



20 April 2023

Anna Collyer
Chair
Australian Energy Market Commission

Submitted online: www.aemc.gov.au

Dear Ms Collyer

Efficient Provision of Inertia – Consultation Paper

Origin Energy Limited (Origin) welcomes the opportunity to provide comments on the Australian Energy Market Commission's (AEMC) Efficient Provision of Inertia Consultation Paper.

We generally support the intent of the proposed inertia spot market which seeks to facilitate the efficient valuation and provision of inertia with a view to supporting system security as the power system transitions to higher levels of variable renewable energy (VRE). Importantly, the proposal is consistent with the Energy Security Board's (ESB) Post-2025 market design recommendations which identified a spot market approach for inertia as a key longer-term reform for development.

Our initial view on the merits of the rule change proposal and areas where additional analysis is required to facilitate a more informed assessment of the rule change proposal is provided below. We have also provided comments on the alternative options for inertia provision detailed in the Consultation Paper.

1. Merits of the rule change proposal and areas for additional analysis

Origin generally supports the development of real-time markets for essential service provision where possible, given spot market arrangements typically provide the most efficient way to value and procure services. Spot markets send clear price signals to participants which should enable them to make efficient investment and unit commitment decisions. Spot markets also best facilitate competitive service provision, which should put downward pressure on costs over time, encourage innovation and reduce the risk of over-procurement. Additionally, spot markets allow for co-optimisation¹ with other services, which can unlock additional benefits as services can be traded off for cheaper alternatives or procured in greater volumes when there is net economic benefit.

Inertia is seemingly well suited to procurement via spot market arrangements. This is because inertia can generally be procured globally² – which allows for a greater pool of providers and supports competitive service provision; it can be objectively defined, measured and monitored; and there is scope for the dynamic co-optimisation of inertia with energy and other system services.³

¹ Scope for co-optimisation exists because some essential services are partial substitutes for each other, and also in some cases multiple services can be simultaneously provided by a single resource.

² We note location-specific requirements may be necessary in certain cases, such as for areas that are at risk of islanding.

³ FTI Consulting, *Essential System Services in the National Electricity Market – a report for the ESB*, p, 140

There is also a risk that relying on the existing framework may not facilitate efficient outcomes going forward. As identified in the Consultation Paper, this is because the framework relies on a static assessment of minimum inertia requirements at a future point in time and does not allow for real-time co-optimisation with energy and other system services. There is also limited transparency around the inertia needs of the system, and by extension its value, which can impede investment signals and reduce scope for efficient service provision.

Given the above factors, we support the intent of the rule change proposal and consider it prudent to undertake work on assessing / designing a more market based framework now to assist with the power system transition and ensure the appropriate operational signals are in place prior to the retirement of traditional providers of inertia. To facilitate a more informed assessment of the rule, we consider further analysis / technical work should be undertaken to:

- determine the volume of inertia that will likely need to be procured globally and potentially locally in the national electricity market (NEM) under various market conditions, and the factors that would drive these requirements;
- describe the technologies that should / would be permitted to participate in the inertia market; and
- examine the extent to which synthetic inertia could be used as a substitute for rotational inertia.

A detailed economic assessment of potential cost recovery arrangements should also be undertaken to enable participants to understand their potential exposures. This should be a priority area for the AEMC and key aspect of any early market design considerations.

Further, we consider a technical working group should be established (consistent with the separate operational security mechanism (OSM) process) to allow industry to provide ongoing input to the rule change process and enable the AEMC to share any preliminary analysis on the areas identified above. To develop / test the proposal, it would also be for the technical working group to consider illustrative examples that to demonstrate how a notional generator could optimise its position across the energy, inertia and FCAS markets.

Given that an adequate level of inertia is a fundamental requirement for all power systems, we note there may also be benefit in the AEMC conducting an international review of inertia procurement arrangements in other jurisdictions.

2. Alternative options for inertia provision

In addition to the proposed inertia spot market, the Consultation Paper has presented several alternative options for inertia provision for stakeholder feedback. Below we provide our preliminary views on these options.

- Rate of Change of Frequency Control Service Market: This option may carry some of the same efficiency benefits of an inertia market and warrants further consideration by the AEMC. The AEMC should examine Western Australia's RoCoF Control Service Market to determine whether there are any potential lessons that could be learned and if these arrangements are applicable to the NEM.
- Ahead market for inertia: We consider this would introduce inefficiencies in the procurement and allocation of inertia as it would lock-in providers' commitment and decommitment decisions – decisions would not be made based on the latest market / system information. Origin understands this option will be explored via the OSM work program, however we note the AEMC / Australian Energy Market Operator (AEMO) are yet to define the services that will be procured

via the OSM. We encourage the AEMC to clearly articulate the interactions between the proposed inertia spot market and OSM design processes.

- Structured procurement of inertia services by AEMO / monopoly networks: This procurement approach relies on static forecasts of future needs and may lead to over procurement and increased costs to consumers. Ultimately, consumers may end up paying a higher (relative) cost for inertia services relative to the spot market proposal.

If you wish to discuss any aspect of this submission further, please contact Thomas Lozanov at thomas.lozanov@originenergy.com.au.

Yours Sincerely,

A handwritten signature in black ink that reads "S Cole". The signature is written in a cursive, slightly slanted style.

Shaun Cole
Group Manager, Regulatory Policy