Market Ancillary Service Specification (MASS) – DER and General Consultation Submission

Feedback Response

Karit welcomes the opportunity to comment and provide feedback on the AEMO's Market Ancillary Services Consultation Paper. One overarching comment Karit would like to make, regarding participation in Market Ancillary Services, whilst defending the need for compliance to maintain trust in the market, is that the market rules should not inhibit innovative technical solutions or business model approaches actively being pursued.

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

1. **Which option for the ongoing measurement requirements for DER described in Section 2.3 do you want AEMO to implement and why? Should any other options be considered?**

   Of the options presented, Karit preference is Option 2: To embed the measurement requirements that were tested in the VPP Demonstrations in the ongoing MASS.

   Karit would however prefer a scenario where the revenue meter is upgraded to enable measurement and verification data to be obtained from the meter via an open access mechanism which would significantly lower the cost of deploying infrastructure to support the Ancillary Services Market.

2. **Which option do you think is more consistent with the NEO, and why?**

   Option 2 is most consistent with the NEO as it allows entry into the Ancillary Services Market at a lower cost per site, however an option based on the standard meter would be even more consistent with the intent of the NEO.

3. **Should AEMO consider any principles other than those described in Section 2.4 to guide its assessment?**

   An additional principal that should be considered is one that promotes the utilisation of existing infrastructure (revenue meters should be upgraded to support measurement and verification of FCAS) as the preferred toolset for measurement and verification.

4. **What is the difference in implementation costs, such as updating the communication links or installing additional equipment, for capturing data at a resolution of either 50 ms or 1 second for every NMI for different VPP facility types? Do you consider the cost difference to be prohibitive for participating in the Contingency FCAS markets? Please provide examples or analysis if possible.**

   Option 1 inflicts significant costs on the addition of new sites to a VPP that desires to participate in the ancillary service markets, when a large proportion of those sites are residential or small commercial. The contribution of value from each site does not justify the investment if option 1 is selected. Whilst option 2 is preferable because it enables more sites to participate, a solution that uses a shared infrastructure, such as a revenue meter, for measurement and validation (as is the case with the wholesale market) would be even more cost effective.

5. **Do you think that either of the options presented will result in more or less competition in the Contingency FCAS markets?**

   Karit believes that option 1 will reduce the amount of potential competition by imposing a high cost of entry as opposed to option 2 which is less onerous on solutions that operate with storage assets in residential and small commercial sites. However as previously stated, an option such as the one discussed on the consultation call that utilises an upgraded revenue meter, would provide a more cost effective entry for a broader range of participants.

6. **Are there any technical risks that you envisage if the Option 2 measurement requirements are allowed? How material do you consider those risks and how could they be efficiently mitigated?**

   The most significant material risk is the reliance on hardware devices, such as solar inverters, to act as points of measurement and validation. When the operating paradigm of the inverter was designed, the designers did not see this as a prime responsibility of the inverter. If AEMO maintains a list of acceptable inverters that are capable of delivering measurements at an acceptable level, then the test process

could be simplified to validate the ability of the VPP to deliver the desired response outcomes. A register of MAS measurement and verification capability of each inverter brand would also give each participant utilising that technology a baseline against which to deliver.

7. **Does the sampling rate of one second rather than 50 ms for Fast Contingency FCAS under Option 2 and the determination of the FCAS delivery at the inverter/controllable device level create market distortion or negatively impact the FCAS markets?**

   Without specific data to review both options operating in a parallel against the same installation, we are not able to make a comment. However as long as the system can adequately identify the occurrence of an event and that the registered device/s delivered an appropriate and timely response, then the least cost option should be pursued to promote greater competition and participation in the service.

8. **If Option 2 was adopted, should the changes to the measurement requirements of the MASS be limited to small-scale DER (under 1 MW per NMI), or should a different threshold apply, such as 5 MW? For example, what do you see as the risks and benefits of expanding these measurement requirements to other FCAS providers and in what circumstances might that be appropriate?**

   Two issues need to be considered here;
   (1) the makeup of the participant (many small sites, a few larger sites or one very large site); and
   (2) the ease of participants to accumulate significant numbers of small sites willing to allow participation in the FCAS market.

   Setting a high threshold such as 5MW, invokess a handbrake on competition as it discentivises small organisations from recruiting significant numbers of participants to enable them to register as an FCAS provider. A threshold for option 2 should be based on the participation of a single site, and in that instance 1 MW might be more appropriate.

9. **Does the proposed reformat of the MASS (see Attachment 1) make for improved readability and understanding? What other improvements in the form and drafting of the MASS could be beneficial? If you consider the reformatted MASS may have materially changed the substantive meaning of the MASS v6.0, please also bring this to our attention.**

The MASS is currently written utilising under-defined terms and complex language. Work is required to enhance the descriptive and presentation of the MASS to allow it to be more widely understood.

10. **Clarification of FOS references – please provide any feedback on the proposal to clarify that FOS terms relate to Table A.1 of the FOS, and any other terms that have ambiguous values.**

    Karit has no specific comment.

11. **Frequency responsiveness of FCAS: a. What would be involved in ensuring that non-frequency responsive facilities: i. Respond only when enabled in the relevant FCAS market(s)? ii. Do not deliver significantly more than market enablement (for example, >50%)? Do any alternative options exist to manage over-delivery? b. Please provide feedback on the proposed revised trigger ranges for switching controllers set out in Table 1 and Table 2 of section 3.3. c. Please provide feedback on the proposal in section 3.3 to require proportional controllers to set deadbands no wider than ±0.1 Hz.**

    Devices not registered in the FCAS market may be repurposed to provide benefits in the wholesale or demand response markets. Should market events coincide then there is no guarantee that the device will not have an impact on any required frequency response. Karit's platform is designed to only allow a device to respond to the FCAS market if it has been registered to do so. However the nature of VPPs enables them to manage multiple sources of value, locking out a device from a particular market would require substitutable value to be made available.

12. **Coordination of different FCAS and PFR: a. Referencing the list of coordination matters in section 3.4, are there other co-ordination matters AEMO should seek to address in the MASS? b. Does the list of clarifications on coordination of Contingency FCAS/PFR controls with AGC controls in Section 3.4 provide a reasonable balance between guidance and flexibility for plant control design?**

    Karit has no specific comment.

13. **Regulation FCAS requirements: a. Are the requirements and proposed settings listed in section 3.5 adequate and achievable? In particular, can PFR (separate to other plant targets) be determined readily and communicated to AEMO? b. Would a 1-year phase-in period for existing Regulation FCAS providers be satisfactory? c. Do Consulted Persons believe that a 2-year Regulation FCAS testing cycle strike the right balance of stringency and reasonableness? a.**

Clarification of requirements for Delayed FCAS – please consider the implications from your perspective of clarifying that Delayed FCAS controls may be of a switched type only (rather than also proportional), and, whether other factors in addition to those outlined in section 3.6 need to be considered.

Karit supports the implementation of a regular testing cycle as long as it does not inhibit the ability of the FCAS service provider being able to generate suitable returns from their investments. Any testing regime should be established on the same basis as the initial testing regime established for provisioning a site to participate in an FCAS regime.

14. **Regarding issues associated with the pending FFR rule change canvassed in section 3.7 and any other rule changes of concern, AEMO wishes to hear from Consulted Persons on the following issues, which would be used to help scope future changes to the MASS: a. What MASS issues they consider should be addressed in subsequent reviews, including if possible, provide reasoning as to why these issues are important. b. How any other desirable changes to the MASS could be managed in the context of ongoing rule changes.**

The delivery of FCAS services by the management of distributed resources should be a key focus of the MAS as this approach shifts more of the cost onto the customers of the power system or those who extract value from the distributed assets and reduces the risk of concentrated resources creating power system security issues. A focus on distributed assets also more appropriately reflects the ongoing evolution of the power system.