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23 May 2023

Anna Collyer
Chair, Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

Dear Ms Collyer,

Review into Consumer Energy Resources Technical Standards (EM00045)

SwitchDin welcomes the opportunity to provide feedback to the Australian Energy Market Commission (AEMC) Draft Report for the review into consumer energy resources (CER) technical standards.

SwitchDin is an Australian energy software company that bridges the gap between energy companies, equipment manufacturers and energy end users to integrate and manage energy resources on the grid. SwitchDin's technology enables our clients to build and operate vendor-agnostic virtual power plants and microgrids, and to optimise performance across fleets of diverse assets. Founded in Newcastle NSW in 2014, SwitchDin now operates in all states of Australia, including in leading-edge distributed energy projects like Simply Energy's national Virtual Power Plant (VPP), Flexible Exports (SA, VIC), Project Symphony (WA) and the Solar Connect VPP (NT), among others.

The key challenges with respect to governance of the regulation of CER technical standards remain unresolved. The Commission's acknowledgement of the need for regulatory reform in this area is welcome, however it remains unclear whether, when, and how such a regulatory reform process might proceed. Our submission includes a proposal for a new national technical regulatory framework for CER.

The voluntary actions suggested by the Commission are, for the most part, sensible and pragmatic steps. We have responded to each of the Commission's recommendations for voluntary action.

SwitchDin continues to advocate for the establishment of a new national technical regulatory framework for CER. Regardless of the administrative approach preferred by governments, it is clear that a national technical regulatory framework for CER is required and maintenance of the status quo is not a plausible option.

In its Final Report for this review, we urge the Commission to:

- Outline the process whereby jurisdictions, the AEMC, the Australian Energy Market Operator (AEMO) and Australian Energy Regulator (AER) will progress work to consider the options and viability of reforming the national regulation of CER technical standards,
- Outline who, if anyone, will be responsible for reporting progress of implementation of the voluntary recommendations proposed in the Draft Report,
- Confirm the circumstances in which it is permissible under Australia's national and jurisdictional regulatory frameworks for original equipment manufacturers (OEMs) to remotely update device settings to remedy non-compliance with NER CER technical standards, and

- Provide details regarding the plans by the Clean Energy Regulator to ensure that recommendations relating to the Small-scale Renewable Energy Scheme (SRES) are implemented, and that progress will be measured and publicly reported.

Thank you for the opportunity to respond to these important issues. I remain available for further discussions and inputs.

Best regards,

A handwritten signature in black ink, appearing to read 'D Gladman', with a long horizontal flourish extending to the right.

Darren Gladman
Head of Policy and Regulatory Affairs

Executive Summary

The Draft Report has not addressed the key challenges with respect to governance of the regulation of CER technical standards. Those challenges are:

- Compliance and enforcement frameworks rely on the Small-scale Renewable Energy Scheme (SRES) for their effectiveness,
- The SRES is scheduled to wind up by 2030 and is expected to become less of an incentive for compliance and enforcement as the value of the SRES rebate is reduced annually,
- Connection agreements between customers and distribution network service providers (DNSPs) will become more important for compliance and enforcement purposes as the value of the SRES reduces, and
- DNSPs' connection agreements were not designed as a tool for CER compliance and enforcement and reforms are needed to ensure they will be fit for that purpose in future.

The scope of the review required the Commission to consider:

- Compliance with, and enforcement of, CER technical standards in the National Electricity Rules (NER),
- The interpretation of standards by National Electricity Market (NEM) participants and others
- Interactions between the NER and other regulatory regimes.

The Draft Report has not clarified the regulatory framework for interpretation and enforcement of CER technical standards in the NEM. The lack of clarity regarding enforcement of technical standards for CER is the source of the high level of non-compliance at the installation stage. We concur with AEMO's observation¹ that, "Compliance monitoring and assessment is the key function that needs roles and responsibilities clarified" and that "roles and responsibilities should confer enforcement powers, provide a conflict resolution mechanism and include consumer protections".

The voluntary actions suggested by the Commission are, for the most part, sensible and pragmatic steps. However, we are concerned by the suggestion that the voluntary actions may be "sufficient" if they result in better rates of compliance with the inverter settings required by DNSPs. This approach would be understandable if inverter settings were the only issue materially affected by lack of clarity regarding governance of the regulation of CER. However, inverter settings are just one symptom of confused governance. Even if the issue of AS/NZS 4777.2:2020 compliance can be solved through voluntary actions, the problems in the governance of regulation of CER technical standards will remain. This conclusion is supported by AEMO², which notes there are "significant deficiencies in governance frameworks for monitoring and enforcing compliance with technical settings in the field".

SwitchDin continues to advocate for the establishment of a new national technical regulatory framework for CER, which could be achieved by:

- the creation of a new National Technical Regulator,
- reform of the AER and the Clean Energy Regulator, or
- the creation of a new regulator and the reform of the two existing energy regulators.

¹ AEMO (2023), *Compliance of Distributed Energy Resources with Technical Settings*, available [here](#)

² *ibid.*

A National Regulatory Framework for Consumer Energy Resources Technical Standards

A national regulatory framework for CER technical standards should be administered either by the AER or a new National Technical Regulator for CER. The national regulatory framework should:

- Subsume the technical regulatory roles that are currently the responsibility of the Clean Energy Regulator³,
- Consolidate, as much as is practicable, the various CER governance arrangements that are largely independent from each other, and
- Enable a process for ongoing guidance on operational matters, including interpretation of standards.

Why a National Regulatory Framework for CER is needed

AEMO has succinctly summarised some of the questions that need to be clarified by a regulatory reform process. They include:

- Which parties have responsibility for:
 - Managing processes for DER⁴ compliance in the field at the point of commissioning
 - Monitoring and assessing DER compliance in the field (both immediately following commissioning, and ongoing over time)
 - Enforcing and rectifying DER compliance in the field
 - Collecting accurate data for the DER Register
 - Clarifying the interpretation of standards where there is a lack of consensus
- Do the relevant parties have access to adequate tools and datasets to fulfil these responsibilities?
- What penalties or incentives should be applied, and to which parties, in order to drive high rates of compliance?
 - Who would monitor and apply these penalties or incentives?
 - What data is available, enduring and of sufficient quality for application of penalties or incentives?
- Where would there be efficiencies in centralising various functions?
- Where are these responsibilities defined?
- How will cybersecurity and firmware updates be managed?
- How will compliance and performance behaviours of new types of DER be managed?
- Are the same compliance governance frameworks suitable for all types of DER behaviours?

Subsume the technical regulatory roles of the Clean Energy Regulator

The Clean Energy Regulator oversees the administration of the 'white list' of technical standards compliance of inverters that determine eligibility for Small-scale Technology Certificates (STCs) under the SRES. The SRES finishes at the end of 2030.

As noted by the Clean Energy Regulator in 2021 in its review of the rooftop solar sector⁵,

“When the SRES finishes at the end of 2030, the additional integrity requirements imposed on solar PV systems claiming STCs will no longer apply, and the only requirements will be those covered by state and territory electrical safety laws. It is timely to ensure clarity of the roles

³ We avoid use of the acronym 'CER' for Clean Energy Regulator because the same acronym is used to refer to consumer energy resources

⁴ AEMO refers to distributed energy as "DER", not "CER". In the UK regulators distinguish between DER (Business-owned small-scale power generation or storage devices that are connected to the distribution grid, located close to where energy is consumed) and CER (Consumer owned energy system assets which can include demand, storage and generation assets)

⁵ Clean Energy Regulator (2021), *Integrity Review of the Rooftop Solar PV Sector: Small-scale renewable Energy Scheme Regulatory Framework and Process Review*

and responsibilities of Commonwealth versus state and territory regulators and consider transition arrangements.” (p.4)

The Clean Energy Regulator is not well placed to lead the ongoing regulation of CER technical standards. The compliance and enforcement framework must be transitioned from one that relies on incentives and rebates to one that relies on regulation and enforcement. The technical regulatory role of the Clean Energy Regulator should be subsumed, either by the AER or a new National Technical Regulator.

Enable consolidation of CER governance arrangements

A review by the Energy Security Board (ESB) identified seven largely independent governance arrangements for CER technical standards, which are:

1. Australian and international standards,
2. Requirements of DNSPs' connection agreements,
3. Eligibility requirements for state-based incentive/rebate schemes for CER,
4. Commonwealth incentive/rebate schemes, especially the SRES,
5. State-based legislated requirements,
6. Commonwealth legislated requirements, such as the Greenhouse and Energy Minimum Standards (GEMS) for product energy efficiency and efficiency labelling which includes requirements for mandatory AS/NZS 4755 compliance, and
7. Requirements for market participation - VPPs that aggregate and control CER must satisfy technical requirements to participate in the market.

The process of consolidation could commence with the AER or a National Technical Regulator taking over responsibility for GEMS, the technical regulatory roles of the Clean Energy Regulator and requirements for VPPs. Further consolidation could be achieved in cooperation with jurisdictions.

Enable a process for ongoing guidance on operational matters, including interpretation

Questions regarding interpretation of standards arise frequently. Under the current arrangements, it is unclear which body has the authority to make binding interpretations of how CER technical standards should be applied. Problems arise when CER technical standards are interpreted differently. The lack of clarity leads to decisions and disputes being pushed down to a low level, down to the level of electrical inspectors. It becomes especially problematic when different electrical inspectors apply differing interpretations.

Standards Australia does not issue interpretations of standards when disagreements arise. Giving a National Technical Regulator (or the AER) the role of issuing binding interpretations would not risk duplication with Standards Australia processes. Even if these interpretations were not binding on jurisdictional regulators, it would still be immensely helpful to have a process for publication of an authoritative interpretation.

Responses to Draft Recommendations

DRAFT RECOMMENDATION 1:

OEMs voluntarily remove historical versions of NER CER technical standards from the settings menu for the inverter on new CER devices

SwitchDin supports this recommendation. We welcome the progress to date, i.e. that AEMO⁶ has obtained commitments from ten OEMs to voluntarily revise their product menus to remove legacy grid codes. In the Final Report, we urge the Commission to outline how progress of implementation will be reported.

We support the work by the EL-042 Committee of Standards Australia to amend AS/NZS 4777.2:2020 to require that OEMs make only the current version of the Australian grid codes accessible from product commissioning menus for the installer. In New Zealand (NZ), regulations continue to mandate the use of the 2015 standard and it would therefore be premature to require that only the 2020 version of the NZ standard should be available.

DRAFT RECOMMENDATION 2:

OEMs voluntarily make AS 4777.2:2020 'Region A' (mainland NEM jurisdictions) the default setting on new CER devices

SwitchDin supports this recommendation. In the Final Report, we urge the Commission to outline how progress of implementation will be reported.

DRAFT RECOMMENDATION 3:

OEMs to voluntarily update devices remotely where possible to remedy non-compliance with NER CER technical standards

SwitchDin supports this recommendation in principle.

AEMO has noted⁷ that many OEMs have the ability to remotely access the majority of their devices in the field and can change technical settings and control the inverter, however some have raised concerns with their power to make changes on behalf of the customer. Victorian DNSPs have updated their Model Standing Offers (MSOs) to require customers to provide explicit informed consent for the DNSP to make changes to inverter settings (via the OEM, where remote communication is available).

In the Final Report we urge the Commission to confirm whether DNSPs outside of Victoria should be urged to quickly update their MSOs to clarify that they can instruct OEMs to change inverter settings. Alternatively, the Final Report could provide guidance regarding the circumstances in which it is permissible for OEMs to change inverter settings regardless of whether this is mentioned in the DNSP's MSO.

⁶ AEMO (2023), *Compliance of Distributed Energy Resources with Technical Settings*, available [here](#)

⁷ *ibid.*

DRAFT RECOMMENDATION 4:

The CEC introduces NER CER technical standards as a requirement to be listed as an approved seller following New Energy Tech Consumer Code amendments

SwitchDin supports the proposal in principle.

The New Energy Tech Consumer Code is a voluntary code that applies to sellers of CER systems. Approved sellers will often employ installers, but will not undertake the installation themselves. It is installers that need to be targeted with enhanced measures for training, reporting, verification and enforcement regarding technical standards compliance. A potential role for approved sellers could be to verify that the installers it employs have undertaken all training deemed necessary. This could potentially include training for technical standards compliance that is above and beyond minimum regulatory requirements (e.g. brand-specific training for installers).

DRAFT RECOMMENDATION 5:

NER CER technical standards training be mandatory for accreditation under the Commonwealth's Small-scale Renewable Energy Scheme. This would be undertaken by entities administering SRES accreditation

SwitchDin supports this recommendation.

We urge that the Commission's Final Report should outline the Clean Energy Regulator's implementation plans and how progress will be reported.

DRAFT RECOMMENDATION 6:

DNSPs and/or jurisdictions provide funded training on NER CER technical standards for installers

SwitchDin supports this recommendation.

DRAFT RECOMMENDATION 7:

CEC publish and make freely available guidance material for installers to support configuring devices in compliance with NER CER technical standards. This would be done by the CEC voluntarily as a form of industry self-regulation.

The CEC introduced an elective online training course on CER technical standards (specifically, inverter settings and AS/NZS 4777.2:2020) called "Applying AS/NZS 4777.2:2020" on 7 June 2020. It was renewed 12 months later and is current until 7 June 2023. The course content is available via the CEC 'Learning Hub'. It is currently available free of charge to accredited installers.

The Clean Energy Regulator is currently undertaking a competitive tender for provision of installer accreditation services. The CEC has stated publicly that it has not lodged a tender. The role of providing freely available guidance material for installers will, presumably, become the responsibility of the successful tenderer(s) and be included in contracts between the Clean Energy Regulator and its new service provider(s).

We urge that the Commission's Final Report should outline the Clean Energy Regulator's expectations of its new installer accreditation service provider(s) regarding the provision of free training services for installers.

DRAFT RECOMMENDATION 8:

DNSPs to introduce commissioning sheets that include step by step guidance and require responses to show to the DNSP that the device has been properly configured

SwitchDin supports this recommendation.

We strongly support AEMO's suggestion⁸ that systems for remote reading and writing of inverter settings should be implemented.

Future costs of compliance will depend on how data is collected, and how compliance is verified and enforced. If policy makers set a governance framework with clearly defined roles and responsibilities and avoid setting highly prescriptive rules that limit competition, industry can be expected to continuously reduce compliance costs using remote communication and automation. Digital compliance tools have the potential to automate verification, reducing the administrative burden for installers, solar retailers and DNSPs. DNSPs should consider combining online commissioning datasheets with the mandatory digital close-out approach used by SA Power Networks, which is effective from 19 May 2023 and involves :

- The SA Power Networks [SmartApply](#) and [SmartInstall](#) web portals to assist with verification of compliance,
- From 1 July 2023, requiring most new and upgrade exporting solar generation systems to be capable of remotely updating their export limits,
- Registration of sites with SA Power Networks and satisfaction of capability testing as part of the commissioning for Flexible Exports sites using [SmartInstall](#),
- Automated compliance management with a three-stage warning process,
- Issuing an email warning to an installer if compliance of their installed sites falls below 90%,
- Issuing a second warning if compliance remains under 90% seven days from the first warning,
- Issuing a third and final warning if compliance remains under 90% 14 days from the first warning,
- Blocking the ability of an installer to submit new applications if compliance remains under 90% for 21 days from the first warning.

DRAFT RECOMMENDATION 9:

Retailers to accelerate the deployment of smart meters with improved data access for DNSPs to monitor compliance with NER CER technical standards

SwitchDin supports this recommendation.

DRAFT RECOMMENDATION 10:

OEMs to provide data to DNSPs and AEMO to better support monitoring of non-compliance

SwitchDin supports this recommendation.

In its Final Report for the review, the Commission should clarify the governance framework to assist DNSPs with their compliance and enforcement roles. As AEMO has noted⁹, "Some DNSPs are already implementing significant programs or work to monitor and actively improve compliance in their networks. However various DNSPs have raised concerns as, whilst they recognise this issue as significant, they may not have sufficiently comprehensive governance frameworks to support and efficiently coordinate the required rectification actions to achieve and maintain high rates of compliance".

⁸ *ibid.*

⁹ AEMO (2023), *Compliance of Distributed Energy Resources with Technical Settings*, available [here](#)

DRAFT RECOMMENDATION 11:

DNSPs to develop and follow a defined process for contacting customers suspected of non-compliance and explaining options for returning to compliance

SwitchDin supports this recommendation.

DRAFT RECOMMENDATION 12:

Jurisdictions to subsidise re-configuration, remote update or re-installation of non-compliant CER devices on behalf of consumers

SwitchDin supports this recommendation.

DRAFT RECOMMENDATION 13:

Jurisdictions, with the AEMC, AEMO and AER, progress work to consider the options and viability of reforming the national regulation of CER technical standards

SwitchDin welcomes the Commission's recommendation to progress regulatory reform.