



meridian

Meridian Energy Australia Pty Ltd
Level 15, 357 Collins Street
Melbourne VIC 3000

19 September 2017

Sarah-Jane Derby
Australian Energy Market Commission
PO Box A2449
Sydney South, New South Wales 1235

Project number: EPRoo6o

Dear Sarah-Jane

Reliability Frameworks Review

Meridian Energy Australia Pty Ltd and Powershop Australia Pty Ltd (MEA Group) are pleased to provide comments to the Commission in relation to its review into the market and regulatory frameworks that underpin reliability in the National Electricity Market (NEM).

As you are aware, MEA Group is the owner and operator of the Mt Mercer and Mt Millar Wind Farms as well as Powershop Australia, an innovative retailer committed to providing lower prices for customers, which recognizes the benefits for customers of a transition to a more renewable-based and distributed energy system.

MEA Group recognises that there is nothing more important to consumers of energy than safe, secure and reliable supply. Debates around pricing, generation composition, network costs and design, and market processes are irrelevant if the energy that customers rely on is not being delivered when they need it. This is not to say that all of the above issues are not important but ensuring there is a framework for the safe, secure and reliable delivery of energy is critical in protecting customer interests and meeting the National Electricity Objective (NEO).

There is a tendency for the industry and its participants to focus on technical issues relating to reliability without keeping the core focus of reliable delivery of energy for customer use front of mind. Customers do not use frequency,¹ inertia, spot markets or financial markets. They use energy to do the work they desire to achieve their objectives. The purpose of the reliability frameworks is to ensure that energy fit for customer purpose is available as and when required.

The NEM has always benefitted from a focus on being an “energy only” market. This does not mean that other factors and processes are not relevant but it does highlight that at the end of the day, it is the effective, reliable and cost-effective delivery of energy that sits at the core of the NEM. The recent focus on reliability, which the current transition to new generation formats and increased customer participation in the NEM has produced, should not cause the focus of NEM reform to move away from this core.

In response to the Commission’s review, we have set out answers below to the questions posed by the Commission in its issues paper.

¹ Other than in the trivial case of frequency based time keeping systems which the Reliability Panel has discussed removing from the Reliability Standard.

Question	Comment
1. Assessment Principles	
a) Do stakeholders agree with the Commission's proposed assessment principles?	While we agree with the Commission's proposed approach, we are concerned that the focus of the issues is too industry-centric and may not place the ultimate long-term customer benefit at its core.
b) Are there any other relevant principles that should be included in the assessment framework?	As discussed above, with a focus on existing market processes and reactions it is possible that the review may inadvertently fail to place sufficient weight on the impact of the frameworks on new and emerging solutions that will better deliver energy to customers in accordance with the NEO. We consider that, although it is implied by the requirement to assess all reviews against the NEO, a specific overriding principle that places the ultimate long-term interest of customers at the core of the review should be included.
2. Assessment Approach	
Are there any comments, or suggestions, on the Commission's proposed assessment approach?	As discussed above, we are concerned that the proposed assessment approach is too industry-centric and as it seeks to build on recent reviews (e.g. Finkel Review, AEMO etc.), has a tendency to avoid core underlying issues which may have long-term impacts for customers. While we understand the attractiveness to the Commission and industry of options which build on or amend the current reliability processes, this may have the tendency to exclude relevant and potentially critical long-term market changes which may be more beneficial for customers.
3. Forecasting	
a) What are stakeholders' views on the variances occurring in forecasting? Could these variances be minimised through more sophisticated forecasting techniques?	<p>Clearly, in a market where every participant is required to participate for 100% of their supply, an accurate forecasting regime is critical to ensuring that fair and appropriate pricing is applied. In a truly competitive market, participants would have the option of selecting which market to participate in based on how much importance they place on accuracy against the cost of achieving additional accuracy. Naturally, more sophisticated forecasting techniques could improve accuracy. The relevant questions are:</p> <ul style="list-style-type: none"> • whether the benefits of achieving that accuracy would exceed the relevant costs; • how the balance between the benefits and costs is determined; and • how the persons receiving the benefits pay the appropriate share of the costs. <p>The assumption in the issues paper is that forecasting variances are primarily a consequence of incorporating variable renewable energy and distributed energy resources into the NEM. The truth is that such resources are often more predictable in the short term than traditional generation formats and network events which are subject to failure events and are much harder to forecast. Likewise, the long-term</p>

Question	Comment
	<p>energy contribution from these sources can be reasonably well predicted. Recent reliability issues have been driven mostly by a failure to predict or forecast changes in gas supply arrangements and prices, failure of large format thermal generation plants to operate when or as expected, failure of substantial network elements and fuel and resource constraints preventing large-scale generators from operating as expected.</p>
<p>b) Are forecasting errors impacting on NEM reliability?</p>	<p>Yes, but not in the manner expressed in the issues paper. Chasing more granular forecasts for intermittent and distributed generation is a fool's errand if the impact is less than the larger impacts of unexpected large-scale errors in forecasts. More accurately predicting the wind energy production in Tasmania would not have helped in dealing with the unexpected and substantial impact of the sudden loss of the Basslink Interconnector. Likewise, the events of February 10, 2017, which almost resulted in a substantial reliability event for New South Wales, would not have been more easily avoided by knowing a more accurate forecast of renewable generation when the forecast errors were a consequence of the failure of gas generators to operate at a time of high demand.</p>
<p>4. Options to accommodate intermittent generation</p>	
<p>a) Do stakeholders consider that facilitating additional dispatchable generation, or facilitation of more flexible energy sources, or a combination of both, can more easily achieve the aims of better incorporating intermittent generation into the NEM?</p>	<p>Again, we consider this is the wrong question to be asking. The better question is: are there benefits to customers and the NEM by facilitating additional dispatchable generation and/or facilitation of more flexible energy sources? We believe the answer to this question is 'yes' because such generation or energy sources will assist in addressing the nature of the changing energy system with continually less reliable large generation and networks, changing customer energy usage patterns and less predictability.</p>
<p>b) What outcomes do stakeholders consider are necessary in order to better incorporate intermittent generation sources into the NEM, from a reliability point of view?</p>	<p>Again, we consider this is the wrong question to be asking. It has a tendency to imply that intermittent generation is a problem for reliability rather than recognising that all generation formats create reliability challenges. For example, old-fashioned large generators require a much tighter frequency band than newer formats and they can place reliability at risk. It is important that changes that are made are not biased in favour of existing, but potentially soon to be extinct generation systems. Such an outcome would lock our 21st-century energy system into a 20th-century paradigm.</p>
<p>c) What factors should be taken into account when considering a Generator Reliability Obligation?</p>	<p>The critical factors to consider in a Generator Reliability Obligation are:</p> <ul style="list-style-type: none"> • whether it is required and if so why; • whether there are there better alternatives to achieve this requirement; • whether the requirement will be permanent or whether other market developments will make it less relevant; • the developments that led to the requirement, if any, and

Question	Comment
	<p>responsibility for those developments;</p> <ul style="list-style-type: none"> ability to implement and achieve the objective without causing significant disruption; and responsibility for the costs of implementing such an obligation. <p>Our initial assessment of these factors suggests that a Generator Reliability Obligation may not be necessary and if deemed necessary, should not only be imposed on new intermittent generation and the costs should be borne by all the beneficiaries of maintaining reliability.</p>
5. Credible contingences	
<p>a) Do stakeholders have any views on whether the existing credible contingency definitions may, or may not, be appropriate given the changing generation mix?</p>	<p>The definition of credible contingencies is always difficult. It is effectively predicting “known unknowns” in the hope that no “unknown unknowns” occur. It is not just a change in generation mix that may require a reassessment of credible contingencies and for this reason, we think it is important that AEMO have some flexibility in assessing and classifying credible contingencies so that opportunities to implement reasonable responses that might deliver greater reliability at minimal cost are not missed.</p>
<p>b) What are the differences in the impact of the changes in the generation mix on these definitions? Do these differ depending on whether they are thought of as relating to 'reliability' or 'security'?</p>	<p>As the energy system develops with less reliance on large single format generators connected by large transmission lines it is likely that the definition of credible contingencies may need to take a more probabilistic approach. For example, how credible is it that load will increase above forecast at the same time as multiple distributed generators cease to operate?</p>
<p>c) In reviewing the appropriateness of these definitions, are there any particular principles or considerations that the AEMC should take into account?</p>	<p>Yes. Naturally, we believe it is important that the Commission should place the purpose of the definitions and their use in the NEM at the core of any consideration.</p>
6. Interconnector	
<p>a) What role can interconnectors play in relation to reliability?</p>	<p>Interconnectors can play a key role in maintaining reliability. This includes by providing fast response energy in the event of interruptions to load or generation, providing geographic diversity for variability in demand and supply and enabling the transfer of reliability resources such as inertia and frequency control.</p>
<p>b) What factors should the Commission consider in this regard?</p>	<p>As discussed in the issues paper, interconnectors can assist in reliability and the RIT-T framework does permit some consideration of these benefits when assessing investment in interconnectors. The Commission should ensure that the RIT-T framework does not inadvertently exclude cheaper upgrades to interconnectors which may provide a more efficient and beneficial outcome for customers when compared to additional generation investment.</p>

Question	Comment
7. Contract market	
<p>a) Is generation and load becoming more capable of varying production and output in shorter timeframes, and if so, what will be the role of contracts? If generation and load could respond instantaneously to spot market signals, how would this change the contract market?</p>	<p>Generation and load are becoming more responsive as both a consequence of increased technical development and as a response to the market signals that our “energy only” market delivers. Contracts will continue to play a key role in managing risk and as is always the case in derivative markets, this will be achieved by the market matching parties with countervailing risk positions. It is the nature of financial markets that they develop relatively quickly in response to changing risk environments and often with the final outcome, while obvious in retrospect, not being predicted.</p>
<p>b) The proportion of intermittent generation in the market is increasing. Caps and swaps have traditionally been sold by dispatchable generators which can turn on or off at will to 'back' their contractual obligations. How will the volume and type of contracts traded change as the generation mix evolves? Will this have implications for reliability?</p>	<p>As discussed above, it is always difficult to predict how financial markets react to changing risk circumstances. In the long term, there should be no concern about the market developing an appropriate balance between those requiring certainty and those prepared to carry the risk of variability. It is possible that in a period of change there will be a temporary suppression of the financial market as new approaches and tools develop. This should not have a significant impact on reliability provided the conditions necessary for the development of the financial market responses are not inhibited. In particular, this requires clarity and certainty of market design decisions and sufficient time for the introduction of change to be accepted and accommodated within the financial markets.</p>
<p>c) How significant is the demand-side in driving behaviour in the contract market?</p>	<p>Traditionally, demand-side response has not been a large factor in driving the contract market although the cap market is primarily driven by the need to cover increased demand on peak days. To the extent that demand response has the potential to flatten the demand curve and eliminate periods of peak pricing, it has the potential to improve the contract market by providing a more stable and less risky underlying system. Participation in the contract market by demand response participants and aggregators is a new concept which is still quite nascent but does have the potential to increase the supply of participants in the contract market with significant benefits for participants and customers.</p>
<p>d) Over time, spot prices may become increasingly decoupled from domestic demand (as discussed in Box 6.3). More and more, spot prices may come to be driven by relatively unpredictable natural forces (like wind and sunshine), as well as by movements in international markets (like the demand for gas). How will this affect the role of prices in supporting reliability through domestic investment and operation?</p>	<p>Spot prices, in a well-balanced market, should reflect the balance between supply and demand. That demand alone was the major driver of spot prices is an indication the market was not appropriately balanced in the past. Factors other than demand driving the price of energy that customers require is not a bad thing as it will ensure that solutions that contribute to matching supply and demand will receive more reward than those that do not. That gas with exposure to international pricing is less favoured is sending the signal that generators with more stable pricing will be more likely to be built. Likewise, the suppression of prices where there is an abundance of one form of renewable generation will make dispatchable or other forms of generation more attractive. This is not a signal of the market ceasing to operate appropriately but rather evidence that it is working to deliver the investment necessary for reliability.</p>

Question	Comment
8. External factors	
<p>What external factors (that is, not the contract, or spot price) are influencing investment, retirement and operational decisions in the NEM?</p>	<p>The energy market does not operate in isolation but exists as part of the broader economy and community that it serves. To describe a requirement to meet community expectations as an external factor is to mischaracterise this relationship. The factors influencing investment, retirement and operational decisions in the NEM are the same as they have always been. Can a successful investment be made in a plant that is acceptable to the community and which will provide a return on investment over its lifetime given reasonable expectations for variations in future circumstances. In the 1970's environmental issues prevented the development of large-scale inner urban gas plants (e.g. Newport). Clearly, the market responds best when risk is reduced whether this is operational, price or government influenced risks. External factors affecting investment include labour market conditions (especially Victoria), uncertainty around government policy and complexity and fairness of the transmission connection arrangements.</p>
9. Efficacy and efficiency of information provision	
<p>a) What is the potential for the reports (Energy Adequacy Assessment Projection, Electricity Statement of Opportunities and PASA) to be streamlined or made more efficient given existing interactions?</p>	<p>Again, the question here is the balance between cost and benefit. More information could be made available but whether the benefits outweigh the commercial imposition is unclear. Sufficient information is provided for long-term assessments but a greater focus on short-term impacts, particularly generator outages, could be desirable.</p>
<p>b) Is the information provided by the reports adequate given that it has the purpose of information provision to the market for reliability and investment purposes?</p>	<p>The information appears to be adequate although greater effort in streamlining the delivery mechanisms may be advantageous.</p>
<p>c) In particular, is the information around planned generation maintenance and outages adequate?</p>	<p>As discussed above, this should be an area of focus in any review of information provision.</p>
<p>d) What other information do stakeholders rely on?</p>	<p>Stakeholders rely on a range of information including forecasts provided by networks, internal and external party forecasts of price and demand, general economic forecasts and forecasts of generation and fuel costs.</p>
10. Role of interventions	
<p>a) What is the role of intervention mechanisms in the reliability frameworks? Does this role change in times of uncertainty?</p>	<p>Interventions should remain a last resort. However, just because it is a last resort does not mean that the intervention should be the last thing to occur. Sometimes, a well-timed early intervention can offset the need for a more substantial later intervention. AEMO should always seek to avoid intervening when the market can, and probably will deliver the</p>

Question	Comment
	best reliability outcome.
<p>b) To what extent do stakeholders consider that intervention mechanisms inhibit market-based responses, and create distortions within the framework?</p>	<p>Like all market-based systems, the existence of an intervention to impose directed outcomes will create distortions. For example, if the expectation is that intervention will be used to deal with supply shortages, investment in new supply may be inhibited. For these reasons, it is important that intervention mechanisms are well designed and implemented so as to minimise distortionary impacts.</p>
<p>c) To what extent are interventions preferable to load shedding?</p>	<p>Interventions that are a consequence of well-designed intervention processes that are limited in their distortionary effect and expense are preferable to load shedding which has the potential to significantly disrupt the core purpose of the NEM, the delivery of safe, secure and reliable energy. This is particularly true if the intervention is dealing with issues that the market response mechanisms may not have been able to deal with in any event (e.g. Basslink failure, SA system black event).</p>
11. Triggers for intervention	
<p>Do stakeholders consider that there is sufficient transparency about the existing triggers for intervention?</p>	<p>There could be an improvement in transparency; however, this may be appropriately dealt with in the proposed AEMO rule change 'declaration of lack of reserve conditions'.</p>
12. Efficiency of the RERT	
<p>Do stakeholders consider that the RERT is still a relevant mechanism to ensure a reliable supply of energy in the NEM?</p>	<p>The RERT is a tool that AEMO can utilise in periods of supply scarcity or excess demand to assist in maintaining reliability of supply. The RERT cannot ensure reliability of supply. A review of the RERT should be undertaken after this summer to see what lessons can be learnt from its first real use and what improvements or alterations are required.</p>
13. RERT procurement trigger	
<p>a) To what extent do stakeholders consider that the fact that AEMO can only trigger the RERT for anticipated shortfalls still appropriate?</p>	<p>As a last resort intervention, the RERT should only come into play if AEMO is satisfied that there is a reasonable and significant prospect that there will be a supply interruption that the RERT can address.</p>
<p>b) Is the procurement trigger still appropriate in a world where shortfalls are less predictable, and there is increased demand-side participation?</p>	<p>This should be considered after this summer when the true value of the RERT can be more accurately assessed but the trigger must be AEMO's opinion that a supply disruption due to demand exceeding supply is likely. The fact that this is potentially harder to predict does not affect the utility of the RERT.</p>
14. RERT lead time	
<p>a) To what extent do stakeholders consider that the lead times for the RERT constrain the ability of market-based reserve contracts</p>	<p>There is clear potential for the RERT to interfere with the development of market-based reserve contracts. In part, this is due to the fact that over the last decade reserves in generation have been so high that neither a market-based nor a RERT</p>

Question	Comment
being realised?	approach was required. As retailers and generators are only now recognising the value of long-term demand response capabilities, the implementation of the RERT may undermine the development of efficient long-term demand response approaches. The Commission must be careful in balancing these issues.
b) What are stakeholders' views on the need for the long-notice RERT?	While the reasons given in the Commission's rule change to remove the long-notice RERT seemed sensible at the time, recent events suggest that there are advantages to long-notice RERT that were not considered at that time. These include that long-notice RERT enables more efficient investment and response timelines and when combined with capacity payments, the ability to produce much lower costs of intervention.
c) Does the long-notice RERT have the potential to limit a market response?	Like all interventions, the long-notice RERT will affect market responses including investment in capacity necessary to meet supply shortages. Whether this effect outweighs the benefits of the implementation of a long-notice RERT can only be determined in the circumstances applicable. Again, the Commission must ensure that a long-notice RERT is well designed to avoid unnecessary market distortion and balances the benefit of the RERT against such distortions.
15. Price discovery	
To what extent do stakeholders consider that the price discovery process of the RERT could be improved?	While there are clear advantages in improved price discovery, the nature of the RERT as a last resort tool (which should only be applied rarely) makes such price discovery difficult and when combined with the requirements for commercial sensitivity may make such discovery impossible.
16. Demand response for reliability purpose	
a) What are the reasons why most demand response providers have not participated in the RERT to date?	To date, the RERT has rarely been activated and participation by demand response participants would not have been sensible.
b) What findings can be taken from the ARENA-AEMO trial in terms of how demand response could be better incorporated into the RERT?	The trial is still underway and many of the learnings yet to be determined and or shared. One early learning appears to be that there is value in AEMO being able to make small upfront investments to develop capabilities which reduce the overall cost of the provision of reserves for the benefit of customers. This includes enhancing the ability of retailers and others to involve residential customers.
17. Efficacy of directions and clause 4.8.9 instructions	
a) Are reliability directions fit-for-purpose given existing trends such as the start-up time of generating units and other trends such as higher penetration of variable,	Like the RERT, reliability directions are one of the tools available to AEMO to ensure reliability. They remain a valuable tool which like the RERT should only be used as a last resort measure.

Question	Comment
renewable energy in the NEM?	
b) Are reliability directions and clause 4.8.9 instructions needed given the existence of the RERT?	Yes, particularly given they may be used for quite different issues (e.g directing particular generators on or off to improve network capability).
c) Is the notification process for directions - amount of notice given and clarity - adequate?	AEMO should aim to give the maximum notice possible in all the circumstances including alerting specific generators that a direction is being considered. However, due to the nature of directions and the requirement to maintain system security and reliability, the ability to give substantial advance notice is often limited.

As discussed above, we consider the reliability frameworks to be a core element of the NEM. We recognise the challenge the Commission is facing in assessing those frameworks at a time of rapid change in the energy markets and the many other factors currently driving reliability outcomes. We encourage the Commission, as it always has, to take a careful and balanced view on these frameworks and any changes, and we remain willing to assist the Commission in any way possible including explaining any of the answers provided above.

If you have any further questions please feel free to contact me.

Yours sincerely



Ed McManus
 Chief Executive Officer
 Meridian Energy Australia Pty Ltd