

14 May 2021

Jashan Singh
Project Leader
Australian Energy Market Commission (AEMC)

Submitted via: <http://aemc.gov.au/>

Dear Mr Singh,

**Access, pricing and incentive arrangements for distributed energy resources -
Ref. ERC0311**

Discover Energy is an electricity and gas retailer with 10,000 accounts across New South Wales, Queensland, Victoria and South Australia, including 670 virtual power plant (VPP) customers. We are pleased to make a submission to the Commission in response to your draft Rule Determination on 'Access, pricing and incentive arrangements for distributed energy resources (DER).'

Few electricity retailers are as advanced as Discover Energy in the application of software to control the charging of residential batteries and the discharge of power for sale in the wholesale electricity market. To operate our VPP platform, we use proprietary software to forecast wholesale prices and rooftop solar generation, in addition to deploying software which analyses households' power consumption.

We recognise the constraint the rule change proposal seeks to address. South Australia has among the world's highest rates of residential solar PV penetration. At present, the majority of Discover Energy's VPP customers are located in South Australia. The high uptake in our VPP program in Adelaide reflects the rapid and high uptake of residential solar PV in South Australia. We see no limit to the growth of VPP in South Australia, or anywhere in the National Electricity Market for that matter; however, we also understand that the distribution network needs to be managed differently for the large-scale integration of DER to be sustainable.

In July 2020, South Australia Power Networks (SAPN) proposed removing the current prohibition at Chapter 6 - Clause 6.1.4 in the National Electricity Rules (NER) on distribution network service providers (DNSP) charging users of the grid a distribution use of service tariff for the export of electricity. According to SAPN, the export service provided by DNSPs needs to be recognised in the NER as a distinct service to allow for the cost-reflective pricing of network usage, to promote efficient investment in network infrastructure and for the sustainable growth of DER.

In its 'Rule change proposal for access and pricing of distributed energy resources,' SAPN observed that the services DNSPs provide now include export services. The export of power from DER provides network and private benefits, yet, for the full range of benefits from VPP to be realised, the economics of the grid need to support the concomitant advances in technology.

To facilitate the current rate of growth in the take up of DER, such that DER plays an important part in decarbonisation and provides network support on the import side, the DNSP should, in turn, be in a position to invest in supporting the deployment of DER on the export side. The current situation in South Australia, where SAPN imposes zero or near-zero export limits during peak solar output, may not be sustainable, especially when households are looking to optimise the use of their solar PV and battery storage systems.

From 1 July 2021, as required by the South Australian Minister for Energy and Mining, generating plant installed on South Australia's distribution network must have inverters with remote communications capability to facilitate dynamic export limits. Ultimately, through the use of Application Programming Interface (API) software to control inverters, enabling them to respond to dynamic export limits issued by the DNSP, system owners will be able to avoid the export component of their network tariff. To facilitate the introduction of dynamic export limits, SAPN is working towards API standardisation for all inverter brands. A flexible grid adds value to DER but this will not be achieved without shifting incentives towards flexible use of the grid.

A number of VPP trials have been undertaken recently, by AEMO and DNSPs, each with the aim of assessing the network and private benefits of VPP. These trials have shown that participation in a VPP allows consumers to optimise their own consumption behind the meter; to realise financial returns from trading in the wholesale market; and for the reduction of exports when power is not required. The network benefits from VPP, however, can only be measured precisely if they reflect the costs associated with uses of the grid, including for the export of power.

In the absence of genuinely bidirectional distribution networks, the economic and technical potential of VPP, the sum of benefits for participants and all consumers connected to the grid, will be harder to realise. Reform is needed which prices the benefits of VPP with greater certainty and, thus, shifts grid usage towards the uptake of DER and battery storage. As such, the proposed removal of the prohibition on charges for energy exported into the grid, SAPN's work on dynamic export limits and API standardisation should be viewed as complementary measures.

Yours sincerely,



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