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Efficient Provision of Inertia (ERC0339) – Consultation Paper

EnergyAustralia is one of Australia's largest energy companies with around 2.4 million electricity and gas accounts in NSW, Victoria, Queensland, South Australia, and the Australian Capital Territory. EnergyAustralia owns, contracts, and operates a diversified energy generation portfolio that includes coal, gas, battery storage, demand response, solar, and wind assets. Combined, these assets comprise more than 5,000MW of generation capacity.

EA is dedicated to building an energy system in the NEM that lowers emissions while delivering secure, reliable and affordable energy to all households and businesses. This requires being a good neighbour in the communities in which we operate and those we seek to construct new investments. We, therefore recognise the value in working with all community stakeholders, including Aboriginal and Torres Strait Islander peoples as the traditional custodians of this land. We acknowledge and respect their continued connection to all aspects of Country.

EA welcomes the opportunity to comment on the Efficient Procurement of Inertia consultation paper (Inertia rule change). Inertia has historically been provided to the grid by traditional synchronous generators as a by-product of energy production. However, the impending closure of thermal generation across the NEM combined with the increasing levels of IBR-connected generation will result in a gradual deterioration of ESS (including inertia) if not addressed in the near term, putting grid security at serious risk.

To this end, EA has been a strong supporter of the need to identify and develop suitable solutions to ensure the NEM maintains an efficient and stable suite of essential system services over the energy transition and beyond. This feat requires a coordinated, rigorous and transparent regulatory effort to avoid duplicative or overly complex mechanisms to

enable new investments to step in and provide these system stability services. While we recognise the significant amount of regulatory change currently on foot across the reliability and security agendas, getting the timing right and implementing new ESS procurement mechanisms, including for inertia, before they are needed - to generate investment continuity - will be critical to the NEM's stability over the next decade.

Our key points set out in this submission are as follows:

- A market based solutions to declining system inertia levels is needed before 2030.
- A spot market appears the best option, however there is value in further exploring a RoCoF Control Market model.
- Irrespective of the model progressed, AEMO technical analysis on a range of issues is necessary to further consideration.
- The OSM, combined with structural procurement could present a viable short term option – but is not a functional long term model.
- A technical working group and independent expertise should be sought to assist the design process.

A market mechanism will deliver best outcomes

EA supports the AEC's proposal to introduce a market for inertia services. A spot market will empower generators that are able to provide this service, create an additional revenue stream by unbundling the service, enable participants to co-optimize the service with other existing services (i.e. energy and FCAS), and provide the market operator with access to new service providers if necessary. However, while this outcome is sensible, there is a significant and urgent need for further technical design and development work to be completed by the market operator to inform the problem statement (i.e. magnitude etc.) and outline the long-term needs of the grid. This work program should be connected to existing AEMO processes, particularly the Engineering Report which looks at the technical needs and characteristics of the NEM necessary to implement the ISP.

EA acknowledges that while AEMO may need some time to complete these studies, sufficient assessment has already been completed to shape a preliminary position on aspects of technical market design, which will be necessary irrespective of the type of procurement mechanism selected. We note that learnings from the Tasmanian experience could also be considered in the context of a mainland service (noting that there are key geological and geographical differences but that technical design/process could be useful).

We believe the Commission has already identified the key questions to resolve, including around designing system inertia needs across all time horizons, consideration of technical standards (such as a RoCoF standard) to quantify system requirements, and seeking clarification on the types of capable technologies and differences in inertial provision by rotational and non-rotational sources. Therefore, we encourage the AEMC to work with

AEMO to identify these technical design parameters to ensure a technology neutral mechanism can be designed.

As an alternative to a spot market, EA considers value in further work to investigate the RoCoF Control Market, on the basis that the Reliability Panel has already recommended introduction of a RoCoF Standard. There is value in connecting these work programs noting that introduction of a RoCoF Standard would set the technical requirement to enable a functional equivalent market to operate. Although the AEMC points to the Western Australian market as a starting point, we believe that the technical and economic attributes will vary greatly from any NEM-design. Nevertheless, critical policy design, market operational and process functions could be helpful to lead discussion.

In the short to medium term leading up to the establishment of a market mechanism, EA believes that a structural procurement model could best service the need for inertia and would assist in providing both suitable price signals and investment incentives for new connecting assets to provide the service. As such, while the Operational Security Mechanism (OSM) could be used as a complementary tool for valuing and scheduling inertia over this time period, we do not believe it can function as a long term solution. This is because, by its very nature, the OSM is a management tool only and will not drive investment, support unbundling of ESS or co-optimize services in real-time (i.e. the current proposal only supports co-optimisation in pre-dispatch). EA strongly believes that to ensure consistent regulatory reforms are achieved, the OSM rule change should be co-ordinated with this Inertia rule change and should not be finalised in advance, noting the intricacies between inertia and system strength (proposed for delivery through the OSM) and its interdependences in framework design.

Design and Implementation

EA encourages the Commission to set up a technical working group to assist its thinking on the technical and economic design, mechanism development, implementation and broader coordination considerations on this rule change. Similar to the setup implemented for the OSM rule change progress, the AEMC should lean on the significant array of expertise within the industry to test its thought-processes and ensure that consideration and finalisation of this rule change remains consistent, compatible and importantly, cost efficient with other ESS reforms. EA welcomes the opportunity to participate in these detailed discussions.

We also recommend the use of an independent expert consultant to assess the cost and benefits of all shortlisted options and to verify AEMO's technical analysis before it is assumed as fixed state. This could occur prior to publication of the draft determination, once AEMO's technical advice has been received. The use of an expert will also build in much needed transparency and an independent view of any proposed reform options, their costs and benefits, as well as any unforeseen consequences and linkages with other ESS and non-ESS reforms.

With respect to the implementation timeframes, a market based option should be operational before 2030 to account for the decline in synchronous inertia across the NEM, as reported by AEMO in various reports, including the 2022 ISP and their Engineering Report. Setting an operational date later than this will not provide suitable time for operational teething issues to be resolved (such as those currently being experienced with the System

Strength Framework), will not provide a long enough investment signal for new capable assets to be built, and would not allow AEMO sufficient time to assess long term market needs. Providing a targeted implementation upfront will help to minimise these issues and provide stability and security to the NEM.

If you would like to discuss this submission, please contact me on 0422 399 181 or Dan.Mascarenhas@energyaustralia.com.au.

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