



3 November 2022

Andrew Swanson  
Senior Advisor  
Australian Energy Market Commission

Submitted via website: [www.aemc.gov.au](http://www.aemc.gov.au)

Dear Andrew,

**Re: EMO0045: Technical standards for distributed energy resources**

CitiPower, Powercor and United Energy welcome the opportunity to respond to Australian Energy Market Commission's (AEMC) consultation on the Review into Consumer Energy Resources (CER) Technical Standards.

Given the prevalence of non-compliance with CER technical standards we strongly support the AEMC undertaking this review. In an effort to curb non-compliant installations and associated network problems, we have introduced a commissioning sheet which seeks to ensure that solar inverter installations are compliant with the 'Australian A' standard. However, we see this measure as being an interim solution as it does not address the underlying root causes of the problem.

For this reason, we are especially pleased that the AEMC is considering the market impact of non-compliance and the regulatory context for improving compliance including the introduction of reforms to address these issues.

In undertaking this review, we recommend the AEMC consider the following matters in its forthcoming report:

- The low rate of compliance with existing CER technical standards flows from issues at all identified stages in the consultation paper, being manufacture, installation and ongoing maintenance.
- The commissioning sheet is a temporary measure to drive higher compliance with CER technical standards, not the final solution.
- While distributors are best placed to monitor compliance, they are not the appropriate enforcement body. We submit the appropriate enforcement body is the Clean Energy Regulator.
- The market impacts for consumers for non-compliant CER devices such as a less secure and reliable power supply, increased network expenditure and reduced ability to install CER.
- Compliant CER devices reduce the need for distributors to make investments into costly voltage management services.

We discuss these matters in further detail below.

**1. There are poor levels of compliance with CER technical standards at the manufacturing, installation and maintenance stages**

We agree with the AEMC's position in the consultation paper that there are factors contributing to non-compliance with CER technical standards at the manufacture, installation, and ongoing maintenance stages.

There are significant non-compliance levels with CER technical standards and as the AEMC paper acknowledges, after undertaking an analysis of our smart meter data, we saw 80% of all distributed energy resource

connections on our networks since December 2019 either have no smart inverter settings or incorrect settings applied.<sup>1</sup>

To address this issue, it is important that there is a clear and effective regulatory framework to enforce standards on manufacturers and installers.

At the manufacturing stage, it needs to be made abundantly clear by manufacturers how to select the 'Australian A' standard setting. Confusion and selection of the wrong settings is a key driver of non-compliance. It is imperative that inverters being sold into Australia are deployed with the appropriate firmware to meet current Australian standards. We have made significant progress engaging with original equipment manufacturers (OEMs) regarding the configuration of the settings within the inverters. However, this is a piecemeal approach performed on an 'ad hoc' basis and not sustainable as a long-term solution.

At the installation stage, installers need to be appropriately trained on the appropriate standard setting and be educated on the importance of selecting the right setting. Currently, despite the significant network implications there are minimal consequences for installers who select the wrong setting.

With respect to ongoing maintenance and operation, this will require ongoing dialogue and engagement with solar installers and OEMs to ensure they are aware of any changes in inverter settings. Some OEMs are working closely with us to identify non-compliant inverters and investigate applying remote firmware updates to support compliance as a default setting.

We also support inverters being connected to the internet to allow inverter settings to be updated remotely in the future should the CER technical standard be changed.

## **2. We have introduced a commissioning sheet to drive higher compliance with CER technical standards**

To address issues with solar inverter non-compliance with the CER technical standards, we have introduced a commissioning sheet which is a new requirement in the inverter installation process. This came into effect from 1 October 2022 and all new solar connections are now required to produce a commissioning sheet which evidences that an inverter has been installed in accordance with the Australian Standards.

We believe that through the introduction of our commissioning sheet, consumers will become more familiar with their requirement to comply with CER technical standards. This is because they will be precluded from receiving any feed-in-tariff until such time as their inverter settings have been deemed compliant (it is important to note that this will not prevent consumers from generating and using solar from their new system or from exporting excess).

The commissioning sheet also provides us with a means to embed compliance at the installation point and maintain the onus on installer to ensure installations are correct. These checks are initially being performed manually with a view to automate the process in the future.

To minimise the risk of the installation of inverter models less likely to be compliant with the Australian Standard installed, we have nominated a selection 'of preferred inverters' on our new commissioning sheet. This is because our studies have found that the brand of inverter is a key variable when assessing compliance. We intend to expand this list when more inverters demonstrate high level of installation compliance.

Since the introduction of the process, we have experienced limited success in obtaining valid commissioning documents with submission of the solar applications. Difficulties we have experienced are through arise through registered electrical contractors (REC) who:

- Attach their own personal commissioning sheets/technical document.
- Attach a Certificate of Electrical Safety (CES) or Electrical Work Request (EWR) instead.

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<sup>1</sup> CitiPower, Smart inverter compliance briefing paper, 30 August 2022, p. 1.

- Provide a Clean Energy Council commissioning checklist.

We are expecting better outcomes with respect to valid documentation in the future once installers become better educated and familiar with the new processes.

While this process will drive higher compliance with CER technical standards, we see this as being only 'one piece of the puzzle' and we believe that compliance issues will persist until a fit for purpose enforcement framework is introduced.

### **3. Enforcement of CER technical standards should be through the Clean Energy Regulator not distributors**

Currently CER technical standards are poorly enforced and as the AEMC is aware there are few avenues available for distributors to enforce compliance short of disconnection.

Without an effective enforcement regime there is little incentive for non-NEM participants (such as OEMs and installers) to comply with CER technical standards. We would like to see a situation where the costs of failing to comply with the Australia Standard outweigh the costs associated with meeting compliance targets.

We expect that the flow on from this will be that as compliance with CER technical standards amongst non-NEM participants improves, manufacturers and solar installation businesses will naturally drive even higher compliance rates as they strive to 'keep up with competition'. This will be because distributors and customers will not want to work with manufacturers and installers producing inferior work or products.

In our submission to the AEMC on 7 October 2021 relating to the Governance of distributed energy resources technical standards, we advocated for the Clean Energy Regulator having a larger role when it comes to compliance and enforcement and our position remains unchanged.

We continue to support a model where the Clean Energy Council is responsible for installer accreditation, the Clean Energy Regulator takes on the enforcement role and distributors are responsible for identifying and relaying incidences of non-compliance to the Clean Energy Regulator on the basis of an agreed memorandum of understanding.

We also continue to support the AEMC clarifying the enforcement mechanisms for lack of compliance with CER technical standards on other parties including manufacturers and customers.

### **4. Non-compliance with CER technical standards is detrimental to consumers**

Consistent with the AEMC's findings, the major market impacts of non-compliance are a less secure and reliable power supply, increased network expenditure and reduced ability to install CER.

Every non-compliant inverter creates an avoidable reduction in hosting capacity, limits future export equity for customers and impacts our ability to efficiently control voltage for everyone.

Non-compliant inverters can lead to solar customers experiencing frequent trips to their system, customers seeing lower returns than expected and new solar customers in the neighbourhood being prevented from exporting excess energy. It can also lead to network wide issues such as voltage and power quality issues for all local customers and high-cost network upgrades.

The cost to device owners for compliance with CER technical standards is low. Provided the inverter is installed correctly, they should see minimal compliance costs. The greatest compliance cost to device owners will be in situations where they have had their inverter installed with the incorrect settings and it requires remediation. In certain scenarios we may be able to correct settings remotely where an internet connection has been enabled at minimal to no cost.

## 5. Non-compliance with CER technical standards necessitates costly investments by distributors

There are significant benefits for distributors if customer installations are compliant with the CER technical standards. We are obligated to actively manage and monitor voltages across our networks to ensure we maintain power quality for all customers. The National Electricity Rules (NER) and the Victorian Electricity Distribution Code of Practice require us to use best endeavours to minimise the frequency of voltage variations. The voltage impacts arising from high volumes of non-compliant solar inverters are genuine risks to meeting these obligations.

Inverter compliance is an elegant technical solution to support greater CER integration while effectively managing the resulting voltage impacts. This will remove the need to introduce a new market for competitive voltage management services which would be costly, and ultimately the costs would be borne by customers.

Should you have any queries, please contact Trent Gibson on 0498 318 036 or [trgibson@powercor.com.au](mailto:trgibson@powercor.com.au).

Yours sincerely,



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**CitiPower, Powercor and United Energy**