Major Energy Users Inc.

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Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

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Attention: Ms Sarah-Jane Derby

Reliability Frameworks Review
Response to draft Interim Report
EPR0060

The Major Energy Users (MEU) is pleased to respond to the AEMC draft Interim Report for its Reliability Frameworks Review. The MEU represents the interests of large electricity and gas users across the NEM and has been a consistent contributor to the deliberations of the AEMC over the years.

The MEU recognises that the issue of reliability in the National Electricity Market (NEM) is becoming ever more an issue as consumers see massive price increases in the supply of the electricity that is essential to the productivity and profitability of their on-going operations. At the same time, the members of the MEU have seen the reliability of this essential service reduce in the past 12-18 months, for a number of reasons, not all related to the wholesale electricity market operations.

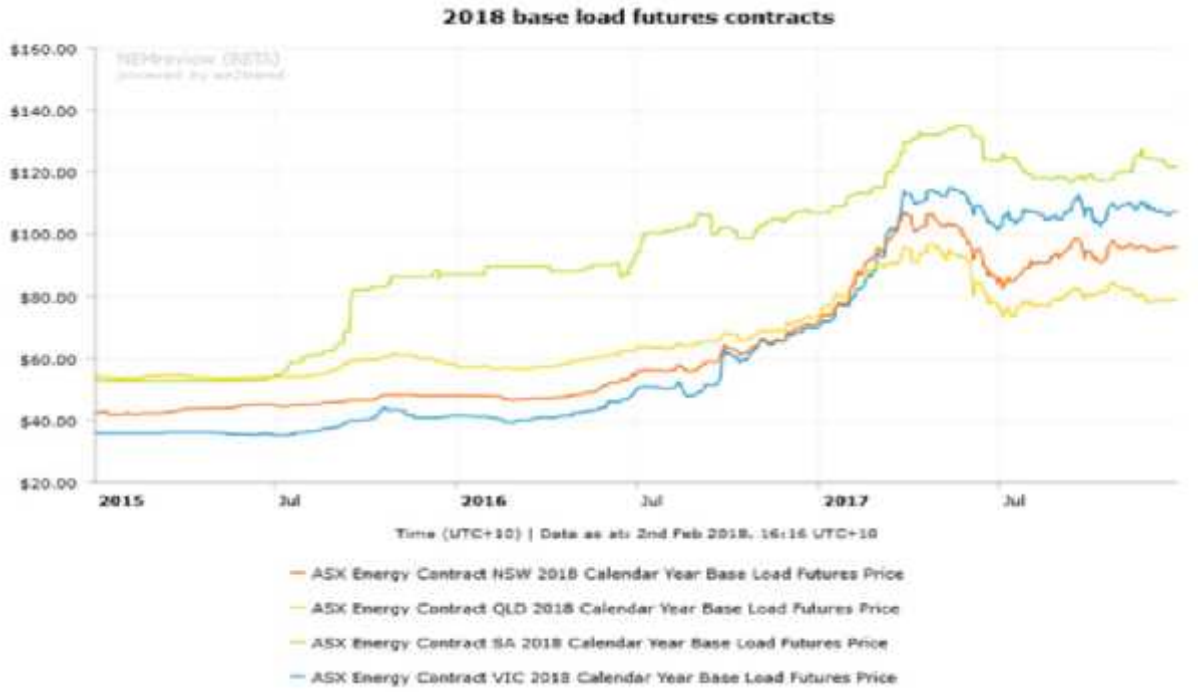
The MEU also points out that a number of its members have been sufficiently concerned about the increasing potential for a failure to supply that they have contracted with AEMO under the recent Reliability and Emergency Reserve Trader (RERT) program initiated for the 2017-18 summer period.

MEU members have also advised that they have also operated in the NEM to reduce their demand for electricity at times when prices are very high, although few are able to offer such reductions in very short time frames without incurring significant harm to their operations. It is their knowledge and experience that informs some of the comments that follow.

General observations

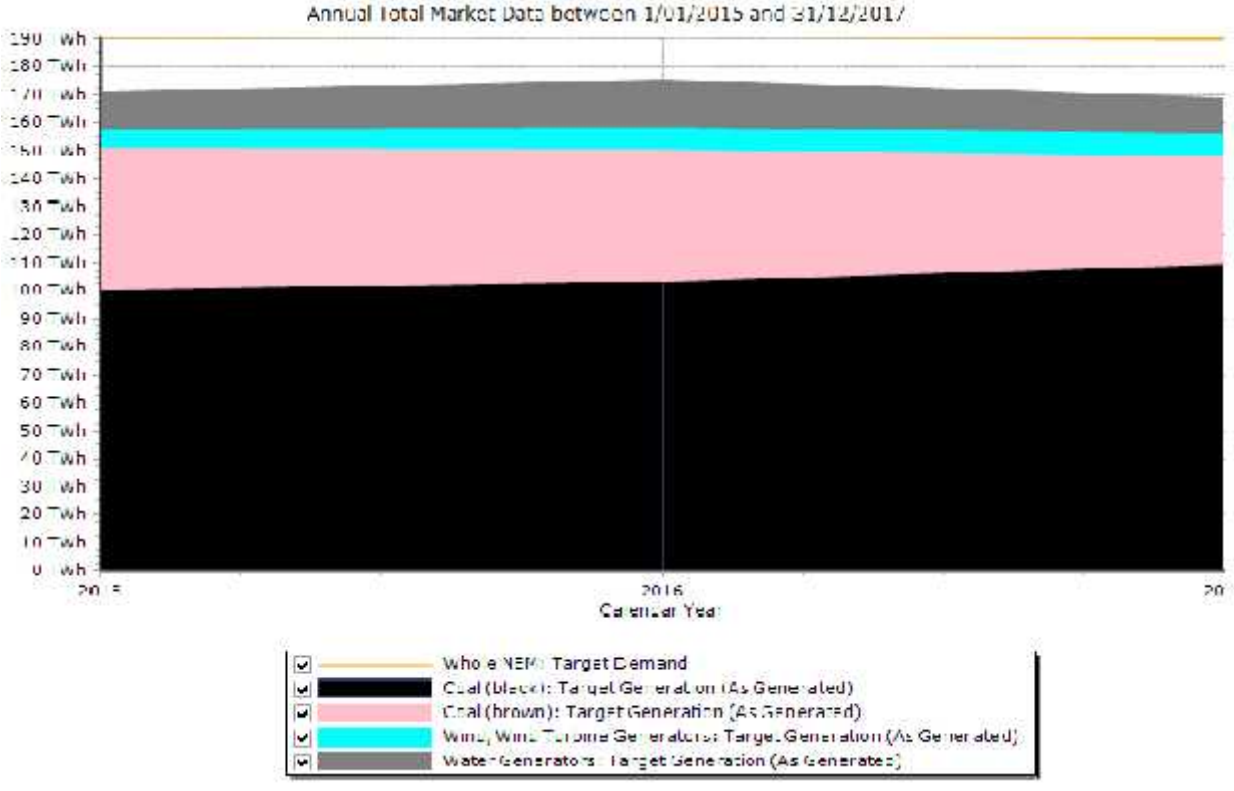
As an overarching observation, the MEU comments that it is very concerned about the more than doubling of wholesale electricity prices that has occurred in the past 18-24 months as is shown typically in the following chart. MEU members advise that the

prices in their electricity contracts tend to follow the futures market, highlighting that the futures markets are a guide to future supply contracts.



Source: ASX data via NEMReview v7

These increases have occurred despite the fact that some 90% of the electricity generated in the mainland NEM is still generated from low cost sources such as wind, hydro and coal fired generation with little change in proportion of each over the same timeframe as the futures market chart above, as the following chart shows.



Source: AEMO data via NEMReview v6

This high level view of the market raises the very concern that there is something about the NEM and its structure that needs to be addressed as the mix of generation has changed little with the only significant cost impact on the NEM being the massive increase in the price of gas for domestic consumption on the east coast. As gas fired generation is only about 10% of all generation, a doubling of the gas price would only cause an average price increase of 10% rather than the 100% seen in the market.

If an increase in reliability is to be implemented, it must be implemented in a way that either does not lead to higher prices or, better still, results in lower prices, so that electricity prices to consumers more closely reflect the costs of generating electricity and so return the NEM to prices that more closely resemble those prices seen in overseas jurisdictions.

What is concerning about the Interim Report is that these realities are not mentioned at all and implicit in the Report, is that consumers may have to accept even higher prices to ensure that greater reliability of supply is achieved.

A second overarching issue is that the ACCC in its Preliminary Report on Retail Electricity Pricing has identified that the electricity wholesale market is now highly concentrated. This means that that in order to provide consumers with the outcome that was promised for the NEM (that of a competitive market to deliver the lowest prices) is no longer being delivered. The fact that prices are well above the cost of electricity production supports the view that the market is not competitive. The MEU is very concerned that the assessment made by the AEMC in its Interim Report makes no mention of the issue of declining competition , nor of the impacts that increasing reliability might have on the degree of competition.

Inherent in the Report is that the market structure is “fit for purpose” and there are only some relatively minor changes that might be required to provide increased reliability, or at least prevent the loss of any reliability. The MEU finds this rather self serving. It is recognised that the market has undergone a seismic shift and this change will continue as we move to an even lower carbon emission regime. The MEU considers that the AEMC should be examining the current market structure to see if will still be appropriate in the future where generation is more diversified and probably reflects greater intermittency.

The MEU sees this current review a prime opportunity for the AEMC to be much more wide reaching in its examination of the market and its structure. But specifically, the AEMC should use this opportunity to address the very real concerns raised by the ACCC on the observed levels of competition, what steps will be taken to increase competition in the NEM, both at the retail and wholesale levels, and whether the changes made to improve reliability will further reduce the levels of competition.

Specific observations about the report

The MEU considers that, overall, the Interim Report provides a reasonable assessment of the issues that it addresses. What is concerning is that there are a number of issues (covered in more detail below) that the Report does not address at all or, if it does, only in a peripheral manner. These exclusions highlight a lack of appreciation of the impacts they have on the overall assessment of reliability both now and into the future.

The National Energy Guarantee (NEG)

The MEU points out that the introduction of the National Energy Guarantee (NEG) potentially will have significant and far-reaching implications for reliability in the wholesale market operations of the NEM. While the Report notes that the NEG is to be developed, it does not get into the detail about its impact.

While understandable (because the NEG is still only in concept form) it is considered to have such a massive impact on reliability that to address in detail what might become much more peripheral issues appears to be quite premature. The MEU considers that the AEMC would have been better served by deferring the Interim Report until the NEG had been better developed and its impact better understood.

It is clear that the NEG will introduce some concepts into the NEM that are currently excluded. For example, the NEG will require retailers to pay for the provision of reliable dispatch to meet the reliability guarantee, even though the generation contracted for might never (or seldom) be dispatched. This is effectively a move from an energy-only market to a form of capacity market.

In its response to the Reliability Panel during the Comprehensive Reliability Review in 2006 and 2007, the MEU suggested that the Panel should assess whether a move towards a capacity market (such as the process instituted by the New England Independent System Operator for what it called a "Forward Capacity Market" which was based on an article "Reliability Options: A market orientated approach to long term adequacy" by Miles Bidwell[1]). As the MEU commented in its response[2] to the Reliability Panel:

> "[The New England program] has two fundamental structural elements:-
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> 1) a capacity instrument like a Reliability Option (RO) has both physical and financial characteristics designed to ensure long-term system adequacy and increased short-term system reliability through a series of plant availability reward and penalty mechanisms that operate when the system needs plants to be

[1] Federal Energy Regulatory Commission, June 16, 2006 re Devon Power LLC dockets # ER03-563-030 and ER03-563-055
[2] Available in the initiation phase at http://www.aemc.gov.au/Markets-Reviews-Advice/Comprehensive-Reliability-Review.

operating; and

2) a yearly auction that is specifically designed to promote vigorous competition among generators and potential new entrants and which will allow generators to enjoy a stable income stream from selling the capacity instrument to the ISO at a price of capacity that averages about the minimum incremental cost of new entry.

A key feature of the yearly auction is that it permits contracts for up to four years ahead, essentially allowing new entrants time to build new plant to match the contracts."

In that response to the Issues Paper released by the Reliability Panel as part of the Comprehensive Reliability Review, the MEU also provided detail of some of the approaches used overseas to ensure reliability of supply and the MEU considers that there is value in the AEMC reviewing the MEU comments again as the NEM has changed considerably and the NEG is likely to introduce new concepts to the NEM.

The MEU is concerned that the Report has not addressed the issue of reliability in more holistic manner because if it had done so, then a number of the issues included in the Report could have been better targeted and other options contemplated.

The cost of risk and reliability

What the market is exhibiting is an increase in volatility both in price and in source of generation. The Report implies that the reliability concerns can be addressed by the market, providing there are sufficient incentives to ensure there will be future investment in generation assets. What the Report does not expound on is that increased volatility increases risk and increased risk either results in higher prices for consumers and/or a view by investors that the risk is too great to ensure that an investment will deliver an adequate return relative to the risk involved. While the Report does address the issues of better forecasting as a tool to provide increased certainty, the MEU sees that the increasing volatility militates against better forecasting, in the short, medium and long terms – all of which require a high degree of certainty to deliver the new investment.

The Report includes a view that investment in this increased volatile NEM is occurring, but fails to explain that this new investment (eg Snowy 2.0, Tesla battery, etc) have been made possible by government intervention either directly or by funding assistance from ARENA and CEFC. In fact, the Report implies that it is the market that is responding to the investment signals rather than government intervention.

The Report does undertake some analysis of the disparity between the Value of Customer Reliability (VCR) and the Market Price Cap (MPC) and seems to imply that the MPC should be raised to the same level as VCR. The MEU points out that the VCR is based on the value consumers place on the delivery of electricity at their premises (ie inclusive of network reliability as well as the market). The Report only addresses the VCR in terms of the aggregate but a deeper analysis shows that the VCR expected by

consumers direct connected to the transmission network (and those close to the transmission network) is a much lower value (and close to the MPC) than the average value across all consumers. The MEU considers that by implying the average VCR should be used shows a lack of deeper analysis of the VCR, how it has been developed and how it should be applied.

The MEU also notes that the Report contemplates a reduction in the setting for the amount of Unserved Energy (USE) that might be applied. The current value of USE implies that a consumer might expect to suffer no more than 10 minutes loss of supply each year from insufficient generation. In fact, most consumers suffer even less loss of supply from the market than this as over the long term the actual levels of USE are close to zero. In contrast, the loss of supply caused by the distribution networks is many times this wholesale market setting.

The MEU observes that an increase in the MPC or a reduction in USE to increase reliability will further increase costs to consumers yet the marginal increase in reliability achieved by these changes will add considerable costs to consumers with little benefit as the reliability of the networks (especially distribution networks) is much lower than the reliability of the wholesale market.

The MEU considers that the Interim Report is deficient in not more fully examining the inter-relationships between increased volatility, increased risk, the preparedness of investors to fund new generation, the price outcomes for consumers and in assessing where the best value can be achieved for consumers from proposed changes.

Reliability and the derivatives market

The Report provides a view that the contract (derivative) market is demonstrating some resilience and providing liquidity in the market even with the changes seen in the generation mix and the current levels of reliability; but there is little discussion about the impacts on the market liquidity or of the cost and price impacts on the contract market and 0n the plant that underpins the derivatives market.

In this regard, the MEU comments that, in the discussions to the transition to the 5 minute settlement in the market, it was pointed out that there is likely to be a loss in market liquidity (particularly for the $300/MWh caps) as many of the generators that currently provide the services will not be fast enough to respond within the 5 minute settlement period[3] although they can and have responded within the 30 minute settlement period.

Further, although the Report does mention the change to 5 minute settlement, the discussion is more about the reasons for the change to eliminate spot market gaming

[3] The MEU points out that even very fast start generation, while it might be able to synchronise within the 5 minute settlement period, and which might reach peak output within 5 minutes (such as the new AGL power station at Barker Inlet), such plant would still deliver less than 50% of the rated volume of output due to ramping limitations.

through spiking prices in the later dispatch periods in a settlement period. What is not discussed is whether the move to 5 minute settlement will impact reliability through fewer generators able to provide responses within a 5 minute period. In this regard, the MEU points out that there will be significant amounts of fast start generation that will not be able to dispatch sufficient amounts of generation within a 5 minute period in order to maintain reliability coupled to sufficient competition to ensure that prices will not be excessive.

While the MEU has seen that the 100 MW battery recently added to the SA regional market has demonstrated its value in assisting in stability and reliability matters, there is little competition to it and this provides it with market power should it wish to exercise it. Further, in the absence of generators previously able to provide $300 caps, there is no discussion about what plant will be able to provide sufficient output to underwrite the liquidity for this element of the derivatives market and maintain the necessary competition to allow the derivatives market to provide competitive outcomes[4].

As noted earlier, the absence of any assessment of the market to meet future needs (such as when 5 minute settlement commences and to provide a competitive outcome as and when the generation mix changes) is most concerning.

The MEU is concerned that the Report does not address the impact of the 5 minute settlement regime on reliability nor does it assess whether the future generation mix will be able to provide sufficient competition to deliver a liquid derivatives market[5].

Wholesale demand response (WDR)

The Report provides considerable discussion on Wholesale Demand Response (WDR) and the benefits such a program provides but fails to address why consumers have not embraced the concept in much greater numbers and quantities.

While the Report addresses the challenge in separating the responsibility of an aggregator of WDR from the retailer that the consumer uses to provide its electricity, it concludes that there is no real mechanism that allows separation of the retailer function from the provision of WDR. The MEU finds this intriguing as there is no doubt that this issue has been appropriately addressed by AEMO in its Reliability and Emergency Reserve Trader (RERT) program that it instituted for the 2017/18 summer in Victoria and South Australia. If AEMO can contract with parties (and MEU members have provided such a service to AEMO), then it would appear that another entity could do likewise. The MEU was involved in the discussions and process for assessing the merits and demerits of the proposed “Demand Response Mechanism and Ancillary Services Unbundling” rule change and remains sceptical of the reasons posited by the AEMC for not implementing the rule change.

[4] This was an issue raised by many respondents to the 5 minute settlement rule change and which was not addressed in appropriate detail by the AEMC in its final decision.
[5] The MEU points out that the SA regional market is recognised as the least competitive regional market and has exhibited the lowest liquidity of all regional markets in the NEM

It is clear from the discussion in the Report, that the AEMC has little understanding of how consumers might respond to providing WDR. While some consumers have expressed a willingness to reduce their electricity demand at times of high wholesale prices, the value most consumers get from such an approach does not address:

1. Their ability to respond to demand reduction when the high prices occur, recognising there is no certainty that the high price will indeed eventuate or that the ability to reduce demand at the same rates as the market requires them to respond
2. Depending on their operational processes, end users require varying degrees of notice to provide load shedding as they require time to implement the loads shedding in a safe manner and require some time at the high prices to recover their costs.
3. There is no certainty that the costs that they will incur from load shedding will be more than offset by the reward from not incurring the high prices extant at the time
4. There is no certainty that the costs incurred in setting up to be able to respond to market signals will exceed the savings over time that might occur from load shedding.

Essentially, an energy-only market makes it more difficult for end users to be able to implement load shedding in response to market signals with the confidence they will have certainty of a sufficient reward to justify the costs and loss of production that load shedding imposes.

There is no doubt that the costs that AEMO has incurred from establishing the RERT services for the summer of 2017/18 would be a useful source of information to provide greater clarity as to the ability of consumers to provide WDR and of the costs involved, and the MEU suggests that the AEMC should include in its Report, details of the cost (in aggregate to preserve confidentiality) for the RERT program established by AEMO to identify the constraints applying to providers of the RERT[6], and use this data to better inform on the ability of end users to meet the expectations for WDR. Additionally, the MEU considers that the AEMC would be well served to discuss directly with demand side providers of RERT the costs and constraints they incur in providing WDR and the risks they face in providing it.

The benefits of the widespread provision of WDR in the Western Australian Electricity Market (WEM) have not been addressed, other than to point out its cost. But it is the process inherent in a capacity market allows end users to have a greater certainty of recovering their costs in providing this WDR service, and that it allows them to establish the notice criteria they need to be able to schedule the service they offer.

[6] For example, AEMO's report NEM Event – Activation of Unscheduled Reserves for Victoria – 30 November 2017 highlights that RERT providers required some 3 hours notice before requiring the delivery of the RERT service and some 6 hours of run time, highlighting that the providers of the RERT service were not able to operate within the dictates of the energy-only market structure

The MEU considers that the Report, while pointing out the value to the market of end user load shedding and the supposed benefits end users would accrue, has not explored in sufficient detail why such services are not more widely provided in the NEM. Such an analysis would explore the impediments faced by consumers in response to the supposed benefits inherent in WDR.

The Reliability and Emergency Trader (RERT) program

The MEU has long been a supporter of the RERT program and has provided advice and support for it to the AEMC in the past. Despite attempts to close the program down over the years, the MEU has consistently provided the AEMC with reasons for its retention. That the program is in place for the summer of 2017/18 and has been used to provide confidence of continued electricity supply demonstrates its importance. As noted above, the MEU considers that the RERT program for summer 2017/18 is a good source of information about the ability of WDR and the costs involved.

However, the RERT is a very focused and short term program and needs certain preconditions before it can be used and these might not provide sufficient coverage for the level of reliability sought. Despite AEMC observations about the RERT to the contrary, improved reliability needs longer term arrangements (eg a standing offer to reduce demand over many years for a payment such as through a capacity payment) to cover the costs of "just being there" to provide back up[7]. While the details of the NEG are yet fully developed, implicit in the concept is a view that retailers will have to pay for availability of dispatchable generation even if it is not used. To some degree, the RERT provides this ability, but not over the extended periods needed to invest significantly in such a service.

The AEMC assessment assumes that the market (or the NEG) will address this issue of unexpected loss of dispatchable generation, but it does not address the reality that investors (both supply side and demand side) will require multiple years certainty of some form of payment to underwrite the investment and so accommodate the increasing unreliability of existing plant as it ages.

The day-ahead market

The Report addresses the benefits and detriments of implementing a day-ahead market and the MEU considers that this has been well done.

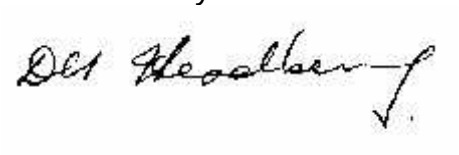
What concerns the MEU is that the analysis does not reflect the reality that the electricity market (as assessed by the ACCC) is highly concentrated and whether the degree of concentration would limit the ability of the day-ahead market to deliver increased reliability and lower costs.

[7] For example, the vertically integrated government owned electricity supply systems would have between 15-20% spare capacity within their fleet to provide reliability to offset the potential for a loss of a coal fired generation unit (such as actually occurred more than once in Victoria in summer 2017/18), even if this back up was not needed on a regular basis

The MEU considers that the day-ahead market concept needs to be assessed in terms of the high degree of market concentration that exists.

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary. If so, please contact the undersigned at davidheadberry@bigpond.com or (03) 5962 3225

Yours faithfully



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