6 February 2025

Ms Anna Collyer
Chair
Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

Submitted via portal on www.aemc.gov.au

Reference: ERC0339

Dear Australian Energy Market Commission

Re: Stanwell response to the Efficient Provision of Inertia Directions Paper

Stanwell Corporation Limited (Stanwell) welcomes the opportunity to respond to the Australian Energy Market's (AEMC) Directions Paper on the Efficient provision of Inertia.

Stanwell is Queensland's leading provider of electricity and energy solutions to the National Electricity Market, and large energy users along the eastern seaboard of Australia.

With over 40 years of continuous operations, Stanwell's experience in working with communities to build, operate and maintain reliable energy generation assets is also being applied to the rollout of renewable energy.

Stanwell is developing a pipeline of renewable energy and storage projects throughout Queensland, whilst maintaining a reliable supply of baseload power from two of the most efficient and reliable coal-fired power stations in Australia – the Tarong power stations near Kingaroy and Stanwell Power Station near Rockhampton.

Stanwell appreciates the important work of the AEMC in developing and amending the national electricity, gas and energy retail rules and in conducting independent reviews for energy ministers.

Stanwell also appreciates the AEMC engaging on the Efficient Provision of Inertia Directions Paper (Directions Paper).

This response contains the views of Stanwell only and should not be construed as being indicative or representative of the views or policy of the Queensland Government.

Background

Inertia is a by-product of coal and gas energy generation by units built with components that spin as part of their generation process i.e. synchronous generation. Inertia reduces the rate at which frequency in the NEM changes when there is a disturbance to system frequency. In this way, inertia helps to ensure stability and security of reliable energy supply to the NEM.

Inertia is one of a group of essential system services (ESS) needed to support system security within the NEM. Where an inertia shortfall exists or a shortfall is forecast by the Australian Energy Market Operator (AEMO), Transmission Network Service Providers (TNSP) can either procure inertia (through contracted services) to recover the minimum amount of inertia required to ensure stability across the NEM, or provide the needed inertia themselves by procuring and installing synchronous condensers as network assets.

Introduction

Many of the ESS, including inertia that support the stable and reliable operation of the NEM are currently provided free of charge to the market by synchronous generation. As the NEM shifts to more renewable energy sources within the energy system, these previously provided "free services" will progressively decline, creating an inertia shortfall unless there is a transparent and efficient market to incentivise new providers.

Over the past several years, various consultations have attempted to address this issue. Stanwell has responded to these consultations, advocating for reforms that move away from contracted ESS to a transparent, operational market for these services including a market for inertia, prior to any inertia shortfalls occurring.[1]

The Wholesale Market Setting Review and the inertia Rule change

The impact of the Federal Government's Wholesale Market Settings Review (NEM Review) on the energy market is unclear. What is clear however, is that the energy market is changing and will continue to change to accommodate the shift to low or zero emissions energy technologies entering the market.

Regardless of the pace of the energy shift, changes that do occur to the inertia provider landscape may be substantial unless sufficient provision is planned well in advance.

While we recognise that Stanwell has previously advocated for a separate inertia market, we do not advocate for the implementation of a mechanism that does not work harmoniously with other broader reforms resulting from the NEM Review.

As the market evolves and ESS from alternative sources are required, consideration will need to be given not only to how to incentivise these alternative sources into the market, but how to do this in a way that complements other broader reforms. For example, will a technology agnostic inertia market provide adequate compensation for ESS providers, or will a capacity mechanism (referred to in the NEM Wholesale Market Settings Review),[2] along with other markets for essential system services be required. In any case, the inertia provided by assets participating in these markets should be considered a 'first port of call' for ensuring there is sufficient inertia in the market. Where a shortfall exists or is forecast, other sources of inertia could then be considered.

To this end Stanwell supports the immediate advancement of a separate inertia market. However, provision should also be made for a review of this reform pending the outcomes from the NEM Review so as to limit the impacts on the market and consumers resulting from contradicting mechanisms.

In our view, this approach will support longer-term investment signals now, while allowing for modification to ensure any inertia Rule change will be complemented by the 2030 reforms.

Minimum and additional inertia

The Directions Paper proposes to split inertia into two categories; *minimum inertia* required to maintain system security, and the inertia needed above the minimum requirement or *additional inertia*.

The Directions Paper concluded that operational procurement was *"…not recommended as a primary mechanism for minimum inertia…"* [3] while additional inertia on the other hand, was found to be better suited to some form of open trading market to value inertia. [4]

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[1] Stanwell Corporation Limited 2020, *Submission to Post-2025 Market Design Consultation Paper*, and Stanwell Corporation Limited 2021, *Submission to Post-2025 Market Design Options – A Paper for Consultation*, Stanwell Corporation Limited 2022, *Submission to Essential System Services and Inertia in the NEM*, and Stanwell Corporation Limited 2022, *Response to Draft Rule Determination – Operational Security Mechanism*.

[2] Department of Climate Change, Energy, the Environment and Water, Wholesale Market Settings Review Initial Consultation Paper, 11 December 2024, p 4.

[3] Australian Energy Market Commission Directions Paper – Efficient Provision of Inertia, 12 December 2024, p vi.

[4] Australian Energy Market Commission Directions Paper – Efficient Provision of Inertia, 12 December 2024, pp 47, 54 and 55.

Segregating inertia will see the lion's share of inertia i.e. minimum inertia, kept out of the market by maintaining it as a contracted service. A much smaller proportion of the 'inertia stack' i.e. additional inertia, will be allocated to bid into a market, currently proposed to be co-optimised with Frequency Control Ancillary Services (FCAS).

This approach misses the mark in terms of developing a 'deep' commercial inertia market with the flexibility and responsiveness to incentivise new technologies into the market, and avoid unnecessary capital costs on the network side, ultimately paid for by consumers.

Any market for inertia should be inclusive of the entire inertia stack to create opportunities for projects to benefit from an open market, and transparent procurement process.

An inertia market

Currently AEMO identifies the amount of inertia needed in the energy system. Any inertia shortfall would then be procured as a contracted service by TNSPs. This approach does not provide transparency to the market. Consumers pay for the provision of inertia through transmission use of system cost (TUOS) charges in return for reliable energy supply.

As the NEM decarbonises, inertia will be an essential system service that will continue to be needed whether demand requires a lower amount of inertia, or where high demand conditions require more. Also noting that each NEM region will have varying requirements and constraints depending on the aggregate of inertia necessary for stability in each region.

The replacement of thermal generation with other new technologies will see much less inertia generated as a by-product of generation. These new technologies will require support from synthetic inertia. Synthetic inertia will come at a cost, and there are currently no market mechanisms or investment incentives in place to encourage inertia providing participants into the market.

While a contracted procurement approach to a synthetic inertia service may provide sufficient revenue to support contractor costs, these costs are opaque to the market, could be expensive, and would likely be passed through to consumers. Alternative procurement options should be considered. For example, as more renewable energy enters the energy system the demand for FCAS increases. The current FCAS market has supported the investment in Battery Energy Storage Systems (BESS) by enabling value stacking and providing the ability to commercialise arbitrage opportunities, thereby decreasing FCAS costs.

In our view the value in inertia should be transferred to a new market, that can offer a more efficient procurement option. In this respect our position has not changed.

Again, we reiterate that any value applied to inertia should include the entire inertia stack and transferred to a new market that provides transparent real-time signals of a competitive clearing price from a decentralised inertia market. [5]

This would then reflect the true underlying value of inertia as a resource, and, as noted above, incentivise the development and installation of technologies to produce inertia in quantities sufficient for AMEO to avoid shortfalls and maintain system stability and security.[6]

As we see it, this approach would increase the probability that inertia is procured at least-cost, driving affordability outcomes for consumers, and contribute to encouraging new investment and innovation in technology to support the energy transition in the medium to longer-term.[7]

To ensure there is sufficient capability installed to meet inertia requirements, it may be manageable to co-optimise the rate of change through one second (FACS) as suggested in the Directions Paper.[8] However, it is unclear whether this approach would be a viable option for technologies that provide both inertia and FCAS, for example batteries.

[5] Stanwell Corporation Limited response to AEMC Consultation Paper - Efficient Provision of Inertia, p 2
[6] Stanwell Corporation Limited response to AEMC Consultation Paper - Efficient Provision of Inertia, p 2.
[7] Stanwell Corporation Limited response to AEMC Consultation Paper - Efficient Provision of Inertia, p 2.
[8] Australian Energy Market Commission Directions Paper – Efficient Provision of Inertia, 12 December 2024, pp 36-44.

Further analysis is needed to better understand the implications of co-optimising inertia with the FCAS market.

Conclusion

The current approach to inertia procurement is unsustainable as thermal generation exits the system, and new technologies will be needed to generate inertia. Synthetic inertia will come at a cost, and a market will be needed to incentivise investment and ensure there is sufficient inertia in the system to provide the security and reliability needed.

We maintain there is opportunity for inertia to be unbundled from essential system services to facilitate the development of an inertia market, however, segregating an inertia stack may not provide the right investment signal. Further work is needed to understand the types of synthetic inertia that will be required, and how it can provide the anticipated benefits at least cost to consumers.

While there will likely be immense changes to the energy market resulting from the NEM Review, we do not support pausing the inertia Rule change.

Instead, we suggest ensuring provision is made for review of the inertia reforms to encourage longer-term investment signals now, ensure inertia reforms are complementary to any changes resulting from the NEM Review post 2030, and to limit the impact on the market and consumers resulting from contradictory mechanisms.

Stanwell welcomes the opportunity to further discuss the matters outlined in this submission. Please refer any enquires to Lya McTaggart@stanwell.com.

Yours sincerely

Zl Ying Koh
Acting Manager Market Policy and Regulatory Strategy