

21 December 2018

Distributed Energy Resources Program
Australian Energy Market Operator
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AEMO - Virtual Power Plant (VPP) Demonstrations Program - 2018

Reposit Power is one of Australia's leading VPP technology companies, operating VPP's with Financially Responsible Market Participants (FRMPs) and Distributed Network Service Providers (DNSPs) in NSW, Victoria, South Australia, Queensland, Tasmania, Western Australia and the Australian Capital Territory. These parties are using the Reposit technology to operate VPP's that participate in Frequency Control Ancillary Services (FCAS) contingency markets, respond to financial signals in the National Electricity Market (NEM), and provide network support services.

We welcome the opportunity to provide comments on AEMO's proposed VPP Demonstrations Program. In general, we support efforts to better integrate distributed energy resources into the NEM in order to facilitate a smooth energy transition in the years to come.

Question 1.1 - The primary focus of these trials is to demonstrate VPP aggregating battery storage systems. Do intending participants envisage incorporating demand response resources into your aggregated portfolios, and should this be incorporated into the VPP Demonstrations?

Demand response which is directly controllable such as smart pool pumps or hot water systems are valuable resources that have similar capabilities to batteries in providing grid services. As such, Reposit envisages incorporating these devices into virtual power plants to work in conjunction with batteries.

Demand response which is not directly controllable such as residential behavioural demand response, or done through smart home automation programs like If This Then That (IFTTT), are not suitable for providing dependable grid services. While these forms of DR should be encouraged to lower an individual customer's energy bill, they are not accurate or reliable enough to be a scheduled resource that a market operator could depend upon to provide DER services.

Question 2.1 - Are the VPP Demonstrations objectives logical and achievable? Should any other objectives be considered for these VPP Demonstrations?

AEMO is seeking to use the VPP demonstrations program to learn more about the reliability of VPPs and their effect on power system security. We would seek to further understand how AEMO will measure reliability of VPPs in both energy and FCAS markets, and how they are intending to use this knowledge. Reposit has completed significant amounts of work for our partners in order to maximise the performance of our VPPs, and would welcome the opportunity to shed light on the challenges VPP technology providers face, and to work on this with AEMO.

Regarding FCAS markets, Reposit strongly believes that high speed metering is an important component of delivering FCAS, and therefore in maintaining power system security. The Rules are technology-agnostic and there should not be different rulesets for different technologies. We

would welcome the opportunity to demonstrate to AEMO why obtaining data from every site is necessary in verifying an FCAS response. We would also question the underlying assertion that high speed metering is not commercially viable – Reposit is currently operating a VPP that is participating in contingency FCAS, and we believe it to be very much commercially viable under our business model.

Objective 2 is around AEMO getting visibility of VPPs as non-scheduled loads. The concerns raised in section 1.5.2 are largely around large, sudden movements of VPP's. This concern is limited to energy markets, as AEMO already has visibility of VPPs participating in FCAS. Our concern would be that an API that refreshes every 5-minutes would be limited in what information it can provide AEMO to manage Regulation FCAS, which corrects frequency at a much faster resolution.

Every VPP technology provider will have a different mechanism for managing their forecasts, which will all have differing levels of accuracy. It is not out of the question for example, that a VPP would respond instantaneously to high price events that weren't forecast. AEMO may want to consider a mechanism by which they are notified when a VPP engages in behaviour that is outside of their standard behind-the-meter demand management behaviour. Outside of market or non-market events like these, AEMO would then be able to rely on their own modelling, rather than relying on the modelling of 3rd party VPP companies who forecast in unpredictable ways.

In regards to objective 3, having successfully gone through the process of registering for FCAS, we would welcome the opportunity to work with AEMO on new or amended arrangements as appropriate.

Question 2.2 - How can the VPP Demonstrations projects better capture consumer insights and improve customer experience and outcomes?

AEMO should look to protect residential consumers, by ensuring that demonstration participants meet a high standard. For instance, retailers are highly regulated for the protection of consumers. Protections such as these should not be lightened in order to facilitate the building of VPP's.

Question 2.3 - Is AEMO's high-level approach to the VPP Demonstrations appropriate? What other arrangements could be tested under the VPP Demonstrations framework?

Reposit-controlled VPPs currently provide market services in the NEM relating to energy, FCAS, and system security (such as RERT) and as such can demonstrate existing control and coordination of delivering these services.

Reposit believes that VPPs should, and are technically capable, of being held to the same standards as other generators in the NEM both in terms of operational delivery and reporting. In particular we believe that high-speed metering for FCAS at each participating site is commercially viable, and that real-time SCADA data should be provided to the market operator when VPPs are carrying out grid services. Therefore, this trial presents an opportunity to demonstrate the viability of these capabilities and we suggest the objectives be expanded to allow for this demonstration.

Question 4.1 - AEMO would like the aggregated VPP dataset to be refreshed every five minutes to align with its operational forecasting function. Are VPP operators able to provide this data on a 5-minute refresh basis?

Yes.

Question 4.3 - What is the appropriate frequency for VPP operators to submit the device level dataset to AEMO? Is there a material difference in resources required to upload the data on a daily, weekly, or monthly basis?

Reposit would prefer to submit the device level dataset every 5 minutes.

Question 4.4 - Are there any regulatory or other obstacles to participants facilitating the data sharing arrangements contemplated in this section?

AEMO should look to confirm that the company providing the data has permission from the customers who own that data to share it with AEMO. Arrangements where the data is not owned by the customer should be examined for their legality.

Yours sincerely,

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

Dean Spaccavento
Chief Executive Officer