

10 August 2021



Stakeholder Relations
Australian Energy Market Operator

Submitted electronically to stakeholder.relations@aemo.com.au

Dear Stakeholder Relations team,

Market Ancillary Service Specification amendment for Distributed Energy Resources

The Public Interest Advocacy Centre (PIAC) is a leading social justice law and policy centre. We are an independent, non-profit organisation that works with people and communities who are marginalised and facing disadvantage. We ensure basic rights are enjoyed across the community through litigation, public policy development, communication, and training. The Energy + Water Consumers' Advocacy Program represents the interests of low-income and other residential consumers, developing policy and advocating in energy and water markets.

PIAC welcomes the opportunity to respond to the Australian Energy Market Operator's (AEMO) consultation on amendments to the Market Ancillary Service Specification (MASS). PIAC understands AEMO is undertaking this consultation to determine whether it would be appropriate to amend the MASS to accommodate the provision of market ancillary services (FCAS) by distributed energy resources (DER) using the learnings from a trial of virtual power plant (VPP Demonstrations).

PIAC considers integrating DER into the energy system is critically important. Proper integration of DER benefits all consumers through lower network and wholesale costs, improved reliability and lower emissions and helps individual consumers better manage their energy costs. It is necessary for the energy system to become zero-emission, flexible and decentralised.

Allowing consumers to maximise value from their DER assets through participation in markets like fast FCAS is key to increasing investment in these resources and unlocking their benefits. It is in the consumer interest for DER to participate in all markets where they can offer value and AEMO should reflect this imperative and its role in facilitating it in its approach to amending the Market Ancillary Service Specification (MASS).

PIAC is concerned by AEMO's decision to retain the 50 millisecond (50 ms) metering resolution and not amend the MASS to a slower metering resolution. PIAC understands this is due to concern that slower metering produces an unacceptably high error compared to faster metering, and may negatively affect system security. PIAC appreciates AEMO's concerns however considers its draft decision may unnecessarily restrict competition in the fast FCAS market and slow the integration of DER, to the detriment of consumers. Before making a final determination on amending the MASS, PIAC recommends AEMO undertake work to determine a minimum metering resolution that ensures the

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integrity of the fast FCAS service while also encouraging VPP participation in the fast FCAS market and creating signals for investment in DER products and services. PIAC provides feedback on aspects of AEMO's draft determination below.

Measurement accuracy

PIAC does not consider AEMO has satisfactorily demonstrated why 50 ms metering is needed for measurement accuracy and thus why it is needed at all. Independent research commissioned by AEMO found 200 ms and 100 ms metering could, with adjustment to the measurement and verification methods employed, satisfactorily address the inaccuracy identified with slower metering. As such, it appears AEMO has largely chosen the 50 ms resolution to address system security concerns.

System security

PIAC considers AEMO has not made clear how retaining the 50 ms metering requirement in the MASS will address the system security concerns identified. These concerns relate to the potential for VPP operation to be impacted by local network constraints or faults, and behaviour of inverters in response to system disturbances.

AEMO identifies unexpected oscillatory responses of inverters as a system security risk that could be addressed by 50 ms metering. PIAC agrees systems that exhibit such behaviour are a risk, albeit not one that emerged during the VPP Demonstration. We consider Tesla's suggestion to filter these systems out during the testing stage and use existing or under-development requirements to provide confidence on the performance of a particular asset type, are reasonable and deserve to be investigated further.

The remaining system security issues identified are not proposed to be addressed through metering resolution and it does not seem appropriate for them to be dealt with through the MASS.

Excluding VPPs without 50 ms metering capability from the fast FCAS market does not prevent them participating in other markets, or implementing faster metering to continue in the fast FCAS market. As such, as long as these VPPs are participating in a market – whether it is fast or slow FCAS or something else – the system security issues associated with them will remain.

The issue of large-scale, coordinated battery injections or withdrawals threatening system security is not unique to VPPs participating in the FCAS market and will occur regardless of whether they are subject to the MASS. It is an issue distribution network service providers (DNSPs) are likely best-placed to manage alongside, or using, methods such as 'dynamic operating envelopes' and flexible export limits. South Australian Power Network (SAPN) has demonstrated these methods can mitigate this issue in its Advanced VPP Integration Trial.

System security issues are not directly relevant in considering whether VPPs can effectively participate in the FCAS market. This is evident in the fact system security was not a focus of the VPP Demonstration. PIAC agrees system security concerns must be addressed, however we consider this should not be through the MASS, rather through a separate process, such as the Energy Security Board's maturity plan, or other dedicated working group or forum. Rejecting otherwise appropriate MASS amendments that would introduce more competition into the FCAS market and build on the learnings and infrastructure of the VPP Demonstration to address seemingly irrelevant system security concerns is not in the consumer interest.

Metering costs

PIAC is not in a position to determine whether the costs of meeting the current 50 ms metering requirement are a barrier to VPPs participating in the fast FCAS market. We note some

stakeholders who participated in the trial consider the 50 ms requirement to be expensive, in some cases prohibitively so. Sonnen notes requiring 50 ms will force them to withdraw from 'some, if not all of the contingency FCAS markets due to the cost related to upgrading existing installations and modifying existing battery models' and AGL similarly considers the costs to a VPP operator of participating in the FCAS market under the stricter metering requirement would likely be greater than the benefit.

PIAC notes both the existence of the VPP Demonstration and its use of the lower resolution metering to encourage participation, suggests costs were preventing otherwise capable businesses participating in the contingency FCAS market. PIAC also highlights while the 50 ms requirement may not be prohibitively expensive, it increases the cost and reduces the overall value of providing contingency FCAS, and consequently consumers' DER.

As AEMO notes, several stakeholders have indicated the 100ms measurement resolution is currently achievable with various hardware setups currently in use, and it is likely that 50 ms will also be achievable in the near future. It is logical to make use of this available technology rather than require further, potentially unnecessary investment.

The path to the future energy system

AEMO's CEO, Daniel Westerman, recently outlined AEMO's goal to be able to handle 100 per cent instantaneous renewable energy on the grid by 2025, an ambitious goal that will require the optimisation of all tools at AEMO's disposal. Unlocking the value of flexible demand and distributed energy resources will be essential to achieving this and was a priority for the Energy Security Board in its Post-2025 market design process. Mechanisms such as VPPs and demand response will need to be mature and widely used, requiring a clear development path well before this time. AEMO's MASS draft determination does not provide a clear path for a mature VPP FCAS market in 2025.

We welcome the opportunity to discuss these matters further with AEMO.

Yours sincerely

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