *ACT Electricity Safety Act 1971*, penalties apply to the Electrician and Electrical Contractor for failing to report electrical work.

Further reading

How to apply for metering endorsement
The *ACT Electricity Safety Act 1971*

Appendix

CES – Certificate of Electrical Safety

Question - Reporting the work

Do you need to report work on interval meters, and how is this done?

Answer

All electrical work is to be reported to the Registrar using the web form *Certificate of Electrical Safety* (CES) within 14 days of installing and testing your work, using the following categories;

New

Where the installation is metered for the first time

Additions / Alterations

Where existing meters are relocated to a new position.
When an existing meter is changed, and the wiring system is altered to accommodate the new meter.

Repair

Where an existing electricity interval meter is replaced and is a like for like replacement. IE: The make and model of the meter can change if the wiring system and load stay the same.

Further information is available on the Planning website at: https://www.planning.act.gov.au/build-buy-renovate/for-industry/regulation/inspections/electrical-inspections

Further reading

Certificate of Electrical Safety: *Certificate of Electrical Safety*
Additional information on CES forms: Electrical inspections page

Appendix

CES – Certificate of Electrical Safety

Question – Fee and Charges for CES Forms

What are fees for submitting a CES form?

Answer

Information on the current fees and charges is available on the ACT Planning website at: https://www.planning.act.gov.au/build-buy-renovate/build-buy-or-renovate/before-you-start/regulatory-fees

The fees are incremented each year on 1 July for CPI so they cannot be listed in the FAQ, you need to download the fees and charges guide PDF.

For any metering work on building projects, obtain the Building Approval (BA) number from the owner or builder before submitting the *Certificate of Electrical Safety* (CES form), as the CES form is exempt from fees when you have a BA number for that building project.

Question – Copy Of CES Forms

At present our technicians are submitting the certificate via the Webform on the Access Canberra website but there has been query around the requirement to provide the Premise/Landowner a copy of the form as well. Would you please be able to confirm if this is a requirement and if so, with the form being an online submission, the best course of action to do so?

Answer: (Updated 13 Oct 2020)

Yes, you are required to supply a copy of the CES form to the installation owner for which the work was done.

The online smart form has a spot at the end to place additional email addresses in, and the best method is to place an email address in for the homeowner and Access Canberra will email a copy to them. You may choose to email the copy of the CES form from your office, or get the Retailer to email the owner, or you can use Australia Post to mail a copy to them. How the owner gets their copy is up to you, but they must get it within 14 Days of the work being done.

This requirement comes from the ACT Electricity Safety Act 1971, Section 6.

Further reading

Certificate of Electrical Safety: *Certificate of Electrical Safety*
Additional information on CES forms: Electrical inspections page
The *ACT Electricity Safety Act 1971*

Appendix

CES – Certificate of Electrical Safety

Question – Authorisation Stickers

The distributor has energised the supply to the meter box, under what conditions can the metering installer connect the electrical installation switchboard to supply?

Answer

It is an offence under the ACT Electricity Safety Act 1971 to connect an electrical installation to the electricity network before it has been inspected by an Access Canberra electrical inspector.

Section 4 of the Electricity Safety Act 1971 states;

(1) A person commits an offence if—

(a) the person connects a new electrical installation to an electricity network; and

(b) the installation has not been inspected, tested and passed by an inspector.

Maximum penalty: 50 penalty units, imprisonment for 6 months or both.

To provide an easy system for electricians to understand when an electrical installation has been inspected and ready for connection to the electricity network, the Access Canberra electrical inspectors will place an "**authorisation to connect sticker**" in the meter box.

Where the electrical inspector has placed an authorisation to connect sticker at the metering location, the electrical installation at that point can be connected to supply when available. A Certificate of Electrical Safety (CES form) needs to be submitted within 14 days.

Where the authorisation to connect sticker is not in place and where safe to do so, the supply to the meter may be connected and left on. After the meter is installed, the metering electrician is required to seal the installation's main switch in the open position and to place a Danger Tag on it, to prevent the installation from being ***inadvertently energised***. A CES form is still required within 14 days, and the installer should coordinate with the electrical inspections team a suitable inspection time.

Please Note:

The electrical inspectors use two colour coded authorisation stickers.

- Yellow is for temporary supplies only. (e.g. Building site power.)
- White is for permanent installation authorisation.

Further reading.

Electricity Safety Act 1971 - https://legislation.act.gov.au/a/1971-30/
AS/NZS 3000:2018 A1 Clause 1.5.2 Control and isolation.
AS/NZS 3000:2018 A1 Clause 1.4.74 Isolated.

Appendix

CES – Certificate of Electrical Safety
AS/NZS 3000 – Also known as the Australian and New Zealand Wiring Rules, compliance to this standard is mandated by the Electricity Safety Act 1971
AS/NZS 3000:2018 A1 – Refers to Amendment 1 of the 2018 version of AS/NZS 3000

Question - Lock Out Tag Out

What are the requirements to seal the installation's main switch in the open position and to place a Danger Tag on it?

Answer

Electricians should note that Regulation 156 of the Work Health and Safety Regulation 2011 regarding securing low voltage isolation and access provides:

"A person conducting a business or undertaking must ensure that electrical equipment that has been de-energised to allow electrical work to be carried out on it is not inadvertently re-energised while the work is being carried out."

The Code of Practice on how to manage electrical risks in workplaces is an approved code of practice under section 274 of the Work Health and Safety Act 2011 and applies to anyone who has a duty of care in the circumstances described in the code.

Pages 29 to 33 of the code provides the minimum requirements necessary to achieve compliance regarding low voltage isolation and access of electrical equipment and circuits by electrical workers in the ACT.

Please Note

Tape across the circuit breaker does not meet the requirements of The Code of Practice on how to manage electrical risks in workplaces and does not comply with AS/NZS3000:2018. A physical restraint is required, see AS/NZS3000:2018 A1.

Clause 1.5.2 Control and isolation, and
Clause 1.4.74 Isolated
Separated from all possible sources of electrical energy (supply) and rendered incapable of being energized unintentionally. [Source: AS/NZS 4836]

Further reading.

Work Health and Safety Regulation 2011
Code of Practice on how to manage electrical risks in workplaces
AS/NZS 3000:2018 A1 Clause 1.5.2 Control and isolation.
AS/NZS 3000:2018 A1 Clause 1.4.74 Isolated.

Appendix

AS/NZS 3000 – Also known as the Australian and New Zealand Wiring Rules, compliance to this standard is mandated by the Electricity Safety Act 1971
AS/NZS 3000:2018 A1 – Refers to Amendment 1 of the 2018 version of AS/NZS 3000

Question – Danger Tags

What rules govern danger tags, and what are the requirements?

Answer

Electricians should note that Regulation 156 of the Work Health and Safety Regulation 2011 regarding securing low voltage isolation and access provides:

> ***"A person conducting a business or undertaking must ensure that electrical equipment that has been de-energised to allow electrical work to be carried out on it is not inadvertently re-energised while the work is being carried out."***

The Code of Practice on how to manage electrical risks in workplaces is an approved code of practice under section 274 of the Work Health and Safety Act 2011 and applies to anyone who has a duty of care in the circumstances described in the code. The code provides the minimum requirements necessary to achieve compliance regarding low voltage isolation and access of electrical equipment and circuits by electrical workers in the ACT.

Please Note

Tape across the circuit breaker (or RCBO) does not meet the requirements of The Code of Practice on how to manage electrical risks in workplaces and does not comply with AS/NZS3000:2018 A1. A physical restraint is required, see AS/NZS3000:2018 A1;

- Clause 1.5.2 Control and isolation, and
- Clause 1.4.74 Isolated

Separated from all possible sources of electrical energy (supply) and rendered incapable of being energized unintentionally. [Source: AS/NZS 4836]

Further reading

AS/NZS 3000:2018 A1 clause 1.5.2 *Control and isolation.*
AS/NZS 3000:2018 A1 clause 1.4.74 *Isolated*
AS/NZS 4836:2011 - *safe working on or near low-voltage electrical installations and equipment*
Work Health and Safety Regulation 2011
https://www.legislation.act.gov.au/sl/2011-36/default.asp
Model Code of Practice: Managing electrical risks in the workplace
https://www.safeworkaustralia.gov.au/doc/model-code-practice-managing-electrical-risks-workplace
WorkSafe ACT - https://www.worksafe.act.gov.au

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AS/NZS 3000 – Also known as the Australian and New Zealand Wiring Rules, compliance to this standard is mandated by the Electricity Safety Act 1971
AS/NZS 3000:2018 A1 – Refers to Amendment 1 of the 2018 version of AS/NZS 3000

Question - Embedded Generation

What is the process for installing a meter on embedded generation systems like PV or battery systems?

Answer

Under this category of work, approval must be obtained from the Electricity Network Distributor Evoenergy before the embedded installation, and electricity interval metering work is done. It is the responsibility of the metering installer to ensure that Evoenergy has approved the embedded installation before they connect it to the electricity network, and the processes below assumes that Evoenergy has already provided the required approvals;

Process 1.

Where embedded generation is added to an existing electrical installation, the electricity interval meter can be connected to supply and the electrical installation, then a CES form submitted within 14 days.

Process 2.

Where embedded generation is added to or is part of a new electrical installation, the electricity interval meter cannot be connected to the installation, until the electrical installation is approved by the electrical inspector.

Further reading

ACT's Electricity distributor Evoenergy - https://www.evoenergy.com.au/

Question - Mandatory Testing

In cases where an existing interval electricity meter is replaced (new for old) do the requirements set out by AS/NZS 3000:2018 A1 (8.3.3 – Mandatory Testing), which states that polarity testing is mandatory, apply?

I am concerned that in situations where access to the MEN and Main Switch is not available at the interval electricity meter, that a visual test will not identify mistakes and visual testing only may not satisfy the requirements of AS/NZS 3000.

Answer

Polarity and phase rotation will be required to be tested at the main switch to be compliant with the mandatory tests in section 8 of AS/NZS 3000:2018 A1.

AS/NZS 3000:2018 A1 clause 8.1.2 states in part;

> *Where the electrical installation is an alteration or repair to an existing electrical installation, it shall be verified that the alteration or repair complies with this Standard and does* ***not impair*** *the safety of the existing electrical installation.*

For this clause to be complied with, the polarity of the electrical installation should be confirmed at the main switch and MEN point of any electrical installation. Should these points not be accessible to the electrician **before** and **after** a meter replacement, it would not be possible to comply with clause 8.1.2 or clauses such as 8.3.7 which requires mandatory testing.

Clause 8.1.2 does not require the metering electrician to inspect and test the entire electrical installation, only to ensure that their work has ***not impaired*** the safety of the existing electrical installation. For that to occur, suitable tests should be undertaken **before** and **after** a meter replacement. In addition to all the other tests that are conducted, polarity and phase rotation need to be confirmed to ensure the new meter has not changed any of this.

Further reading

AS/NZS 3000:2018 A1 clause 8.3 TESTING
AS/NZS 3000:2018 A1 clause 8.3.3 Mandatory tests
AS/NZS 3000:2018 A1 clause 8.3.3.1 (c.) Polarity, in accordance with Clause 8.3.7.
AS/NZS 3000:2018 A1 clause 8.3.7 Polarity
AS/NZS 3000:2018 A1 clause 5.1.3 MEN earthing system
Electricity Safety Act 1971 - https://legislation.act.gov.au/a/1971-30/

Appendix

MEN – Multiple Earthed Neutral
AS/NZS 3000 – Also known as the Australian and New Zealand Wiring Rules, compliance to this standard is mandated by the Electricity Safety Act 1971
AS/NZS 3000:2018 A1 – Refers to Amendment 1 of the 2018 version of AS/NZS 3000

Question - ANNA configuration

Can you please define when the meter wiring configuration must be brought up to the correct standard, with an MPD (when applicable) and removing the ANNA configuration? (e.g. for Gross to Net meter exchanges)

Answer

When a meter is replaced and the wiring configuration is not changed, (e.g. not changed from ANNA to referenced neutral) this is classed as a Repair, so needs to comply with the original installation standard, the addition of an MPD or isolator adjacent the meter is not required.

Where the metering configuration is changed from ANNA to referenced neutral, this is an Alteration and needs to comply with current requirements for a Service Protection Device (SPD), Metering Protection Device (MPD), and Metering Isolator.

If the meter box is upgraded / replaced, this is an Alteration of the existing installation and needs to comply with today's requirements.

There currently is no requirement in the ACT to change legacy meters using the ANNA system to a reference neutral system, as they comply with the installation rules of the day when it was installed. Any New installation of a single residence meter using the ANNA configuration is contrary to AS/NZS 3000:2018 A1 clause 2.2.1.3 and should not be used.

Further reading

AS/NZS 3000:2018 A1 clause 2.2.1.3

Appendix

ANNA - Configuration name for full Neutral load through an interval electricity meter, indicating the wiring is Active – Neutral – Neutral – Active

Reference Neutral - Configuration name for where only a reference Neutral is provided to the interval electricity meter

SPD - Service Protection Device

MPD - Metering Protection Device

Question – MEN Location

Can you please clarify when a MEN can be left at a Service Neutral Link on a multi-occupancy scenario (e.g. if customer neutral links are supplied in parallel from the service neutral link)?

Answer

Where the metering is replaced like for like.

If you change the configuration from ANNA to referenced neutral, then you would need to move the MEN from the service neutral link. The MEN and the multiple consumer main neutrals would then move to a new consumers neutral link.

Question – Table 5.1 of Evoenergy SIRs

Can you please confirm that as per table 5.1 and clause 5.8.2 of the Evoenergy Service and Installation rules Nov 2019 that all three phase installations must be protected by 3 x 60amp fuses (if so, is this also applicable in a two-phase scenario)?

Answer

We do not provide comment on the distributors Service and Installation Rules. Please contact the distributor (Evoenergy) with any questions on the Service and Installation Rules.
https://www.evoenergy.com.au/

Further reading

Evoenergy Service and Installation Rules. https://www.evoenergy.com.au/

Appendix

SIR's – Service and Installation Rules of the electricity distributor
Evoenergy - The electricity distributor in the ACT (Evoenergy)

Question – Main Switches

AS/NZS 3000:2018 A1 clause 2.3.3.3 allows only one main switch per supply at a domestic electrical installation. Where a PV installation is changed from Gross to Net metering, there is currently multiple main switches present, one for the general installation and one for the PV. Is it permissible for the electrician to net the solar at the supply/line side of the customer main switch, to achieve the net solar metering and keep the two main switches?

Answer

Changing the PV metering from Gross to Net still meets the requirements of AS/NZS 3000:2018 A1 clause 2.3.3.3 (a) since there is a consumption tariff and a generation tariff within the same meter.

Since there are two (2) separately metered supplies in the one meter, you can continue to have two main switches.

Metering installations should always be consistent with the Evoenergy Service and Installation Rules, our advice only relates to AS/NZS 3000

Further reading

AS/NZS 3000:2018 A1 clause 2.3.3.3 Number of main switches.
Evoenergy Service and Installation Rules. https://www.evoenergy.com.au/

Appendix

SIR's – Service and Installation Rules of the electricity distributor
Evoenergy - The electricity distributor in the ACT (Evoenergy)
AS/NZS 3000 – Also known as the Australian and New Zealand Wiring Rules, compliance to this standard is mandated by the Electricity Safety Act 1971
AS/NZS 3000:2018 A1 – Refers to Amendment 1 of the 2018 version of AS/NZS 3000

Question – Two Wires in Meter Terminals

Is there anything in the standard which prevents us from terminating two (2) wires in the same meter terminal? I have not found anything in AS/NZS 3000:2018 A1 which specifically prohibits this, but I have found that the Evoenergy Service and Installation Rules (SIR'S) clause 5.13 does not allow this.

Answer

AS/NZS 3000:2018 A1 does not preclude the method you propose, of having two active wires in the one terminal of electrical equipment and in this case an interval electricity meter.

It is also acceptable to place the active of the PV generation main switch on the supply/line side of the installations main switch.

With regards to the Service and Installation Rules (SIR's) clause 5.13 part of your question, we do not provide comment on the SIR's. Please contact Evoenergy with any questions on the SIR's.
https://www.evoenergy.com.au/

Please Note

- Always check the manufacturer's instructions. Check that the main switch terminal is rated for a 16mm^2 and an extra 6mm^2 wire, or the sizes you are using.
- Always check the manufacturer's instructions. Check that the meter terminal is rated for a 16mm^2 and an extra 6mm^2 wire, or the sizes you are using.
- There are some restrictions in having multiple neutrals in the one terminal (AS/NZS 3000:2018 A1 Clause **2.10.4.3** *Neutral bar*)
- This advice does not cover the situation where there are two Net feed in tariffs or both Net and Gross feed in tariffs at an installation.

Further reading

AS/NZS 3000:2018 A1 clause 2.3.3.3 *Number of main switches.*
AS/NZS 3000:2018 A1 clause 2.10.4.3 *Neutral bar*
AS/NZS 3000:2018 A1 clause 2.10.6 *Wiring*

Appendix

Evoenergy – An electricity distributor located in the ACT. https://www.evoenergy.com.au/
Gross – Refers to an export feed in tariff where all the generation is metered
Net - Refers to an export feed in tariff where the generation minus the installation load is metered.
PV – PhotoVoltaic generating system.
SIR's – Service and Installation Rules of the electricity distributor
AS/NZS 3000 – Also known as the Australian and New Zealand Wiring Rules, compliance to this standard is mandated by the Electricity Safety Act 1971
AS/NZS 3000:2018 A1 – Refers to Amendment 1 of the 2018 version of AS/NZS 3000

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 this link:
https://www.accesscanberra.act.gov.au/app/answers/detail/a_id/2998/kw/electrician%20note#!tabs-5

Version Control

V1 - September 2020 – First release
V2 - October 2020 – Updated and replaces V1
V3 - 09 October – Added in fact sheet contestable metering and replaces V2
V4 – Not Published – Added new item on Copy CES forms