

Dr Kerry Schott AO  
Energy Security Board

17<sup>th</sup> April 2020

Submitted via e-mail to: [info@esb.org.au](mailto:info@esb.org.au)

Dear Dr Schott,

### **System Services and Ahead Markets**

The Australian Energy Council (the “**Energy Council**”) welcomes the opportunity to provide feedback on the *System Services and Ahead Markets* paper presented by the Australian Energy Market Operator (“**AEMO**”) to the Energy Security Board’s (“**ESB’s**”) Technical Working Group on 7<sup>th</sup> April 2020.

The Energy Council is the industry body representing 23 electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. These businesses collectively generate the overwhelming majority of electricity in Australia, sell gas and electricity to over ten million homes and businesses, and are major investors in renewable energy generation.

#### **Contextualising the Need**

The Energy Council agrees that the characteristics of the National Electricity Market (“**NEM**”) have changed and will continue to do so, with the increased penetration of inverter-connected technologies at both the transmission and distribution levels, and the recognition of the utility of system services that have not previously been valued. The ESB’s post-2025 NEM design review (“**NEM2025**”) process provides an opportunity to reflect on the current market framework and assess how it must evolve to address future challenges. This process should involve consideration of effective adaptations to existing frameworks alongside potential new market structures.

The Energy Council has been dissatisfied with the consultation process of this workstream to date, since there has been limited feedback sought from stakeholders in its development, while at the same time the proposed concepts have been presented without compelling justification or balanced consideration. For example, the Energy Council is yet to receive an example of true market failure related to system services, nor has it been consulted on the potential benefits and risks to industry for each of the four options, and how these will efficiently resolve system security challenges.

The Energy Council’s frustration with this workstream’s consultation process is consistent with the way it sees the broader NEM2025 design review process as being conducted. Notwithstanding the best efforts of individual ESB staff, if the NEM2025 review process is to deliver meaningful outcomes, changes should be made now to foster collaborative thought and meaningful consultation.

The Energy Council does not consider that sufficient analysis has been undertaken to date for either market participants or the ESB to be able to accurately consider the trade-offs or benefits between the various market models proposed and the status quo. To better understand the implications of ahead mechanisms on industry, the Energy Council is procuring advice on how industry would need to both transition and adapt to ahead mechanisms, and further understand any opportunities and risks. This will assist in determining how (or whether) ahead mechanisms are addressing the identified risks and challenges in the most efficient manner. The findings of this analysis will be shared with the ESB.

Irrespective of this work, which is due to be completed in late May, the Energy Council urges the ESB to engage industry to a much greater capacity to assist in the development of these design options, particularly in consideration of investment frameworks, market risk and integration with the contracts market.

## Discussion

The Energy Council believes that the paper fails to adequately contextualise the need for an ahead mechanism despite the discussion presented. The Energy Council does not disagree with the need to incentivise system services, however the paper does not draw the parallels between these challenges and the proposed solutions, nor identify any advantages these may have over alternative frameworks.

Without visibility of the rationale for the four options presented, it is difficult to assess their relative merits. The Energy Council thus seeks further clarity on the following topics.

### Perceived market failures

The paper refers to the inability of the market to coordinate itself to deliver the emerging system service needs, claiming that this apparent “market failure” needs to be addressed by an ahead mechanism. AEMO is yet to articulate a single example of when the market has failed to coordinate itself. The only example given has been the interventions in South Australia due to system strength, an issue that resulted from failures in the regulatory, operational, planning and forecasting processes, not the market.

If investment and market framework signals are not provided to the market, the lack of market coordination to deliver these services does not represent a market failure. It indicates that the appropriate frameworks and signals are not in place, but one should not extend that rationale to proclaim that there is a market coordination problem that necessitates centralised commitment.

It is a notable shortcoming that a holistic assessment of current and desired market and investment signals has not been conducted, including AEMO’s role in identifying and communicating key power system requirements in the short, medium and long-term. The paper concentrates on assertions that the current real-time market fails to provide adequate signals. Industry does not dispute that the market signals may need to be created for some services, however investment signals aren’t solely the remit of the dispatch process. AEMO is responsible for several processes and fora that should provide investment signals to the market arising from the identified power system needs. While these processes may not provide enough certainty in investment decisions, they represent an initial signal to industry about the capability required to meet future security and reliability needs. Despite the emerging challenges discussed, these processes for communicating future system needs (listed below) have not been at the appropriate level of detail or frequency:

- The Electricity Statement of Opportunities (“**ESOO**”) forecasts electricity supply reliability in the NEM over a 10-year period to inform decisions by market participants, investors, and policy-makers. By the National Electricity Rules definition,<sup>1</sup> the ESOO must consider what the system needs for reliable supply including, at a minimum, the MW capacity required. Despite the paper positing that ahead mechanisms are critical to ensuring appropriate system services for reliability, the ESOO has not once clearly provided signals of this investment need to the market. As an example, the 2015 ESOO Update did not raise any issues with the closure of Northern Power Station in South Australia.<sup>2</sup>
- The Projected Assessments of System Adequacy (“**PASA**”) in the short and medium term have also not evolved to provide information related to system services that would assist the market in coordinating itself.
- The Integrated System Plan (“**ISP**”), while often cited as the blueprint for the future NEM, provides no proper indication of the future system security needs. The ISP is prepared using a long-term transmission planning model that has very limited assumptions on system security constraints. AEMO has indicated to the Energy Council that its 2020 ISP will not include any system security constraints, despite the ongoing Renewable Integration Study (“**RIS**”).<sup>3</sup>

While these processes will invariably evolve as the market transitions, they highlight the impracticalities of the market being responsive to investment signals that have been absent.

### Required procurement of system services

The paper appears to focus entirely on market frameworks for procuring services across the four ahead options without presenting the argument as to why market arrangements are the most efficient means of procurement compared with others such as regulatory or network solutions. The type of procurement framework that is most efficient and effective depends on the nature of the need, which itself has not been sufficiently articulated

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<sup>1</sup> National Electricity Rule 3.13.3A(a)

<sup>2</sup> Australian Energy Market Operator, *Electricity Statement of Opportunities for the National Electricity Market – Update*, 26<sup>th</sup> October 2015

<sup>3</sup> Alex Wonhas, *Presentation to Australian Energy Council Wholesale Markets Working Group*, 1<sup>st</sup> April 2020

in this paper. The Energy Council appreciates that AEMO has drawn upon the RIS, but this study, and the predispatch measures apparently agreed at the COAG Energy Council meeting, have not been made publicly available to stakeholders. Given consultation on the ESB's essential system services workstream has also not commenced, it is impossible for stakeholders to assess the efficacy of the proposed frameworks.

Similarly, there has been little transparency on how AEMO has been progressing its work through the Frequency Control Frameworks Review ("FCFR") which was published almost two years ago.<sup>4</sup> The paper refers to the need to better understand fast frequency control for example, yet without any transparency, stakeholders are left to assume that this has not progressed since the work in 2017.<sup>5</sup> This work had identified the ability of AEMO to modify the existing Frequency Control Ancillary Services ("FCAS") framework to redefine the frequency control services to better align with the system needs, including the potential to incorporate operational reserves into these frameworks. This was anticipated to be achievable without requiring regulatory changes and was a promising interim solution, if not longer-term market-based solution.

The paper does propose two vague justifications for why system services need to be procured via an ahead mechanism:

- The only argument presented for scheduling operating reserves in the ahead timeframe was that there was too great a risk in relying on the market to provide the required headroom. This contradicts the recently mandated Primary Frequency Control ("PFC") requirement that AEMO is implementing,<sup>6</sup> which explicitly does not require headroom to be reserved. If the introduction of a system service that has been deemed as critical and urgent does not identify a risk in relying on the market for headroom, then it is difficult to appreciate how this argument holds for other services.
- The justification for an ahead mechanism for system services is that financial products only exist for energy, and thus there will be no financial penalties for not complying with system service delivery. It is true that financial products are mostly energy-based, however there are some existing financial products, albeit limited, for FCAS. If system services were priced, it is likely that other financial products would emerge even though AEMO would be the effective sole "buyer" of system services.
- Discussion of the challenges identified a need for greater flexibility in system operation, yet it is not explained how this flexibility would be achieved via centralised commitment.

The Energy Council contends that AEMO also needs to consider the innovation that occurs in financial markets, particularly as they mature. This is relevant also to its claim that the real-time market is unlikely to provide a firming incentive. This assertion needs to be explored further and to consider the development of new financial products, and the maturity of participant behaviour.

#### Procurement framework for system services

AEMO has indicated that it is keen for a framework that updates system services without rule changes and lengthy delays. The Energy Council appreciates AEMO's desire for operational flexibility but strongly opposes any framework that allows for the creation of system service requirements without due process. Without these, there is a heightened investment risk, costs associated with "reactive changes" and suboptimal outcomes with possible adverse consequential impacts to consumers.

It is difficult to envisage regulatory delays if AEMO adapts its existing systems and processes to provide stakeholders with an effective understanding of the near-term system needs. The ESOO, ISP, RIS or other publications could be evolved to provide a regular system security forecast, and the work to understand the technical need for these services completed as part of the NEM2025 process would provide some metrics that act as signposts for when regulatory changes will be required. This could be used to identify potential issues before they emerge – and avoid the urgent interventions and significant market costs now seen in South Australia, Victoria and Queensland. AEMO should be able to consider what is needed in the near-term horizon through these mandated operational processes, and provide the necessary investment signals, as well as initiating any necessary regulatory processes with sufficient time (which is entirely the point of the ESOO). This could incorporate learnings from the PFC process which stagnated for two years after the need was identified.

This gives both industry and AEMO an explicit and transparent window in which to develop any new frameworks while abiding by the consultation principles of the NER.

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<sup>4</sup> Australian Energy Market Commission, *Frequency Control Frameworks Review – Final Report*, 26<sup>th</sup> July 2018

<sup>5</sup> Australian Energy Market Operator, *Working Paper – Fast Frequency Response in the NEM*, August 2017

<sup>6</sup> National Electricity Amendment (Mandatory Primary Frequency Response) Rule 2020 No. 5

## Scope of proposals

The Energy Council is concerned about the lack of detail presented in the paper. The design elements appear to reflect AEMO's preference rather than a holistic and transparent assessment. Each design option was "detailed" in no more than one to three pages, and "for the sake of brevity, the discussion of options won't consider trade-offs",<sup>7</sup> limiting the ability of stakeholders to be part of the consultation process. The Energy Council suggests AEMO needs to provide:

- a qualitative and quantitative description of the needs of system services, and how they lead to the design elements presented, as well as the trade-offs compared with other procurement mechanisms. This includes but is not exclusive to dissemination of the RIS scenario results;
- clear justification and consideration of whether system services are most appropriate to a spot market, an organised mechanism or other;
- consistent engagement with industry to integrate participant expertise in outlining key issues including risk allocation, long and short-term investment decision making and potential flow-on impacts;
- a more holistic assessment of the options, including network operation and transmission constraints;
- a proper assessment of the interaction of these options with contract markets and hedging, and draw upon industry expertise to integrate how investment decisions are made; and
- more detailed contextualisation with other workstreams to assist stakeholders in providing more informed assessments.

## Proposed benefits and risk

### Benefits

Without further detail on the options, the stated benefits appear to conflict with participant experience. AEMO has suggested that participants will benefit from additional revenue certainty notwithstanding the cost to consumers. This is not the perspective of Energy Council members, and further highlights AEMO's lack of understanding of actual market participation. The Energy Council believes that the stated benefits are unlikely to appear because these options discount the integral role that financial markets play in providing certainty to market participants and driving their operational and investment decisions. AEMO acknowledged in the Technical Working Group meeting that the identified industry benefits were those that AEMO perceive, not actually the benefits that industry has identified.<sup>8</sup>

This approach has assumed a "one price fits all" model, which is incorrect. Some market participants may be largely spot price exposed, others will be largely contracted over various forward periods. AEMO cannot treat these market frameworks as greenfield designs, but recognise that participants already have portfolio positions, differing plant performance and business models.

The paper also states that participants will have more "incentives" under ahead mechanisms. The Energy Council seeks clarification of what this means, as while there may be more financial and contracting options, this does not necessarily translate to more incentives. Central commitment is not the only way to provide incentives.

Further benefits for industry cited included the increased coordination of the market. Again, there has been no justification of this, just a reference that this was a benefit in the US markets. However, this statement failed to identify that this benefit arose from more efficient coordination and integration with neighbouring systems, which is an issue not relevant for the NEM.

Given that industry has not been consulted on the perceived benefits and risks of these proposed options, it is difficult to ascertain whether these frameworks will have any benefit to consumers, or whether changes will simply result in additional costs for them.

### Risks

Similarly, with limited detail, it is difficult to provide an initial risk assessment of the proposed options, but it is clear that changing the financial markets will have a significant impact. The design process will overall benefit

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<sup>7</sup> Energy Security Board, *System Services and Ahead Markets*, p.27

<sup>8</sup> AEMO, *ESB Technical Working Group – Ahead Markets*, 7<sup>th</sup> April 2020

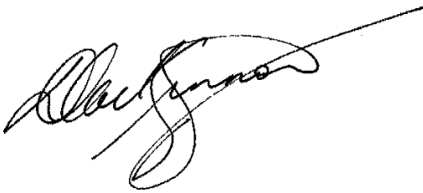
greatly from industry input into the process in a consistent manner. There will be many risks associated with the integration of these options with the financial markets, for example hedging against a bundled system service price versus specific quantity signals.

### **Conclusion**

In conclusion, it is apparent that significant more work needs to be done to identify any shortcomings in the existing market arrangements, and to assess the best mechanism to address such shortcomings. Ahead markets are one possible solution, but it should not be assumed that they are the best solution, without the ESB considering their context in the best post-2025 NEM design.

Any questions about this feedback should be addressed to the writer, by e-mail to [Duncan.MacKinnon@energycouncil.com.au](mailto:Duncan.MacKinnon@energycouncil.com.au) or by telephone on (03) 9205 3103.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Duncan MacKinnon', with a long horizontal flourish extending to the right.

**Duncan MacKinnon**  
Wholesale Policy Manager  
Australian Energy Council