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Australian Energy Market Commission
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Lodged electronically: http://www.aemc.gov.au

Dear Commissioners,

RESERVE SERVICES IN THE NATIONAL ELECTRICITY MARKET DIRECTIONS PAPER

EnergyAustralia (EA) welcomes the opportunity to comment on the Australian Energy Market Commission's (AEMC's) Directions Paper on Reserve Services in the National Electricity Market (NEM).

EA is one of Australia's largest energy companies with around 2.5 million electricity and gas accounts in NSW, Victoria, Queensland, South Australia, and the Australian Capital Territory. EA owns, contracts and operates an energy generation portfolio that includes coal, gas, battery storage, demand response, solar and wind assets. Combined, these assets comprise 4,500MW of generation capacity.

EA is dedicated to building an energy system that lowers emissions and delivers secure, reliable and affordable energy to all households and businesses. EA is, therefore, appreciative of the AEMC's efforts to investigate whether current regulatory settings for reserve services are appropriate in light of ongoing and significant market, technological and operational change. Ensuring these settings are fit for purpose will be a vital enabler of a rapid and robust energy market transition.

EA Questions The Need For An Operating Reserves Market

The AEMC considers there may be merit in establishing an operating reserves market on the grounds of 'transition insurance value'. That is, as a buffer against:

1. increasing intervention costs from more frequent security events that may arise from a continuation of current arrangements, and
2. the risk of insufficient in-market reserves being available to meet net demand due to increasing forecast uncertainty and demand variability as the penetration of Variable Renewable Energy (VRE) generation and demand-side participation also increases.

However, EA does not consider the operating reserves' case is overwhelming, nor has been forcefully made.

As noted in the consultation paper, the current real-time energy market framework has, to date, readily provided the necessary supply demanded by customers, consistent with the reliability standard. Despite this, some reports[1] have highlighted the potential for increasingly unpredictable security events to occur in future. The AEMC considers that if these events do increase in frequency, this may justify introducing an operating reserves market. However, EA notes that this will only help if such security events do not compromise the ability of other generation to step in to fill a gap via the operating reserves market. A transmission line outage, interconnector failure or any system security event that prevents or constrains generation from participating in the reserve market will limit the value from an operating reserves market.

EA also notes these analyses have focused on technical aspects of power systems engineering on a 'ceterus paribus' basis. That is, without considering the consequential economic interactions, including the response from market participants to price signals and the investment incentives and outcomes that may result from the current suite of regulatory reforms being considered. For example, from the Energy Security Board's (ESB's) Resource Adequacy Mechanisms (RAMs) Market Design Initiative (MDI).

Lacking such investigation and economic quantification of the market solutions that may arise in response to increasing security and reliability issues, EA does not see that the rationale for an operating reserves market has been justified. To help remedy this, EA suggests it would be useful to analyse the historical '+/-' Regional Reference Price (RRP) sensitivities published by the Australian Energy Market Operator (AEMO) for each dispatch interval. These price sensitivities provide direct insight into the potential costs of procuring operating reserves associated with forecast uncertainty over the pre-dispatch, day ahead outlook period.

As an example, AEMO can calculate what the Regional Reference Price (RRP) would be in a given region if demand were +200MW, +500MW or -500MW, based on the prevailing bids. This analysis, together with insights into how forecast uncertainty changes over time, would better inform whether, and to what degree, reserves may be required in each region under various future scenarios. For instance, under differing customer willingness to pay, investment framework changes and generator investment response assumptions.

In this respect, EA considers further clarity is required on how the volume of operating reserves to procure will be determined, and whether and why the reserve will be static or dynamic based on prevailing conditions and the operational supply-demand balance. In particular, as it appears from the Discussion Paper that the procurement quantity is determined from the upper bound of the forecast uncertainty range. If so, this means it would be significantly influenced by the forecasting methodology, which could change substantially over time. However, this would be unlikely to support investor confidence nor promote efficient investment outcomes.

Operating Reserves Markets May Not Be Economically Optimal

Even if the need for an insurance mechanism to mitigate forecasting uncertainty and potential future security and supply issues could be demonstrated, operating reserves markets may not be the economically optimal solution. EA considers each of the reserves market options has the strong potential to increase, rather than decrease, costs to

[1] See, for example, the Australian Energy Market Operator's (AEMO's) Renewable Integration Study (RIS).

customers via the additional certainty premium that would inevitably be built into market pricing. This may result from additional procurement costs introduced via AEMO under an Operating Reserves Demand Curve (ORDC) approach. Alternatively, changes in the operational and market behaviour of participants may see increased volatility as energy market price signals are sharpened, with a commensurate increase in hedging and risk management costs.

It is also unclear that operating reserve market implementation costs would be immaterial, nor whether changes to the NEM Dispatch Engine (NEMDE) would be required. For example, whether additional functionality would have to be included in calculating the forecast uncertainty or estimating hypothetical spare capacity under various and highly volatile regional network constraint formulations. Further, whether the operating reserve outlook will be aligned to pre-dispatch timeframes or potentially extend into Short-Term Projected Assessment of System Adequacy (PASA) or Medium-Term PASA outlook periods. These design choices will have different ramifications for implementation complexity and market operations. The AEMC's preliminary thinking on these considerations would, therefore, be appreciated so that participants can make a more informed operating reserves market assessment.

Beyond these points, it seems likely that reserves would have to be procured and settled on a regional basis given interconnector constraints. This would complicate existing market operation, risk management and settlement procedures. In particular, if reserves are procured in one region but are actually used to provide a service in another. EA, therefore, suggests AEMO estimates of the costs and complexities of implementing an operating reserves market be obtained to inform decision making.

Similarly, robust quantification and investigation into the costs and benefits of the forecasting and market process improvements mentioned in section 6.1 of the consultation paper should be undertaken. The effectiveness and application of self-forecasting might also be included to facilitate a broader comparison of other solutions against implementing an operating reserves market. EA considers it likely that these alternative solutions will prove to be economically superior and more flexible.

Reserves and Reliability Reform Must Be Considered Together

EA understands the AEMC and ESB's distinction between reserves used in operational timeframes and those required over a longer-term reliability horizon. However, EA highlights the interactions between them, with longer-term investment signals providing the necessary foundation for investment in generation plant that can offer market services in an operational timeframe. In this respect, although being progressed under different processes (this rule change and the RAMS MDI), EA considers it critical that final decisions on both must be made in concert. This is to avoid duplicative, unnecessary or inconsistent reforms resulting that would only serve to increase costs to customers. For example, as might occur from implementing tighter reliability settings, changes to a physical Retailer Reliability Obligation (RRO), and a new operational reserves market. In particular, if only one of these is necessary to support efficient customer reliability outcomes, with multiple, overlapping incentive frameworks resulting in inefficient overinvestment and the risk of stranded assets.

EA would welcome the opportunity to discuss this submission further with you. Should you have any questions, please contact me via bradley.woods@energyaustralia.com.au or on 03 8628 1293.

Regards,

Bradley Woods
Regulatory Affairs Lead