7 February 2025

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

Lodged electronically: online

EnergyAustralia Pty Ltd
ABN 99 086 014 968

Level 19
Two Melbourne Quarter
697 Collins Street
Docklands Victoria 3008

Phone +61 3 8628 1000
Facsimile +61 3 8628 1050

enq@energyaustralia.com.au
energyaustralia.com.au

Efficient Provision of Inertia (ERC0339) – Directions 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 welcomes the opportunity to comment on the Efficient Procurement of Inertia Directions Paper (Inertia Directions). Inertia historically has been provided to the grid by traditional synchronous generators, including thermal, gas and hydro, as a by-product of energy production. Since the NEM's inception, inertia, and other energy system services (with the exception of frequency) have been provided without any associated financial value because it has been produced in abundance. However, the impending closure of thermal generation across the NEM combined with the increasing levels of IBR-connected generation, and the lack of market signals to build up sufficient Essential System Service (ESS) capability is resulting in gradual deterioration of system stability. This is evident primarily in South Australia, but contingency risks and security shortfalls are growing in other areas of the NEM. If not addressed, the risk of significant market directions, and at worst, system black events could eventuate.

EA remains a strong supporter of the need to identify and develop suitable solutions to ensure the NEM maintains an efficient and stable suite of ESS over the energy transition and beyond. With regard to inertia, we continue to support the need to develop a spot market to value this critical service. However we understand through the Inertia Directions, that the AEMC and its consultant consider that there are risks with this approach. AEMC has proposed that minimum inertia requirements should continue to be delivered by

transmission businesses (TNSPs) at the regional level (even though the characteristics of inertia more closely align it to a global service, akin to frequency). The Inertia Directions paper also sets out the need to account for additional inertia requirements (above the minimum level) to reduce the system reliance on frequency services (particularly fast frequency) and lower overall costs. We are broadly supportive of the AEMC's intent and approach to use the Inertia Directions paper as a vehicle for assessing the economic case for operational inertia.

While we accept the AEMC's position that the current inertia framework addresses the requirement to meet minimum inertia theoretically, at least cost, we do not support its view that '*minimum inertia is unsuitable for operational procurement due to its critical role in system service and high costs of undersupply'*[1]. The rationale for this statement appears to be subjective, lacks rigour and instead reflects the experience of the consultant, and does not take into account the operationalisation of frequency services which followed a similar path from structured procurement to dynamic ancillary market service/s.

Further, even if the AEMC's statement held true and utilisation of existing inertia mechanisms (i.e. long term structural procurement via TNSPs) were pursued, EA does not believe the AEMC's position sufficiently addresses the broader risk associated with access and implementation of synchronous condensers, and therefore is not consistent with the NEO. We note in the AEMC's view that *"synchronous condensers, including those equipped with flywheels, will play a growing role in meeting inertia requirements. Under the updated system strength and inertia frameworks, TNSPs are preparing to install approximately 36 new synchronous condensers over the next nine years to meet their obligations"*[2]. AEMC has acknowledged the uncertainties around timelines, procurement and technical specifications of these synchronous condensers but has still progressed its belief that condensers will be operational. Globally, access to synchronous condensers and the parts used to build/maintain them are in high demand, and we're concerned that these plans will not eventuate or not eventuate on time when their services (including inertia) are needed.

We encourage the AEMC to further consider the nature of inertial services, the growing requirement[3], and other ways to deliver against the minimum inertia requirement against its economic test for operational procurement of inertia. For example, it is worthwhile exploring whether synchronous condensers could be implemented by existing market participants or expanding the remit of type 2 security contracting (under the Improving Security Frameworks rule) amongst other options which introduce a layer of conservativism in minimum inertial delivery.

As above, in our view the requirement for inertial support will likely continue to grow as the NEM evolves and more renewable generation is built. While we consider the consultancy has underestimated the growth projection for minimum and additional inertia, we support the AEMC's view that additional inertia can be supplied by the market. Creating a market signal and valuing additional inertia will go someway to addressing one of the most critical missing system service markets in the NEM. We encourage the AEMC to set out its decision to

[1] ERC0339 Directions Paper – page iv
[2] ERC0339 Directions Paper – page iv
[3] to account for an increasing number of renewable generation (without ESS capability) including within Renewable Energy Zones and via other complex connection configurations (such as offshore wind etc.)

progress with an operational inertia service by the end of the year, to ensure that implementation can occur well before 2030 to account for the decline in synchronous inertia across the NEM[4],. We reaffirm our previous position that setting an effective 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);
- provide a long enough investment signal for new capable assets to be built;
- allow AEMO and the industry to agree a suitable definition and test procedure for synthetic inertia; and
- allow AEMO sufficient time to assess long term market needs and set out their view in planning documents.

EA supports a staged approach to implementation to help minimise these issues, manage and coordinate regulatory change and set up costs, and better support ongoing grid stability and security.

If you would like to discuss this submission, please contact me on [redacted] or [redacted]

Dan Mascarenhas
Regulatory and Markets Principal

[4] as reported by AEMO in various reports, including the 2022 ISP and their Engineering Report