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11 March 2021

Australian Energy Market Operator
GPO Box 2008
Melbourne VIC 3001

Lodged via email

Dear Board Members,

Re: Amendment of the Market Ancillary Service Specification – DER consultation – Issues paper

Simply Energy welcomes the opportunity to provide feedback on the issues paper for the market ancillary service specification (MASS) consultation in relation to distributed energy resources (DER).

Simply Energy is a leading energy retailer with over 730,000 customer accounts across Victoria, New South Wales, South Australia, Queensland and Western Australia. As a consumer-centric retailer, Simply Energy supports the development of effective regulation to facilitate competition and positive consumer outcomes in the market.

Since March 2018, Simply Energy has also been leading VPPx, which is an ARENA funded project to build the first virtual power plant (VPP) that integrates with a distributed energy market platform. Simply Energy is collaborating on this project with several partners, including technology vendor GreenSync and distribution network service provider SA Power Networks.

Simply Energy supports the Australian Energy Market Operator's (AEMO) proposal to embed the measurement requirements tested in the VPP demonstrations in the ongoing MASS. VPPs have potentially significant benefits for both consumers and retailers and Simply Energy supports reforms that improve the participation of VPPs in frequency control ancillary services (FCAS) markets.

Simply Energy's submission summarises the benefit of VPPs for consumers and the resilience of the grid and provides feedback on the necessity to amend the MASS to enable the future development of VPPs.

VPPs can benefit consumers and help strengthen the resilience of the electricity grid

In its knowledge sharing reports, AEMO noted that consumers would likely benefit from the coordination of distributed energy resources (DER) through VPPs in two ways:[1]

- Consumers who own VPP assets would earn value from delivering grid services
- All other electricity consumers would benefit from a more efficient power system.

Direct benefits to consumers that participate in the VPP

To participate in a VPP, consumers need to opt-in and agree to give the VPP operator a level of control over their battery storage system. In Simply Energy's experience, the key factor in influencing consumer participation in the VPP program has been the cost of residential battery

[1] AEMO 2020, AEMO Virtual Power Plant Demonstration – Knowledge Sharing Report #1, March, p.5.

storage systems, specifically the level of subsidy available to reduce the price of the system over its lifetime.[2]

During the VPPx project, Simply Energy trialled a number of product designs and subsidy structures and found improved uptake when consumers were able to access subsidies from both the South Australian Government (capped at $6,000) and from Simply Energy ($5,100 paid over several years). The most pronounced spike in demand immediately preceded a $2,000 reduction in the South Australian Government subsidy and an announcement that Simply Energy's VPP subsidies had limited offers remaining.[3]

The VPPx project has enabled customers to increase their self-consumption of energy generation (through the combination of a solar panel system and battery storage) and embrace the development of renewable energy technologies. The integration of a distributed energy market platform in VPPx is intended to enable customers to access greater economic value from their energy storage assets.[4] Once VPPx reaches an appropriate size, customers could also access the benefit of their energy storage systems trading in the FCAS market.

Benefits to all consumers through VPPs helping to strengthen the resilience of the grid

During the VPPx project, Simply Energy demonstrated the performance of the VPP-enabled batteries in terms of their ability to provide reactive power, real power and frequency support for the grid.[5] However, due to the limited size and dispersed nature of the installed fleet, VPPx has not been able to access monetary value for network services to date.[6] Simply Energy entered the contingency FCAS market in October 2020 via AEMO's VPP demonstration trial program and is planning to increase the available fleet to 4MW's as the final round of storage systems are installed and integrated.

While VPPs are still in their infancy, AEMO has found that the current VPP demonstrations have identified the value that VPPs can provide in relation to operational visibility and forecastability.[7]

Amendments to the MASS are critical for future VPP development

Simply Energy does not support AEMO's proposed Option 1, as the current measurement requirements in the MASS provide a barrier to the further development of VPPs.

In particular, the metering obligations typically require proponents to provide high speed data samples less than or equal to 50 milliseconds for fast FCAS response (in the six second FCAS market), whilst slow and delayed services require measurements of four seconds or less to verify services. These are uneconomical if applied to each energy storage system in the VPP. For the VPPx project, Simply Energy reached an agreement with the AEMO VPP Demonstrations Program to have one high speed meter per type of energy storage system complimented by the fleet aggregation data at one second resolution.[8]

As previously noted, there would be significant benefits to consumers from the continued development of VPPs. However, without amendments to the MASS (and the continuation of the

[2] Simply Energy 2020, Simply Energy VPPx - Lessons Learnt Report, October, p.4.
[3] Simply Energy 2020, Simply Energy VPPx - Lessons Learnt Report, October, p.4.
[4] Simply Energy 2019, Simply Energy VPPx – ARENA Stage 1 Knowledge Sharing Report, February, p.7.
[5] Simply Energy 2020, Simply Energy VPPx – Stage 2 Knowledge Sharing Report, June, p.5.
[6] Simply Energy 2020, Simply Energy VPPx – Stage 2 Knowledge Sharing Report, June, p.5.
[7] AEMO 2021, AEMO Virtual Power Plant Demonstrations – Knowledge Sharing Report #3, February, p.14.
[8] Simply Energy 2020, Simply Energy VPPx – Stage 2 Knowledge Sharing Report, June, p.25

interim arrangements to recognise bi-directional flow from ancillary service loads to deliver FCAS[9]) it is unlikely that retailers and aggregators will find it economical to invest in VPPs. In addition, participants that are part of AEMO's VPP demonstrations will not realise the benefit of their investment in the trial. Simply Energy considers that the continued development of VPPs is in line with the National Electricity Objective (NEO) as VPPs can provide lower energy prices for consumers, additional value for consumers from their battery storage systems, and increased reliability and security of the electricity grid.

The MASS should include requirements similar to those tested in the VPP Demonstrations

Simply Energy supports the intention of Option 2 to amend the MASS to include the set of measurement requirements that were developed to allow VPPs to trial the capability for DER to deliver contingency FCAS. These measurement requirements have been critical in allowing the demonstration of the potential market-wide benefits of VPPs. Simply Energy agrees with AEMO's proposal to update the MASS to allow DER to meet the measurement requirements by capturing power flow and local frequency with a resolution of 1 second or less across all NMIs (rather than 50 milliseconds or less).

Fast FCAS response requires a full or proportional response from the provider within six seconds of a frequency event. Given this, Simply Energy considers that maintaining a requirement to capture data with a resolution of 50 milliseconds or less at one or many sites would create barriers to market entry for little benefit. Simply Energy considers that aggregated one second metering from the fleet should be sufficient for response verification. It has become commonplace for battery inverter manufacturers to include one second telemetry as standard and Simply Energy notes that installing any specialised equipment at sites within a residential VPP comes with the additional risk and cost of the customer churning away and the retailer having to retrieve and reinstall the equipment.

AEMO should clarify other potential requirements in the MASS

Requirements when the capacity of a VPP changes

The current framework requires that participants must supply a list of participating NMI's to AEMO each time the MW capacity of the VPP changes. This requirement becomes problematic when individual customers churn away from the retailer and the lost capacity can only be replaced when the retailer requests a change to its registered ancillary service capacity (for example, from 1 to 2MW). Instead of needing to update the entire registration, Simply Energy suggests that registrations be enabled in smaller increments or retailers be allowed to replace a churned NMI with one that has the same equipment and/or capacity installed at site.

Simply Energy also proposes that frequency injection testing should not be required when there is an increase in the FCAS capacity of the VPP where the type and size of the new assets is identical to those already installed and providing services. There does not appear to be any benefits of requiring frequency injection testing in situations where the assets are identical and have previously been proven to work. In fact, this additional testing would impose costs on customers and disrupt the normal operation of their battery storage systems.

Droop limit

Simply Energy is concerned about AEMO's consideration of increasing the maximum allowable frequency response rate for proportional controllers. Simply Energy supports a droop limit with an effective limit of 0.7%, which is the limit currently used within the VPPx project and permitted

[9] AEMO 2019, Interim arrangements for FCAS provision from DER – policy on classification of loads as ancillary service loads, December.

under AEMO's interim arrangements.[10] Simply Energy does not consider that the VPP Demonstrations have identified any practical reason to increase the droop limit and is concerned that the current and future value propositions of VPPs to customers may be adversely impacted if the droop limit was to be increased. Simply Energy estimates that increasing the droop limit by 1 per cent could reduce the customer benefits derived from FCAS participation by as much as 60 per cent. A reduction in potential benefits would in turn stall customers' uptake of DER to provide services within the NEM.

API requirements

The VPP demonstrations required several application programming interfaces (API) to be built and for participants to integrate with them. While not discussed in the issues paper, Simply Energy asks AEMO to provide some clarification about which, if any, of the API requirements will remain in place going forward.

While the upfront costs of building the APIs has already been incurred, Simply Energy has ongoing costs of maintaining and updating these requirements. Simply Energy proposes that AEMO not include the API requirements in the ongoing MASS unless it can demonstrate the value and necessity of the specific requirements.

Incorporation of the fast frequency response rule change

As noted in the issues paper, the Australian Energy Market Commission (AEMC) is currently consulting on a rule change request on fast frequency response. However, the AEMC is still many months away from making final recommendations on fast frequency response and has only recently sought stakeholder feedback on high-level options.[11] Due to the uncertainty around the final fast frequency response rule change, it is difficult to provide AEMO with feedback on how the MASS may need to be amended in response. Ideally, the MASS amendments would incorporate the AEMC's final recommendations on fast frequency response, including any additional, changes to technology requirements.

Concluding remarks

In closing, Simply Energy looks forward to continuing to work actively with AEMO to ensure amendments to the MASS promote the ongoing development of VPPs in Australia.

Simply Energy welcomes further discussion in relation to this submission. To arrange a discussion or if you have any questions please contact Matthew Giampiccolo, Senior Regulatory Adviser, at matthew.giampiccolo@simplyenergy.com.au.

Yours sincerely

James Barton
General Manager, Regulation
Simply Energy

[10] AEMO 2019, Interim arrangements for FCAS provision from DER – policy on classification of loads as ancillary service loads, December.
[11] AEMC 2020, Directions Paper – Frequency Control Rule Changes, December.