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Submitted online to: <http://www.aemc.gov.au/Markets-Reviews-Advice/Reliability-Frameworks-Review>

Dear Ms Derby,

**Reliability Frameworks Review**  
**Reference: EPR0060**

The Australian Energy Council (the “**Energy Council**”) welcomes the opportunity to make a submission in response to the Australian Energy Market Commission’s (“**AEMC**’s”) *Reliability Frameworks Review Directions Paper*.

The Energy Council is the industry body representing 21 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 and sell gas and electricity to over ten million homes and businesses.

**Introduction**

As the type and location of Australia’s generation plant changes, it is important to plan for and manage the transition via processes such as the Reliability Frameworks Review. At the same time, government policy initiatives, such as the Finkel Review and the proposed National Energy Guarantee, will affect the expectations, assumptions and findings of such reviews, and the Energy Council notes that the AEMC is conscious of the interactions between the Reliability Frameworks Review and other policy initiatives.

Having said that, the Energy Council is also aware that the Reliability Panel has recently reported that the reliability standard has been met for the past eight years,<sup>1</sup> and expects it will continue to be met in all regions of the National Electricity Market (“**NEM**”) for the next ten years<sup>2</sup> (the time horizon of the report), therefore it would appear that the need for the current review is limited. The Energy Council disagrees with the Australian Energy Market Operator’s (“**AEMO**’s”) submission to the *Reliability Frameworks Review Interim Report* that “... involuntary loss of service typically is not a publicly acceptable outcome, and is, in and of itself, an extreme measure”. It is impossible at any level of expense to guarantee 100% reliability and it is absurd to contemplate a standard implied by this statement.

**Discussion**

Forecasting

In its quadrennial review published on 30<sup>th</sup> April 2018, the Reliability Panel found that the Reliability Standard should be maintained at its current settings for the period of the review, i.e. until 30<sup>th</sup> June 2024.<sup>3</sup> It reported that, “[t]he current reliability standard and settings are, in our view, achieving their purpose and are likely to continue to do so throughout the review period ...”.<sup>4</sup> To meet this reliability standard, market participants are reliant upon, amongst other things, the exchange of information in the NEM and the quality of AEMO’s forecasts. Any assessment of future reliability requires a reasonable evaluation of not just supply but also the level of demand to be supplied. The variability of such forecasts is affected by the increasing penetration of distributed energy resources, more variable renewable energy supplies (unless firmed by technologies such

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<sup>1</sup> p.47, AEMC Reliability Panel, *2017 Annual Market Performance Review Final report*, 20<sup>th</sup> March 2018, Sydney

<sup>2</sup> p.65, *ibid.*, citing AEMO’s *Electricity Statement of Opportunities for the National Electricity Market*, 5<sup>th</sup> September 2017

<sup>3</sup> Reliability Panel, *Reliability Standard and Settings Review 2018 Final Report*, 30<sup>th</sup> April 2018, Sydney

<sup>4</sup> p.iii

as batteries) and more extreme weather days due to climate change. The Energy Council believes it is important for system reliability for:

- routine and regular reporting of the differences between forecast and actual outcomes;
- the causes of such differences to be identified;
- where possible corrections be made to reduce such differences; and
- incentives be introduced to improve forecast accuracy.

It is clear, for example, that the lack of reporting of generation under 30MW is a potential cause of the divergence between forecast and actual generation, and the design of the market should be looking towards exposing such activities within AEMO's processes. The Energy Council believes that the AEMC should consider imposing simplified forecasting obligations on smaller generation units and demand-side response providers to ensure AEMO and the market are as well-informed as possible, and to encourage better interaction of market elements with the wholesale market.

Overall the AEMC reports that AEMO has a preponderance for over-forecasting of demand, but "there does not seem to be any systematic worsening in the differences that are observed between forecast and actual values".<sup>5</sup> While the Energy Council's members take some comfort that forecasting accuracy is not declining, there remains the question of whether this level of inaccuracy is acceptable, particularly as it is skewed towards over-forecasting. The Energy Council notes this is not the first time that the industry has raised concerns with the over-forecasting bias in the market operator's demand forecasts, with the same issue being raised by the National Generators Forum in 2010.<sup>6</sup> To this end the Energy Council suggests that AEMO's forecasting processes require changes to introduce improved rigour and transparency, and they should adhere to a transparent set of guidelines, with the forecasts being routinely independently reviewed in all forecasting horizons. The Reliability Panel and Australian Energy Regulator appear best placed to achieve these aims, and would be able to leverage their existing skill sets, as well as those the Australian Energy Regulator is likely to develop as part of its new functions involving the National Energy Guarantee.

The AEMC has contemplated disaggregating the responsibility for electricity demand forecasting to market customers. This is a radical departure from the current arrangements and may not necessarily lead to an improvement in forecasting outcomes in all forecasting timeframes due to the potential for timing differences in maximum demand outcomes, dependent on the granularity of forecasts required. Disaggregated demand forecasting is typically associated with markets with multiple settlement passes, which inherently produce a deviation price in the next settlement pass to apply to errors. If the NEM were to retain its single settlement run approach, error penalties would have to be administratively determined and would likely incentivise accuracy well beyond or below their true value. At the extreme, retailers may end up activating expensive non-scheduled resources simply to keep demand forecasts accurate.

While the Energy Council remains concerned about the accuracy of the existing centralised arrangements, it would prefer that in the first instance forecasting improvements be sought in the current forecasting processes, such as utilising the Bureau of Meteorology's monthly climate outlook to revise AEMO's projections in the Medium Term Projected Assessment of System Adequacy timeframe, and other suggested changes as set out above rather than contemplating such radical redesigns.

#### Day-ahead Markets

The market presently uses a decentralised approach to the scheduling of plant. In Figure 3.1 and Box 4.5 of the Directions Paper the AEMC has correctly captured the continuous iterative process of forecasting, adjustment and re-forecasting that presently occurs every day in the NEM. This process ultimately produces an efficient and highly reliable scheduling outcome, which compares favourably against market designs that incorporate more centralised decisions.

The Energy Council welcomes the AEMC's discussion on day-ahead markets. The challenges in responding to the question of day-ahead markets are:

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<sup>5</sup> p.70, Directions Paper

<sup>6</sup> National Generators Forum Submission to the AEMC's *Review of the Effectiveness of NEM Security and Reliability Arrangements in light of Extreme Weather Events Consultation Paper*, p.14

- (a) There are so many different concepts variously promoted as forms of “day-ahead market” that the term is no longer useful as a definition. It would be preferable to split the designs apart and provide unique definitions for each.
- (b) Despite AEMO’s submission that perceives concerns on many fronts, the exact problem to be addressed, and the inability of the current arrangements to address them, remain nebulous. The submission raises these concerns without explaining how any specific day-ahead market design would resolve them.
- (c) Cherry-picking various features and mechanisms from other markets that appear to work in those settings and as a result proposing them for the NEM is not useful in helping stakeholders understand whether they would have a valuable function in the NEM.

The Directions Paper sets out three potential objectives for a day-ahead market, as follows:

- To provide better information to market participants

Acknowledging the challenges listed above, compared with the existing NEM, the Energy Council believes that the additional information available to market participants would be limited and very likely achievable through progressive improvement of the current information systems. The Energy Council therefore questions whether the improvements would be marked enough to justify the cost and disruption required to implement the changes to the current NEM.

It has been argued that instituting a day-ahead market with financially binding schedules would also improve the quality of information available to market participants, but given the existing information exchange the Energy Council is currently unsure in what areas improvement would actually occur. The Energy Council notes that the NEM is already backed by a liquid financial contracts market, which enables trading across all timeframes down to and including intra-day trading, and acts to provide a comparable certainty, thereby allowing market participants to manage their price risk. The Energy Council sees little demonstrable benefit in introducing a day-ahead market, and would need more clarity on the proposed design to be assured that it won’t compromise existing financial markets and weaken price signals.

- To provide better information to the system operator

The Directions Paper suggests that, “[i]f AEMO had more accurate information regarding the intentions of market participants ahead of dispatch it may be able to reduce the amount of out-of-market interventions needed to maintain security and reliability” [emphasis added].<sup>7</sup> For scheduled plants, operators are already obliged through bidding rules to provide the best possible representation of current intentions at all times. By definition unexpected changes cannot be foreseen, and as such various forms of day-ahead market cannot possibly provide greater stability to the scheduling of such plant than occurs presently. The only thing it might do is place artificial restrictions on the speed at which the market can respond to such variations, i.e. the efficiency of the day-ahead market scheduling process can only be the same or worse than the present continuous scheduling process.

The Energy Council considers the objective is more likely to be achieved through incremental improvements and other initiatives, such as requiring demand-side response to provide more information about its intentions and actual responses.

- To change who is responsible for unit commitment decisions

The third potential objective for a day-ahead market would change the responsibility for unit commitment decisions from market participants to AEMO. This would be a fundamental change to the competitive basis for the NEM, and would jeopardise the competitive efficiencies from having individual companies responsible for bidding their plant based upon their own commercial ambitions, risk profiles and understanding of their own physical plant. The Energy Council rejects the premise that having AEMO schedule a day-ahead market would materially increase NEM reliability. AEMO would face significant information asymmetry in attempting to replicate the efficiency of the current arrangements, and indeed the sheer complexity of finding an optimal solution for the central

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<sup>7</sup> p.97

commitment of the NEM's 300 scheduled units is likely to prove intractable. Markets with central commitment must also provide start-up and minimum generation payments that are outside the energy price and must be recovered from customers. This creates unhedgeable risk for parties in the market. In conclusion, the detriment of compromising the competitive principles of the market would almost certainly significantly outweigh any possible benefit.

Noting the challenges listed above in engaging with the concept of a day-ahead market, and on the basis of the information to hand, the Energy Council believes that a far better option to assist in the management of reliability obligations would be to progressively improve the existing NEM processes of a single pass settlement market with decentralised unit commitment.

### Wholesale Demand Response

Chapter 5 of the Directions Paper explores demand response in the wholesale energy market. The Energy Council supports more information being provided to AEMO to support its forecasting and market operations processes. These mechanisms should be developed in a way which encourages innovation and flexibility, and facilitates efficient overall market outcomes by allowing retailers to employ demand response as part of a suite of tools which foster competition and stimulate market efficiencies.

Aggregators of demand-side response can and do play a valuable and significant role in the existing NEM. Retailers and network companies use aggregators' skills to actively manage retailers' and networks' customers in order to limit exposure to high prices and network congestion respectively. This is the ideal role for aggregators, operating within the market and not requiring a market operator to settle unmeasurable deemed responses.

However the Energy Council does have reservations about the option of transferring responsibility for demand-responsive load from the financially responsible market participant to an aggregator. Doing so would muddy the customer's relationship with the energy market at a time when 48% of customers believe it is too complicated to compare their energy plan with what is available in the marketplace.<sup>8</sup> Maintaining customer compliance obligations is also an important consideration, and the Energy Council would not like to see customer protections diluted due to the introduction of another party in the relationship between the customer and the energy market. As a complication, the assessment of customers' compliance with demand response signals is known to have low confidence when applied to conventional customers using baselines of existing consumption patterns, but this will become increasingly indistinct as appliance, heating & lighting technologies change and behind-the-meter distributed energy & storage become more prevalent.

The Directions Paper also discusses creating a "retailer incentive fund or scheme" for demand response.<sup>9</sup> The Energy Council cautions against such an explicit market intervention since it is not technologically neutral and acts to distort the further development of an efficient, competitive market. The Energy Council believes it is best if the National Electricity Rules provide a framework to facilitate demand response in the context of other market management options to support reliability rather than using such a distortionary instrument.

The Directions Paper appears to pre-suppose that the existing market arrangements have exploited demand-side response below the efficient level. This is yet to be empirically demonstrated and indeed the Energy Council believes that demand-side response may be more prevalent than is generally assumed as a result of being effectively invisible to AEMO and the market. It is hoped that the introduction of AEMO's demand-side portal will provide greater information in that regard. In the long run the market should strive to incorporate demand-side response into its forecasting and price setting processes on an equal footing with generation.

### Strategic Reserve

While acknowledging the utility of strategic reserves allaying public fears of reliability shortfalls, in a functioning market there should be little need for such reserves. With the proposed reintroduction of the long-notice Reliability and Emergency Reserve Trader,<sup>10</sup> the Energy Council has concerns that consumers will be expected to bear additional, unexpected costs based upon a perceived reliability problem rather than an objective assessment of the economic social value of reliability. To this end the Energy Council supports the

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<sup>8</sup> Figure 6.19, p.95, AEMC, *2017 AEMC Retail Energy Competition Review Final Report*, 25 July 2017, Sydney

<sup>9</sup> p.142, Directions Paper

<sup>10</sup> National Electricity Amendment (Reinstatement of long notice Reliability and Emergency Reserve Trader) Rule 2018

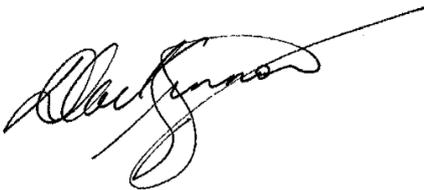
development of the reliability requirement within the National Energy Guarantee framework, backed by the settings determined by the Reliability Panel and assessed or at least verified independently of AEMO.

### **Conclusion**

In conclusion, the Energy Council believes that as current projections show no reliability problems for the next ten years, any impetus to change market arrangements is limited, and should be restricted to improving the exchange of information between parties and AEMO's forecasting accuracy. The Energy Council rejects proposals such as day-ahead markets, specific demand-side response interventions and the establishment of a strategic reserve as these will fundamentally change the competitiveness and efficiency of the National Electricity Market. Instead the Energy Council supports the AEMC's findings being complementary to the work being undertaken for the introduction of the National Energy Guarantee.

Any questions about this submission 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 line extending from the end of the signature.

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