Australian Energy Market Commission
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**ERC0339 – Efficient Provision of Inertia**

The Australian Energy Council (AEC) welcomes the opportunity to make a submission to the Efficient Provision of Inertia Joint Paper by AEMC and the Australian Energy Market Operator (AEMO).

The Australian Energy Council is the peak industry body for electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. AEC members generate and sell energy to over 10 million homes and businesses and are major investors in renewable energy generation. The AEC supports reaching net-zero by 2050 as well as a 55 per cent emissions reduction target by 2035 and is committed to delivering the energy transition for the benefit of consumers.

**Role of Joint Paper**

The paper has provided a broad update of the progress of many issues that have relevance to the need for, and appropriate implementation timing of, the AEC's proposal for an inertia spot market. These include useful insights.

As noted in our proposal, the AEC presented the rule change as consistent with the Energy Security Board's (ESB) recommendations in the Post 2025 review. Despite being members of the ESB, this new joint paper implies that AEMC and AEMO do not presently share the Energy Security Board's (ESB) view that:

- Inertia should be purchased via spot market approaches; and
- It is required as longer-term Essential System Service, implying initial design work should begin soon.

Whilst not dismissing the thoughtful consideration that led to the joint paper, the AEC remains committed to its rule change and feels it should progress. The AEC always recognised that the inertia spot market was only one of many parallel activities occurring in the ESS timeframe. In its proposal the AEC discussed:

- The inertia spot market would relate to and to some extent overlap with, other ESS mechanisms. The AEC does not see this as problematic; and
- The AEMC's design process, followed by an AEMO implementation process, should not be rushed. Each would take at least a year and more probably two. Thus, the AEC suggested the design process begin during calendar 2022, well before inertia conditions become critical.

Presenting a contextual paper ahead of a rule change process is unusual, but is not necessarily unwelcome. The AEC supports the AEMC publishing material that makes the scheduling of the rule change queue more transparent and predictable to participants, including inviting feedback.

The AEC has concerns, however, in the fact that this report was prepared as a joint paper with another interested party to the Rule Change. In its statutory role as Rule Maker, it is important for the AEMC to show impartiality across the interested parties. AEMO is welcome to submit its views into the rule change process, or propose an alternative rule change. AEMO is known to favour other approaches than the AEC's preference, and therefore for the AEMC to invite them into activity that sits very close to the Rule Making task itself, raises obvious concerns.

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The AEC suggests that if in future the AEMC wishes to prepare such material preceding consideration of a rule change, then it should refrain from involving interested parties in this manner.

**Role of Inertia Spot Market versus other initiatives**

The ESB and AEC are attracted to an inertia spot market design as it is likely to best meet the National Electricity Objective (NEO) versus other approaches to procuring inertia. It will produce a decentralized price signal that will encourage efficient supply from existing sources and provide an investment signal for new sources. It is the design most consistent with the existing energy and Frequency Control Ancillary Services (FCAS) markets and therefore best understood.

The AEC concurs that all the "related initiatives" listed in the paper have intersections with AEC's ambitions and may, indirectly, lead to the provision of some inertia as their by-product. However they do not unbundle and explicitly value inertia. For this reason they provide less confidence that a secure quantity of inertia will be efficiently procured.

*Operating Reserves*

The AEC sees this potential reform of low relevance to its rule change. Operating reserves would specify a minimum capability to rebalance energy in a short time frame. There is no reason why such a capability would necessarily be matched with inertia. Indeed it could well be provided by forms of storage without the grid-forming capabilities necessary to provide inertia equivalents.

*System Strength*

The AEC recognizes that the system strength framework creates new Transmissions Network Service Provider (TNSP) planning approaches relevant to specific areas of the grid that enables the TNSP to efficiently acquire non-energy services, potentially funded by connectors. Whilst it has been developed with system strength in mind, the concepts could theoretically be extended to the purchase of inertia from either connecting parties or from TNSP equipment.

However this framework is designed around a relatively local issue, system strength, covering perhaps the extent of a Renewable Energy Zone (REZ). Hence the role of the TNSP. Inertia however can be obtained competitively across a whole AC interconnected grid and should be purchased globally wherever possible. Thus the system strength framework does not appear to be a promising alternative to a global spot market.

*Operational Security Mechanism*

This initiative has perhaps the most relevance to the need for an inertia spot market and the AEC understands AEMO is hopeful that it would obviate a need for a spot market in inertia and other ESS'.

The AEC holds a different view. The AEC feels that a great advantage of the National Electricity Market's (NEM) design is its self-commitment characteristic and does not support relying on the market operator to determine when plants should be operated.

Relying on such mechanisms as the primary means to commit plant is a major departure from the efficiency of spot markets. This alternative philosophy instead centrally selects operating plants on the basis of the range of services it will bring to the power system, and is paid according to a joint bid covering the entire bundle rather than clearing prices.

The AEC's preferred philosophy is however to unbundle services wherever possible and to explicitly price each of them at a competitive clearing price. It is then left to participants to determine how to operate their plant, and in doing so, benefit from the total of the revenues from each of the services that that plant supplies. This is consistent with the long-term vision that essential system services should be unbundled and co-optimised.

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The AEC is not opposed to the development of a Unit Commitment for Security (UCS) or System Security Mechanism (SSM) to assist AEMO's decision making when it has to:

- Intervene in the market through direction, or
- Schedule the operation of existing contracted services, such as the Reliability and Reserve Trader (RERT).

However the UCS/SSM should never be seen as an alternative to spot markets, but instead as part of a back up where spot markets fail (intervention), or where spot markets are unavailable (contracts). The AEC considers that procurement of essential system services in advance using the UCS/SSM would be less efficient than purchasing services through a spot market co-optimised in real time.

**Timeframe and Cost**

In the AEC's mind, an inertia spot market of the form proposed by MarketWise is not a radical nor excessively complex proposal. It is conceptually similar to the existing spot markets operated by AEMO, and, like them, would run automatically co-optimised through the dispatch engine.

Indeed it contrasts with UCS, SSM and Operating Reserves which are conceptually very different to the existing spot markets and present much more substantial design and implementation challenges. These will face much greater difficulties in gaining operational familiarity, both for AEMO and participants.

Whilst the inertia spot market is not conceptually different to the FCAS markets, the AEC accepts it is a more material reform than the Fast Frequency Control which replicated existing FCAS markets. However MarketWise has included suggestions that attempt to make the IT enhancements relatively incremental and of much lower order than the reforms described above.

The paper presents a narrative that inertia shortfalls are at worst distant and at best never occurring due to the above alternatives. Yet the evidence the paper presents is mixed, including recently declared, and in some cases subsequently undeclared, inertia gaps.

Furthermore, new evidence presented in the 2022 Integrated System Plan (ISP) suggests shortfalls will occur by the end of this decade[1].

Whilst the timing of the initial need is uncertain, the AEC re-iterates that it considers its proposed reform of low regret. There will be a systems development cost, but, if the reform is introduced ahead of the requirement, it would not be expected to add operational cost to the market for the reasons described in the rule change.

The AEC suspects the need for explicit inertia purchase is growing, but at a rate that provides sufficient time for the AEMC to thoughtfully design, and AEMO to confidently build, an inertia spot market. For these reasons the AEC feels the process should begin this year, while a window remains to develop the market without haste.

Any questions about this submission should be addressed to me directly, by email to ben.skinner@energycouncil.com.au or by telephone on (03) 9205 3116.

Yours sincerely,

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[1] See ISP Appendix 7.4.3 to 7.4.8

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