Submission to: IPART:

Changes to the Peak Demand Reduction Scheme Rule of 2022 (PDRS Rule) published in May to introduce new battery activities from 1 November 2024:

June 2024

SolarEdge is a global leading PV inverter manufacturer with over 3.7 million monitored installations worldwide. The company was established in 2006 and has invented an intelligent inverter solution that revolutionizes the way power is harvested and managed in a solar PV system. The SolarEdge DC-optimised inverter solution maximizes power generation at the individual panel level while lowering the cost of energy produced by the solar PV system. SolarEdge entered the Australian Market in 2015, the higher level of safety and performance compared to traditional string inverters has made the company extremely successful with Australian home and business owners. SolarEdge now offers a range of optimised solutions for the residential, commercial and utility market, such as smart PV modules, optimisers, inverters, residential and utility-scale batteries, EV chargers, hot water controllers and a range of controllers and automation products to maximize the utilization of renewable energy for our customers.

Based on the average installation rates from 2023, SolarEdge anticipates annual installation numbers for New South Wales of SolarEdge systems would be upwards of 5,000 p/year with a battery attachment rate of 25% assuming a market of similar regulatory structure.

We welcome the opportunity to submit to IPART our position and recommendations regarding the proposed changes to the Peak Demand Reduction Scheme Rule of 2022 (PDRS Rule) published in May to introduce new battery activities from 1 November 2024.

Comments to specific questions raised:

3. Approach to the PDRS Method Guide

Do you support the approach we have taken?

In principle, SolarEdge does support the approach taken within the PDRS method guide.

Would you prefer a single Method Guide covering all previous versions of the Rule?

We do not think that this is necessary.

4. Method Guide Requirements

4.1 Monthly implementation data requirement

Do you see any issues or problems with the requirement to provide BESS1 and BESS2 implementation data to us by the 15th day of the following calendar month?

This requirement is out of alignment with all other forms of mandatory reporting within the CER/DER sector. For instance, the reporting requirements to DNSPs of a completed installation, or the submission requirements to the CER for claiming TSCs or the requirements to update AEMOs DER register.

It would be more in keeping to set a maximum duration period after the completion/commissioning of the BESS1 and BESS2 implementation date so that the reporting process can be easily and consistently implemented by the Accredited Certificate Providers (ACPs).

If for instance a maximum of 4-6 weeks was mandated, then the process for registration can be mapped out and considered within the BAU scenarios. By mandating a monthly cut-off date it will put an unreasonable burden on businesses to complete installations allowing enough time prior to the cut-off date to complete and submit all of the relevant documentation, thus creating an on/off period for installations. Implementing a consistent maximum time period can allow businesses to manage the reporting flow consistently regardless of the installation date.

Is the timing for providing the data practical to implement?

No, there needs to be a maximum duration to provide the data post-installation instead of a monthly cut-off date.

Do you see any issues or problems with the requirement to have and keep photographic evidence that implementations meet requirements by the upload date?

This requirement is reasonable considering that installers are already required to take and retain time-stamped photos for other regulatory purposes.

Please provide details or examples where possible.

One major concern however is that the images requested will not satisfy the requirements to prove that a BESS installation has or has not occurred.

The assumptions built into the documentation is that BESS will always be connected directly to a switchboard and therefore images pre and post-installation of the switchboard will somehow be able to illustrate that the installation of the BESS has been completed.

Only AC-coupled BESS will be connected directly to the switchboard.

DC coupled, or BESS connected to a hybrid inverter will not be connected directly to the switchboard as they are connected directly to the inverter. If the inverter (as part of the pre-existing solar PV system) was already installed, and therefore connected to the switchboard, the connections will not be required to change at all and this means of verification will not meet the intention.

It is also worth highlighting that the fact that the BESS is physically on site is not a verification of its installation, commissioning, and function. The requirements must show that the BESS is physically, and electrically connected to the inverter and that commissioning has been completed.

4.2 Requirement to provide evidence on request

Do you see any issues or problems with the requirement to provide evidence within 7 days if requested?

This requirement is reasonable.

Please provide details or examples where possible.

Referring to comments in the previous section, the images requested need to be amended to illustrate when an AC-coupled BESS or BESS connection to a hybrid inverter has been completed.

4.3 Fact sheet requirements

Do you see any issues or problems with the requirement to provide fact sheets to BESS1 and BESS2 consumers?

No

Is the proposed timing for providing the fact sheet practical to implement?

On the basis of the current implementation date of the 1st of November yes it is.

If however, this date was to change and be brought forward then the current timing may not be adequate.

How could you provide the fact sheet to consumers?

We, as an OEM can make it available on our website and also ensure that our retail partners in NSW participating in the scheme make it available.

What records could be kept as evidence that fact sheet requirements have been met?

Declaration by the customer, or a copy of an email to the customer with the fact sheet attached.

6. Evidence requirements

6.1 BESS1- and BESS2-specific eligibility requirements

Are the examples in the Method Guide practical?

Mostly

Do you see any issues or problems with the proposed examples?

The EUE must be internet connectable and controllable by a Demand Response Aggregator is misleading. Other than AC-coupled BESS all other forms of BESS, DC-coupled and BESS connected to a hybrid inverter will be connected to a DRA via an inverter. The overall system, specifically the inverter is what should be required to be connected and not the EUE, the inverter should be listed on the Clean Energy Council inverter listing and as such can be verified as having a remote software client ability.

Are there other ways you could evidence that requirements have been met?

Yes

Please provide details or examples where possible.

Comprehensive product (and system, for DC-couple and BESS connected to a hybrid inverter) listing by the Scheme Administrator

6.2 Equipment requirements

Are the examples in the Method Guide practical?

Generally yes, although there are issues with the internet-connectable and controllable requirements.

Do you see any issues or problems with the proposed examples?

Only AC-coupled batteries can be internet-connected and controllable. DC-coupled or BESS connected to a hybrid inverter will have their control and function managed via the inverter which will itself need to be internet-connectable and controllable.

Are there other ways you could evidence that requirements have been met?

A screenshot from a monitoring platform could be used to show that the BESS is indeed connected, commissioned and functioning correctly.

For BESS1, would a declaration signed by the customer (after implementation) confirming installation details and their satisfaction with the installation be useful for evidence that requirements have been met? Do you see any issues with introducing this requirement?

Yes, there should be a minimum requirement on the customer to ensure their satisfaction with the installation such as proof on the system monitoring platform that it is working correctly. Visual verification is not sufficient and as the customer will for the most part not be a qualified person and would not necessarily be in a position to state that the installation is satisfactory and/or compliant.

How would you evidence the BESS2 Life Support requirement?

A statement from the customer as well as verification of the Life Support Product or System that is in situ.

How would you evidence that EUE is internet connectable and controllable by a DRA?

As the EUE/BESS can only be grid-connected via an AS/NZS 4777.2 compliant inverter, these devices will have to appear on the Clean Energy Council inverter listing and as such can be verified as having a remote software client ability. The DRA in this context will have to be via CSIP-AUS (IEEE2030.5) as full DRM-only controls are generally not implemented in AS/NZS 4777.2:2020 compliant inverters.

Please provide details or examples where possible.

See CEC link: https://assets.cleanenergycouncil.org.au/documents/products/Inverters-with-SCC-240617.pdf

6.3 Implementation requirements

Are the elements of AS/NZS 5239 we have focused on appropriate? Should we include other elements of AS/NZS 5239?

Focusing on elements of AS/NZS 5139 is irrelevant as the installation will have to comply with all of the Standard to be considered compliant installation. There is no need to call out any parts of the Standard separately.

Are the evidence requirements in the Method Guide relating to AS/NZS 5239 practical for you and your installers to meet?

Again, these are requirements that are not necessary to state as they are already mandated within the installation and accreditation requirements of the installer, the networks and electrical regulation in NSW.

If you are already installing batteries, what are your current systems and processes to ensure installations are meeting AS/NZS 5139 and what records do you currently keep?

> *All installers need to have current SAA Battery Design & Install accreditation and the installation needs to meet the requirements of all relevant Standards. The installation will then be inspected by electrical inspectors.*

For other BESS1 and BESS2 implementation requirements, are the examples in the Method Guide practical?

> *Yes, these are all practical.*

Do you see any issues or problems with the proposed examples?

> *No*

Are there other ways you could evidence that requirements have been met?

> *Yes*

Please provide details or examples where possible.

> *Images, screenshots or downloads from the system commissioning platform as well as the system monitoring platform to prove that the BESS system has been correctly commissioned and is operating correctly.*

Do you have any other feedback on the Method Guide?

> *Yes*

Please provide details or examples where possible

> *The kW/kWh value could be misleading without factoring in the inverter of the system.*
>
> *With an AC couple BESS the inverter is part of the device and therefore the kW threshold is known.*
>
> *With DC-coupled or BESS connected to a hybrid inverter the kW (energy delivery component) relates to the inverter as AC rating will dictate this. For example, a 20kWh battery connected to a 10kW (AC-rated) inverter will be capable of delivering a different energy value within the time period specified than it would if it was connected to a 2kW inverter.*
>
> *The issue with the current methodology is that the rebate will be structured around the BESS capacity which will often not be the true energy delivery value of DC-coupled and BESS when connected to a hybrid inverter, this will mean that rebates will disproportionally advantage*

systems with smaller inverters connected as the overall system cost will be less which as a ratio which will make the PDRS certificate (rebate) portion become larger.

The current calculation treats all of the BESS systems as though they are all equally efficient, in terms of round trip efficiency and can all deliver energy at the same rate which is fact incorrect.

In conclusion.

In principle, SolarEdge is satisfied with the PDRS proposal. The time scale for the launch of the BESS components on the 1st of November is adequate to allow the industry enough time to become ready for the changes.

The equipment requirements are also accepted, specifically, the End-User Equipment having a warranty of at least 10 years and guarantee that at least seventy percent (70%) of usable Capacity is retained 10 years from the date the End-User Equipment is installed at the site. The End-User Equipment warranty must define the normal use conditions during the operation of the End-User Equipment as not being less than -10 °C to 50 °C with a minimum warranted throughput of 3.65 MWh per kWh of Usable Battery Capacity. Additionally, though we would like to see the round-trip efficiency of the system, (BESS plus inverter) taken into consideration.

We would also like to propose consideration for appropriate system design. For example, it is impractical to connect 20kWh BESS to a 3kW inverter with 4kWp of solar PV modules, likewise the same could be said for a 5kW hybrid inverter with 6.6kWp of solar PV modules. However, 20kWh of storage with a 5kW Hybrid + 15kWp of solar PV modules would arguably be a good design when peak loads are low but energy use is sustained throughout a 24hr period. Our recommendation is that design parameters and guidance should form part of the requirements to ensure that customers get the best functional outcome instead of companies purely selling systems on the basis of maximizing the rebate. To enforce this there will be a need for a robust compliance and audit program by IPART to ensure installers/retailers are meeting their obligations to design a system fit for the customer need rather than focusing to simply maximise on the rebate available.

If you would like to have any further information or would like clarification on any of the points raised, please contact me directly to discuss.

Yours sincerely,

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Rest of World Region

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