

Monday, 12 February 2018

John Pierce  
Chairman  
Australian Energy Market Commission  
Lodged Electronically

Dear Mr Pierce,

**RE: EPR0060 Reliability Frameworks Review Interim Report Submission**

The CEC is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in solar, wind, hydro, bioenergy, marine and geothermal energy, energy storage and energy efficiency along with more than 4,900 solar installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The National Electricity Market (NEM) is in transition. Investment in low-cost renewable energy has increased rapidly as appetite for investment in traditional synchronous plant steadily declines. It is expected that as conventional generators continue to withdraw from the market, investors will look to finance innovative and low-emissions technologies to provide supply. The AEMC should be seeking to enable this transition in the long-term interests of consumers.

The CEC welcomes the opportunity to respond to this review, and remains a strong advocate for flexibility in the market to support reliability. We note that other processes currently underway, such as the Five Minute Settlement rule change and the National Energy Guarantee (NEG), must be considered in tandem with this review.

**Definitions of dispatchability and flexibility are important, but the focus should be on desired characteristics**

Reliability must be supported by incentivising new investments and innovative technologies. It is important to understand the terms of flexibility and 'dispatchability', and the CEC has strongly advocated for incentivising flexibility in the market, in preference to dispatchable services, commonly attributed to ageing synchronous generators. However, the AEMC is

correct to highlight that these terms are complex and not clearly defined. Although it is difficult to attempt to define the terms of flexibility and dispatchability in the context of the NEG, as the NEG has not yet defined dispatchable capacity and how it will be required under the Reliability Obligation, it is still important to outline what market services are desired, regardless of the policy processes underway.

Flexibility requires power plants to operate dynamically, and power sources can be defined by their ability to balance load and variable supply through the speed and extent of dispatch<sup>1</sup>. The International Energy Agency (2017) determines flexibility to include three main elements:

1. Adjustability of generation level
2. Ramping
3. Lead-time

These elements can be used to assess flexibility of an asset, such as maximum ramp rate delivered and shortest start time<sup>2</sup>. It is expected that if policy makers can incentivise flexibility for reliability and efficient market outcomes, then the costs for market participants who operate inefficiently will outweigh the benefits, and innovative technologies will be rewarded.

A flexible market must also be encouraged by interconnectivity of assets. The ability of the system to meet demand will be encouraged through the dynamic operation of interconnected assets, including utility scale and behind the meter energy service assets (such as DERs). Increasing the balancing area allows for the aggregation and smoothing of VRE output<sup>3</sup>. It is therefore essential the policy process supports reliability by considering the need and planning of transmission investment as a high priority.

There is currently an imbalance of focus between dispatchability and flexibility. Dispatchability comes from limited resources, and have typically been services provided by unreliable, ageing synchronous generators. Flexibility can be provided by many sources, and

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<sup>1</sup> International Energy Agency, 2017. Getting wind and sun onto the grid: A manual for policymakers. [https://www.iea.org/publications/insights/insightpublications/Getting\\_Wind\\_and\\_Sun.pdf](https://www.iea.org/publications/insights/insightpublications/Getting_Wind_and_Sun.pdf)

<sup>2</sup> *ibid.*

<sup>3</sup> *ibid.*

it is being explored by other international markets<sup>4,5</sup>. Enabling new markets in flexibility will encourage demand side response, and is preferable to market interventions.

### **Forecasting can be improved, but is not a threat to reliability**

As the NEM undergoes the transition to higher penetration of renewables, the need for accurate forecasting increases. Although not an issue for reliability, there are solutions available for dealing with forecasting errors.

It is reasonable for the AEMC to suggest to allow generators to take control of their own forecasting risk, and the CEC views this as a positive step. Plant-level forecast data from individual VRE plants has the potential to incentivise high forecast accuracy, and could occur on an 'opt-in' basis. However, the CEC cautions against enforcing this measure on generators or fleet aggregators, as this has the potential to result in higher costs to market participants, and potentially create a barrier to entry for new developments. Forecasting data requirements must be clear.

Improved forecasting will assist the market through reduced errors in forecasting of weather-driven fluctuations from VRE generators. Also, increased transmission and interconnection among generators will increase the capacity value of VRE in the system and smooth output<sup>6</sup>.

### **The state of the contract market is unclear**

Sufficient liquidity across all financial products is important, as this provides investment signals and ultimately contributes to reliability outcomes in the NEM. Illiquidity is an issue for new approaches or services in the market, including demand response, as it is usually a signal that energy is being moved off-market.

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<sup>4</sup> HM Government & Ofgem. July 2017. Upgrading our energy system: Smart systems and flexibility plan. <https://www.ofgem.gov.uk/publications-and-updates/upgrading-our-energy-system-smart-systems-and-flexibility-plan>

<sup>5</sup> Orvis R & Aggarwal S. October 2017. America's Power Plan – A roadmap for finding flexibility in wholesale markets: Best practices for market design and operations in a high renewables future. <https://www.ofgem.gov.uk/publications-and-updates/upgrading-our-energy-system-smart-systems-and-flexibility-plan>

<sup>6</sup> International Energy Agency, 2017. Getting wind and sun onto the grid: A manual for policymakers. [https://www.iea.org/publications/insights/insightpublications/Getting\\_Wind\\_and\\_Sun.pdf](https://www.iea.org/publications/insights/insightpublications/Getting_Wind_and_Sun.pdf)

If the contract market is adapting as suggested by the AEMC, it is a positive outcome as it demonstrates that the market is already adapting to the NEM transitioning to a state of high penetration of VRE and storage.

However, there remains differing views on the liquidity of the current market. It is important for the AEMC to better understand the current and future contract market conditions, as they are constantly evolving. We believe an improved understanding on the state of the contract market is required. Particularly, the AEMC must understand what *types* of contracts are and are not adapting to market changes. In doing so, the AEMC can identify areas of insufficient liquidity.

In addressing areas of potential liquidity issues, it should be remembered that the contract market is an outcome of the NEM design, and any reforms to support the contract market itself may not be in the long-term interests of consumers. Options that incentivise new investment are preferred, and market-based solutions which promote flexibility should be pursued.

If the contract market is suffering from illiquidity, the viability of an energy-only market should be examined. This will be key to further understanding what reforms are necessary to ensure reliability, such as day-ahead markets.

### **The current reserve mechanisms should be examined**

The CEC is conscious that interventions can have the potential to distort investment signals. As such, the use of the RERT or other reserve mechanisms should only be used as a last resort to avoid, as much as practice, distortional effect on the market's operation.

However, it is appropriate for AEMO to have the power to procure reserves when needed based on a clearly defined procurement framework. It seems sensible to analyse the benefits and issues with the current RERT framework, and understand what potential improvements can be made, prior to allocating costs and resources to implementing a new strategic reserve mechanism. It is unclear why a new strategic reserve mechanism is warranted in light of the current RERT mechanism. It is also difficult to assess the need for a new strategic reserve mechanism in the context of uncertainty around national energy policy, such as the National Energy Guarantee.

In the current and future reserve framework, wholesale demand response will continue to play a key role and should be encouraged and utilised.

### **Demand response is essential across multiple markets**

Demand response is a critical component of the current and future market as a vital source of flexibility.

The selective focus on wholesale and emergency demand response schemes, rather than multiple demand response markets, should be questioned. When considering barriers to entry, it must be considered that demand response providers will likely be participating in multiple markets, and not be restricted to the wholesale market. A potential barrier to entry for wholesale providers is the cost involved in providing their own forecasts, if it is mandated. However, this could be navigated if the costs are transparent.

In closing, it is important for the AEMC to define the “reliability problem” they are trying to solve. It is essential that this problem is defined prior to developing solutions. For instance, the AEMC notes that the community and political expectations for reliability in the NEM have shifted, and that there is now limited tolerance for any level of unserved energy (USE)<sup>7</sup>. Assessments of the suitability of strategic reserves and day-ahead markets cannot be undertaken without an agreed expectation of what standard of reliability any reforms are being designed to achieve, and an expectation that the contract market will not deliver the desired outcome.

We thank the Commission for the opportunity to provide our views on these matters, and we welcome the opportunity to engage further with the AEMC on this Review. Please contact us with any queries regarding this submission.

Sincerely,

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<sup>7</sup> AEMC, Reliability Frameworks Review, Interim Report: Page 151