21 October 2021

Ms Anna Collyer
Chair
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Electronic Submission – ERC0306

AEMC Directions Paper: Capacity Commitment Mechanism and Synchronous Services Markets

Dear Ms Collyer

Energy Networks Australia (ENA) welcomes the opportunity to provide a submission to the Australian Energy Market Commission (AEMC) Directions paper on the Capacity Commitment Mechanism and Synchronous Services Market.

ENA is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

In summary, ENA supports;

- Developing arrangements that promote the efficient provision of essential system services (ESS) for the long-term benefit of electricity consumers;
- The non-market ancillary services (NMAS) approach as a more pragmatic way to address ESS requirements than a market ancillary services (MAS) approach;
- An approach to transition from procurement arrangements based on system configurations to specification and procurement of unbundled services as this will allow a smoother transition, given its greater flexibility to allow for combinatorial procurement;
- Further investigation on whether always-on services, such as those delivered by network assets (e.g. synchronous condensers, batteries or other network technologies), should be subject to different contractual arrangements from those offering scheduled, non-network services;
- An approach where system security configurations from the ESS optimisation routines feed into the pre-dispatch and dispatch engines for the energy/frequency control ancillary service (FCAS) spot market, with iteration to allow convergence;
- The AEMC and Australian Energy Market Operator (AEMO) consulting auction theory experts to identify approaches to procurement that mitigate the potential issues associated with thin markets;
- Further consideration of the development of a framework to address issues related to interactions between procurement activities at the operational and investment time horizons that result from the divided obligations and contracting responsibilities between AEMO and Transmission Network Service Providers (TNSPs) for system strength services;

- Improved cost-recovery arrangements to ensure TNSPs are not exposed to significant cash flow issues arising from exposure to market costs and uncertain dispatch of resources by AEMO where a TNSP is a party to the contract;
- AEMO producing annual reports on a regional basis of the costs of each service, including the relevant timeframes; and
- Aligning the implementation of any NMAS tools to value, procure and schedule system strength by AEMO with the commencement of TNSPs' obligations to meet the system strength requirements in late 2025.

Further detail on these points is provided below.

Endorse the need for reform

ENA supports an approach of developing arrangements that promote the efficient provision of ESS for the long-term benefit of electricity consumers. As the generation mix transitions, the historical arrangements where ESS can be relied upon as by-products of energy generation are unsustainable. ENA considers there is a need to act now to provide more appropriate incentives for investment and the provision of ESS.

At a high level, ENA endorses the AEMC's reform direction to move to a more complete market design that includes a framework to value, procure and schedule essential system services, consistent with advances in power system engineering knowledge. There are inherent inefficiencies, inappropriate incentives for investment and increased costs to electricity consumers in continuing to rely upon AEMO's direction powers to ensure the power system remains in a secure operating state. In the long term, this adds to system costs, for which electricity consumers ultimately pay. Proactive forward planning of system strength and other system services consistent with market and transmission plans is therefore supported.

Preference for a non-market ancillary services approach

ENA recognises the Energy Security Boards and the AEMC's preference for a NMAS approach to value, procure and schedule ESS. This aligns with ENA's position that addressing system security requirements does not have to involve moving progressively towards spot markets in all cases.

On balance, ENA considers that the NMAS approach represents a more pragmatic way to address ESS requirements than a market ancillary services (MAS) approach. This reflects that the NMAS approach will be easier to implement, given the reduced complexity in system changes required for AEMO and registered participants, and provides AEMO with greater confidence that resources will be available to ensure the power system will be in a secure operating state. The NMAS approach will also be more suitable where services need to be procured at a sub-regional level, as is the case for system strength.

ENA acknowledges the issues raised on the NMAS approach in the Directions Paper. There are also a range of technical, economic and legal details that need to be addressed to ensure successful implementation of the NMAS approach.

However, even with these issues, the ENA identifies that the NMAS approach will provide a preferable outcome for customers.

Transition to unbundled services

Subject to advances in power system engineering knowledge, ENA endorses the AEMC's proposed approach to transition from procurement arrangements based on system configurations to specification

and procurement of unbundled services. The move to more flexible procurement arrangements is expected to encourage innovation, with new technologies, such as grid-forming inverters, expected to deliver more cost-effective services than incumbent generators over time. Furthermore, ENA considers the NMAS approach will allow a smoother transition in arrangements, given its greater flexibility to allow for combinatorial procurement.

As the AEMC observes, system configuration requirements can and should change over time as the network evolves. The ability to define all power system requirements in terms of discrete services as well as forecast the ESS required, will no doubt also evolve throughout the transition.

ENA suggests the transition to service-based procurement will be best supported through prioritising work to translate system configurations into measurable, spatially defined service requirements, be they at the regional or sub-regional level. This will be critical to the success of unbundling ESS, as the full benefits of the transition to a service-based approach may not be realised until all ESS move away from a system configurations specification.

Costs and benefits of implementation

ENA supports the AEMC and AEMO to complete assessments of the costs and benefits of alternative NMAS reform proposals and pursue the reform option that delivers the highest (positive) net market benefit.

To gain broader support for the reform direction, ENA recommends the AEMC and AEMO clarify the initial and ongoing costs for an NMAS approach borne by AEMO, including program management and industry testing arrangements, and the implementation costs borne by market participants and TNSPs. For instance, AEMO has advised that the cost of implementing a unit commitment for security and/or system security mechanism, as proposed through the ESB's Post-2025 Market Design project, could cost between $30 million and $50 million.

ENA appreciates that these reforms will change the "cost stack" for energy, with some of the value previously attributed to energy in the wholesale market expected to be accounted for by payments to providers of ESS. As a result, care needs to be taken to ensure costs are ascribed appropriately as part of the cost-benefit assessment for more detailed reform proposals.

Contractual and procurement design issues

The right mix of contracts and terms, including both always-on and scheduled services, will be important to meet the future needs of the power system. Consequently, ENA recommends the AEMC investigate whether always-on services, such as those delivered by network assets (e.g. synchronous condensers, batteries or other network technologies), should be subject to different contractual arrangements from those offering scheduled, non-network services.

The different incentives around commitment and decommitment to ESS markets for always-on and scheduled services also have implications for price-setting arrangements. For scheduled third-party providers of system services, the ability to provide the service may be affected by positions in the wholesale energy market. ENA appreciates generators would not operate where their total payments across the energy/FCAS market and applicable ESS contracts would not meet their short-run marginal costs over extended periods. Consequently, fixed-price contracts for ESS may not offer appropriate incentives to ensure third-party providers of ESS commit to provide these services. ENA considers

contracted prices for ESS may need to be linked to wholesale energy market prices to ensure scheduled third-party providers have appropriate incentives for investment and services provision.

ENA acknowledges some markets for ESS may be "thin", with only a few market participants capable of providing the required services. This is more likely for ESS procured at a sub-regional level, such as at individual system strength nodes, and over shorter time horizons. Thin markets mean there is greater scope for participants to engage in strategic behaviour in an allocation process, such as an auction or tender, that mitigates competition. AEMO and TNSPs are aware that parties could bid up the price for locational system strength services up to the cost of bypass, which results in high costs for services provided at short notice.

Auction theory has been developed specifically to address thin market problems and has an important role in procurement where there are few participants. ENA recommends the AEMC and AEMO consult auction theory experts to identify approaches to procurement that mitigate the potential issues associated with thin markets.

AEMO IT system changes

ENA considers a key reason to prefer the NMAS approach is that it enables a separate optimisation platform for ESS, which results in a more tractable approach to solving for energy market dispatch. To ensure the solutions of the two optimisation routines to offer lower-cost arrangements for customers, ENA recommends the Draft Determination explore the benefits of AEMO's systems accounting for the interactions between NMAS optimisers and the energy/FCAS spot market in a more fulsome way. In particular:

- updated shadow values for the benefits of potentially relaxing constraints that reflect positions in the energy/FCAS market should be accounted for in optimising the system security market to assess whether procuring additional system security services will deliver lower-cost dispatch; and
- activated contracts in an ESS market may be associated with a minimum safe operating load that is strictly positive. These constraints should be reflected as an additional inequality constraint in the pre-dispatch and dispatch engine to ensure energy delivery is balanced.

ENA also recommends the AEMC and AEMO consider how the two optimisation processes will be sequenced to capture appropriate interactions. Based on the primacy of ensuring the system remains in a secure operating state, ENA considers an appropriate approach would be for system security configurations from the ESS optimisation routines to feed into the pre-dispatch and dispatch engines for the energy/FCAS spot market, with iteration to allow convergence.

Interactions with the system strength Rule change

The AEMC's Draft Determination for the *Efficient management of system strength on the power system* Rule change proposal requires TNSPs to use reasonable endeavours to meet obligations for system strength in investment timeframes. Using the mechanisms considered in the Directions Paper, AEMO may seek to supplement contracts negotiated by TNSPs with shorter-term contracts in operational timeframes and activate contracts made by TNSPs to meet system strength service requirements.

As part of the Draft Determination for the *Capacity commitment mechanism and synchronous services markets* Rule change processes, ENA recommends the AEMC considers the development of a framework to address issues related to interactions between procurement activities at the operational and

investment time horizons that result from the divided obligations and contracting responsibilities between AEMO and TNSPs for system strength services. These include:

- the degree to which contracts negotiated by TNSPs need to be standardised to allow them to be scheduled readily by AEMO;
- the legal relationship between the system strength service providers (SSSPs), AEMO and any third-party providers of system strength services, given AEMO is not a party to the long-term contracts agreed between SSSPs and third-party providers;
- the mechanisms through which AEMO can enforce system strength service contracts agreed between SSSPs and third-party providers in operational timeframes;
- the adequacy of incentives in longer-term contracts to reduce the likelihood of third-party providers decommitting strategically, such as when wholesale electricity prices are negative, where their actions may threaten AEMO's ability to keep the power system secure. ENA suggests that AEMO's Draft NMAS Agreement for Tender may be a useful starting point for this assessment; and
- whether third-party providers could hold back, fully or partially, from longer-term TNSP-led structured procurement arrangements to enter short-term contracts with AEMO at higher prices. This is akin to design decision made regarding RERT being from participants whose energy or system is not also able to participate in the market.

ENA also recommends the AEMC's Draft Determination for the *Capacity commitment mechanism and synchronous services markets* Rule change proposes cost-recovery arrangements to ensure TNSPs are not exposed to significant cash flow issues arising from exposure to market costs and uncertain dispatch of resources by AEMO where a TNSP is a party to the contract.

Reporting arrangements

ENA supports transparency in the use of contracted system services and AEMO's interventions in the market to maintain system strength. To build broader awareness of the use of contracted services and AEMO's direction powers, ENA supports AEMO producing annual reports on a regional basis of the costs of each service, including the relevant timeframes.

Reform timetable

ENA considers there would be benefits in aligning the implementation of any NMAS tools to value, procure and schedule system strength by AEMO with the commencement of TNSPs' obligations to meet the system strength requirements in late 2025. ENA recommends that the AEMC's Draft Determination in December 2021 includes a project plan with the high-level steps to implement operational tools in this timeframe.

Should you have any queries on this response please feel free to contact Verity Watson, vwatson@energynetworks.com.au.

Yours sincerely,

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