NEM Virtual Power Plants (VPP) Demonstrations Program

Feedback Response

Karit welcomes the opportunity to comment and provide feedback on the AEMO's NEM Virtual Power Plants (VPP) Demonstration Program Consultation Paper. One general comment to consider within the definition of a grid connected VPP scope is the potential to allow for other forms of generation to be incorporated in the technical boundaries of a VPP.

The following is Karit's specific response to the questions posed in the consultation paper.

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?

In a commercial setting, understanding the impact of demand response resources to balance generation and storage asset performance and enable effective responses to market needs should be enabled in the demonstrations. Removing or adding load as part of a response will provide a clearer insight into the full range and scope of the available value stacks. Whilst Karit does not specifically deliver these services via our VPP Platform, integrating or partnering with a provider of these services is something we are currently exploring.

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

Karit agrees with the stated objectives, however an additional objective is recommended. The VPP Demonstration Trials should also look to understand the economic and technical tradeoffs that arise when a VPP chooses to respond to one set of market signals over another within a timeframe that would mean that AEMO's ability to satisfy the other signal is compromised. For example a significant spike in market price results in the operators of a VPP dispatching their stored energy. A subsequent need for a response to an FCAS opportunity occurs before the storage devices are refilled, leaving the NEM vulnerable to a rise in instability.

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

Any consumer insights gathered should be done by a direct engagement by Demonstration Trial participants with customers to assess their experience and the value created through their participation. Operationalising the analysis in this manner would ensure any commercially sensitive feedback or future opportunity could be maintained as a function of the customer-supplier relationship.

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?

Karit is comfortable with the VPP Demonstrations approach proposed.

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?

Karit can support a 5 minute refresh basis, however it should be know that the time frequency impacts the volumes of data to be managed and the associated costs.

Question 4.2: Should the values be reported as an average value across the 5-minute interval, or an instantaneous value at the end of the 5-minute interval, or both?

Karit is comfortable with either option, but believes that AEMO should publish the specific calculations that they would wish to receive to ensure consistency of the approach. For example is the end of the 5 minute interval set at the 4 minute and 59 second mark?

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?

The frequency of the upload will be dependent on the size of the dataset being despatched. As there are potentially many data points across numerous VPP connections a higher frequency will improve the efficiency of data delivery and reduce the possibility of large time periods of data not being received. VPP's with many sites collecting data on 5 minute intervals will create a substantial set of data that will result in additional costs for the VPP operator to manage. Frequent transmission of the data will enable the VPP operator to archive the data to lower cost of data storage.

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

As the data shared may be of commercial value or commercially sensitive to the customers and/or the VPP operators, strict rules as to how that data is shared and identified must be developed.

VPP data should be aggregated into the market based on the VPP operator and not presented on a site by site basis.