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Amendment of the Market Ancillary Service Specification (MASS)

AGL Energy (**AGL**) welcomes the opportunity to comment on the Australian Energy Market Operator (**AEMO**) MASS consultation draft determination.

AGL is a leading integrated essential service provider, with a proud 184-year history of innovation and a passionate belief in progress – human and technological. We deliver 4.2 million gas, electricity, and telecommunications services to our residential, small and large business, and wholesale customers across Australia. We operate Australia's largest electricity generation portfolio, with an operated generation capacity of 11,208 MW, which accounts for approximately 20% of the total generation capacity within Australia's National Electricity Market.

AGL is generally supportive of the amendments proposed by AEMO in the second stage of the General MASS Review and we appreciate AEMO's openness to stakeholder feedback in the earlier stages of this consultation.

In the context of the DER MASS Review, however, we are concerned that AEMO's proposed sampling rate specifications present an unnecessary barrier to entry for DER participation in fast FCAS markets that is inconsistent with AEMO's strategic intent to facilitate DER market integration.

General MASS Review

MASS Principles

The proposed amendments to section 2.2 of the MASS require that if an Ancillary Service Facility is enabled for Regulation FCAS and Contingency FCAS, it should deliver both types of FCAS simultaneously. Following the implementation of Primary Frequency Response (**PFR**), any AGC signals received are effectively overridden by the PFR controller. For this reason, and due to AEMO's recent improvements in AGC dispatch, we do not have any issues with this proposed amendment. We note however that we intend to monitor the AGC signals and confirm the AGC dispatch does not interfere with or affect the generator's FCAS response.

Control System

The proposed amendments to section 10.4 of the MASS add additional control system requirements related to telemetered data rate, latency, and data fields. AGL expects that providing these additional data points will cause no issues and should be relatively easy to implement, we therefore accept the proposed amendments to this section.

Tests

Section 10.6 of the draft MASS adds new testing requirements for regulation FCAS to the MASS and provides rules for the timing of those tests. AGL considers that FCAS systems are effectively already being continually tested because if the AGC system is not followed it will become apparent through metering. With PFR implemented, the amount of noise on the system has greatly reduced, and this will allow for even greater verification of a generator's response to AGC signals. Given the availability of the metering data, we consider that other testing should only be required when no real data is available i.e., if a generator has undergone plant changes or has been found not to be following AGC signals. We suggest that requiring additional tests other than in these instances would increase costs for no real benefit. In regard to the proposed testing periods, to minimise any disruption to generator operations we strongly suggest that the timing be more variable to ensure that the testing can be aligned with generator outage schedules.

DER MASS Review

AGL acknowledges the system security risks identified by AEMO that will need to be effectively managed to support the continued integration of DER at scale. Nevertheless, we are concerned that AEMO's draft determination appears to conflate distribution network constraints and system security risks with the metrology requirements associated with market settlement.



While we commend AEMO in commissioning independent analysis through the University of Melbourne to understand the nature of these risks and identify options to manage them, it is not clear that requiring more onerous metrology requirements than were required in the VPP Demonstrations will mitigate the system security risks AEMO is seeking to address. At the same time, these requirements risk impacting the maturity of the market for DER services by limiting the ability of a range of technology providers to participate in VPP services. As a result, the proposed specifications present an unnecessary barrier to entry for DER participation in fast FCAS markets.

As participants in AEMO's VPP Demonstrations, we note the strategic intent that has underpinned that program to inform the integration of VPPs into the NEM before they reach scale, including *the regulatory arrangements affecting the ability of VPPs to participate and inform new or amended arrangement where appropriate*.

To determine appropriate technical specifications for business-as-usual operations, AEMO will need to effectively balance the system security needs with the strategic intent to facilitate DER participation in FCAS markets. In this regard, we would urge AEMO to consider the potential for alternative options to address any systems security risks that may prove more effective and cost-efficient for market participants.

Sampling rate

To guard against the risk of limited competition as the DER services market matures, we would recommend AEMO carefully consider the extent to which participants of the VPP Demonstrations are able to meet the proposed specifications, having regard to hardware costs, and whether such additional costs are justified based on the anticipated system security benefits.

We note that the Melbourne University analysis concluded that the 100 and 200ms measurement options are sufficient to meet AEMO's system security concerns. We understand that these options are much more cost-effective for a broader cross-section of inverter manufacturers.

We also consider a range of alternative options may be more effective in address system security concerns whilst also proving more cost-efficient for market participants. Potential options include more rigorous management of AEMO's frequency injection test and system firmware coupled with a discounting of fleet capacity. AEMO's draft determination does not appear to have sufficiently considered these alternatives.

Having regard to the above, s we would recommend AEMO defer this component of the MASS specification and commission further test analysis to confirm whether 100 or 200ms measurement granularity is satisfactory for the purposes of AEMO's market settlement systems. Following the conclusion of that analysis and before confirming the sampling rate specification for DER assets, AEMO should undertake a robust cost benefit analysis of all available options, considering:

- The diversity of OEMs seeking to participate in FCAS markets and the cumulative cost of the uplift of their hardware, software and cloud-based systems that will ultimately be borne by customers;
- The anticipated benefit in FCAS market cost reduction and commensurate savings for consumers that would result from scaled DER participation in frequency control markets;
- The likely cost impact of upgraded metering technology, including insights from providers such as AGL that:
 - Many consumers are unlikely to purchase a more expensive battery system upfront (if the upgraded meter is an add-on cost);
 - Adding a new meter after install will increase the cost of a compliant metering system significantly; and
 - Including the improved measurement devices in all systems regardless of whether the customer chooses to have them or not will increases costs for all consumers and amount to some customers cross subsidising the purchase of others.

Measurement at the connection point

AGL supports AEMO's proposal to mandate measurement at the connection point. In our view, this approach is consistent with current market arrangements and mitigates the risk of inaccuracy and gaming between multiple parties that could otherwise impact overall system balancing.

Future considerations

More, broadly we consider that the Draft Determination presents a range of important power system security concerns that warrant further attention by industry to support the development of appropriate measures.



We would therefore recommend establishing a formal work program with industry to continue consultation on system security concerns. This could be managed in partnership with ARENA's Distributed Energy Integration Program.

If you have any queries about the General MASS Review aspects of this submission, please contact Anton King AGL Wholesale Regulatory Manager on (03) 8633 6102 or aking6@agl.com.au. For queries regarding the DER MASS Review please contact Kurt Winter AGL Regulatory Strategy Manager, on 03 8633 7204 or kwinter@agl.com.au.

Yours sincerely,

Chris Streets

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