AEMO

Via email to mass.consultation@aemo.com.au

6th August 2021

Amendment of the Market Ancillary Service Specification (MASS) – DER

Solar Analytics welcomes the opportunity to provide input to AEMO on the DER MASS Review. In preparing this submission, we have referred to the draft determination on the consultation web page.

About Solar Analytics

Solar Analytics is an Australian company founded by solar industry veterans, scientists, developers and passionate photovoltaic (PV) experts. We design, develop and supply intelligent rooftop solar and energy management solutions for residential households and commercial businesses. With 35 staff and 50,000 customers across Australia, we are the leading provider of rooftop solar management in Australia. Our fleet of Distributed Energy Resources (DER) across Australia have real time solar generation and energy consumption measurement that enables us to provide energy management services for our customers. We also provide extracts from our unique data set to seven DNSPs, plus AEMO, ESB, universities and energy regulators.

Solar Analytics does not currently participate in the FCAS markets neither as a MASP nor a technology provider. Since early 2020 we have been researching the opportunities in this space and intend to participate in either or both of these roles in the near future. Our perspective is therefore one of a new entrant, attempting to launch and scale a service in a market traditionally dominated by large entities.

Scope of review

Solar Analytics understands that the DER MASS review is an outcome of the AEMO VPP demonstrations project. The issues paper outlines two options for DER MASS, being:

Option 1: Leave current measurement requirements unchanged

Option 2: Embed measurement requirements tested in the VPP Demonstrations

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with the specifics of Option 2 being presented in section 2.3.2 of the issues paper, and the key changes being

a) Minimum interval for capturing power flow and local frequency to be <= 1 second across all NMIs, rather than <= 50ms as in the current MASS
b) For every 5 megawatts (MW) of aggregated ancillary service capacity per region, a high-speed meter capturing measurements of power flow and frequency with a resolution of less than or equal to 50 ms on a common time scale must be installed.
c) Measurements may be captured at the inverter or controllable device level rather than at the connection point, provided the power flow measurements from the controllable device and generating units behind the connection point, and the grid flow must also be captured.

This option is very similar to the specification used in the VPP demonstrations project, which was shown, through the knowledge sharing reports, to be sufficient to verify FCAS delivery and detect under-delivery.

In our stage one submission, we supported Option 2.

We have read and understood the draft determination to adopt Option 1.

Solar Analytics broadly supports the submission that the CEC will make on the draft determination. Therefore we will provide brief additional comments here.

Feedback to draft determination

Regarding the telemetry resolution, there were two reasons given for leaving requirements unchanged at <=50ms.

1. Systematic error in calculating delivery when using 1s resolution.
2. Uncertainty around the general response of DER to system disturbances.

Regarding the systematic error, we expect others will well cover the arguments for and against. We simply note that the draft determination concluded that the error would likely be overcome with reasonable changes to the verification tool. We therefore propose that these changes be pursued and consultation renewed with an updated verification tool.

However the draft determination argued that this is not worthwhile pursuing due to the uncertainty around general response of DER to system disturbances. We believe that these issues should be dealt with separately.

The issues surrounding DER response to disturbances have been known to a large extent since at least early 2019, with the publication of the incident report into the Aug 25, 2018

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double-islanding event. It would have been preferable for these issues to have been considered in the VPP demonstrations project and in the stage one MASS consultation if they were considered material to FCAS delivery. As lead organisation on one of the projects which uncovered these issues, Solar Analytics could have provided valuable contribution to such a consultation. Instead we are left to consider a wholesale abandonment of reform without a proper investigation of the impacts of DER response. In particular, the impact of data resolution and measurement location with respect to uncertainty in DER response has not been outlined at all. Instead, it appears that AEMO is simply opting to not change the MASS in the hope that this will discourage further VPP participation in FCAS, buying time to resolve DER response issues.

We urge AEMO to present a proper analysis of the impact of data resolution and measurement location on FCAS verification with respect to the DER response uncertainty that has been highlighted. This should be the basis of further consultation.

We also suggest that part of the reason for undesirable DER response during system disturbances is the lack of strict compliance and/or incentive regimes. Discouraging DER participation in FCAS markets continues to limit incentives to resolve undesirable response. It also penalises the entire industry for issues that can be resolved by individual manufacturers.

We urge AEMO to base FCAS participation on appropriate registration testing and delivery verification such that the onus is on participants to ensure their technology responds as intended.

We support efforts to continue to understand issues around DER response to system disturbances, including with our participation in the ARENA-funded MATCH project with AEMO and UNSW.

Conclusion

In summary, we accept there are concerns around changing the MASS at this time, but we believe these concerns have not been sufficiently analysed with the available evidence. We encourage AEMO to do so, such that we can have a meaningful consultation as an industry on whether they form a material risk to FCAS delivery under Option 2, compared to Option 1, and if so, how we can overcome them.

Regards,

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