

Mr Warwick Anderson
General Manager, Network Pricing
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

Sent by email to: [REDACTED]

Dear Mr Anderson

AER Connection Charge Guideline Review – Issues Paper.

SA Power Networks welcomes the opportunity to provide a submission to the Australian Energy Regulator's (AER) review of its Connection Charge Guideline (the Guideline), focusing on the ability of a Distribution Network Service Provider (DNSP) to impose a zero static export limit for distributed energy resources (DER eg rooftop solar).

The AER is required by the Australian Energy Market Commission's (the Commission) Rule Determination on Access, pricing and incentive arrangements for DER (the DER Rule Change) to update the connection charge guideline to reflect the final rules' restriction on a DNSP's ability to offer static zero export limits and describe the circumstances under which a distributor may offer a customer a static zero export limit.

SA Power Networks is at the forefront of the distributed energy transition, with more than a third of our residential customers now having their own rooftop solar photo-voltaic (PV) generation and we are currently seeing a major step in business investment in solar systems. By 2023, the Australian Energy Market Operator is forecasting that there will be enough rooftop solar to supply the entire energy needs of South Australia during low demand periods.

SA Power Networks is yet to, unlike other DNSPs, impose static zero export limits on customers, directly connected to our network¹, with rooftop solar. Our preference is to employ our flexible exports regime, which provides signals to customers' inverters, to limit their exports between zero and 10 kW per phase, depending on the capability of our distribution system to accept exported energy at any point in time. Customers are able to opt for a static fixed export limit instead of our flexible export regime. SA Power Network has gradually reduced its static fixed export limit to the current 1.5kW² per customer in export capacity constrained parts of our distribution network. While we do not favour static zero export limits, we envisage that there could be circumstances in which we may need to impose a static zero export limit on some customers in the future, where is it not efficient to augment

¹ A static zero export limit has been applied to the additional installation of rooftop solar on individual living units in retirement villages (embedded networks) where the total installed export capacity of DER exceeds a specified limit (eg 200kW) for that embedded network.

² SA Power Networks considers that 1.5kW is the inherent capacity of our distribution network to accepted exported energy. Noting that many customers have already been connected with export capacity of 5kW or more.

the network to increase the export capacity and where it is not possible, or not efficient, to implement a flexible export limit.

The South Australian Government has imposed obligations on us to temporarily reduce exports to zero (including customers with static fixed export limits) where there is a potential threat to system security in the South Australian jurisdiction.

Circumstances for zero static export limit

SA Power Networks agrees with the Commission, in that it is not appropriate for DNSPs to be prohibited from imposing a static zero export limit on customers with DER in some circumstances. The Commission stated in the DER Rule change³:

“The Commission considers it is inappropriate to introduce a complete prohibition on DNSPs offering static zero limits as there may be circumstances where it is efficient or necessary for DNSPs to apply them. Under the final rules, static export limits can only be applied to export connections where consistent with the safe, secure and efficient provision and use of export services.”

SA Power Networks broadly supports the AER’s proposed technical and economic considerations that should be met where a static zero export limit is applied to a DER customer. The AER has proposed that a distributor can impose a zero static export limit under the following conditions:

1. *The export from rooftop solar will result in the distributor not meeting a regulatory obligation or maintaining the network within its technical limits – for example, not meeting the voltage level and power quality standards, safety requirements of the relevant jurisdictional regulations and network security requirements (the **technical consideration**).*
2. *The cost of augmenting the distributor’s network assets to allow a reasonable export capacity level by the rooftop solar connection applicant outweighs the benefits arising from providing the additional export capacity, taking into consideration the expected future new distributed energy resources that will be able to be exported to the grid arising from the augmentation (the **economic consideration**).*
3. *Notwithstanding meeting the technical and economic tests, a distributor cannot impose a static zero limit if the rooftop solar system has a suitable dynamic response system as specified by the distributor. Such a dynamic response system could set a limitation on the timing of export – for example, not allowing the affected rooftop solar system to export during the middle of the day when other rooftop solar systems are exporting at a maximum level and when the voltage is high but allowing batteries to export during the evening peak load demand hours to support the network. (this is referred to as the **dynamic response system consideration**).*

In relation to these conditions, SA Power Networks recommends that the term rooftop solar be replaced with “micro embedded generator”, unless there is clear understanding that rooftop solar refers to all micro embedded generators that can inject energy into the distribution network.

³ AEMC’s Rule determination- Access, pricing and incentive arrangements for DER (12 August 2021) Paragraph 19 pg. iv



We also note that as SA Power Networks is progressively rolling out the availability of its flexible exports scheme (dynamic response system) across the network, prioritising areas of greatest constraint, it may not initially be available in all areas. Thus, the dynamic response system consideration must also be subject to a DNSP having a dynamic response system available in the customer's area, even if the customer's equipment is compatible with such a system.

Finally, where SA Power Networks has already approved a customer's DER installation, we are not proposing to 'retrospectively' apply our flexible export regime or to reduce their existing approved export capacity to these customers, unless they upgrade or make some other significant change to their DER. In South Australia, if a customer makes a significant change to their DER (eg changes their inverter excluding under warranty or increases their capacity or installs a battery) they are required to comply with the new legislative provisions that exist in South Australia under the 'smarter homes' legislation.

Assessment, review and information requirements

In circumstances where a static zero export limit has been applied, we recognise that there may be value in subjecting these to targeted reviews, either after a DNSP has undertaken material augmentation on the network that may allow for the removal of static zero export limits, or when there has been a material change in the assessment approach, including a material improvement in the accuracy of low voltage modelling.

To minimise costs to all customers, we envisage DNSPs would only initiate targeted reviews in response to specific triggers such as those described above. In addition, a customer could request a review and pay the cost of that review unless it is determined that the static zero export limit is no longer applicable. This is similar to the current practice for a customer requesting a meter accuracy check, and only paying for this service if the meter is determined accurate.

Network augmentation

Where a customer has a static zero export limit applied, because it is inefficient to augment the network then that customer, if they wish, could fund the augmentation to remove their static zero export limit. These circumstances may arise even where the DNSP has been provided with funding to augment its network to increase DER hosting capacity.

If you have any queries about this submission, please contact Mr Grant Cox on [REDACTED]

Yours sincerely,

Mark Vincent
General Manager Strategy and Transformation

