Major Energy Users Inc.

Australian Energy Markets Commission

Linking Reliability Standard and Reliability Settings with VCR

Comments on the AEMC Consultation Paper

AEMC Reference: EMO0026

Submission by

The Major Energy Users Inc

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Background

The Standing Council of Energy Ministers (SCER) has requested the Australian Energy Market Regulation (AEMC) to provide advice on options for linking the reliability standard and reliability settings that are applied to the wholesale energy market to the Value of Customer Reliability (VCR).

The AEMC states that the ultimate objective of its advice to SCER is to:

> Identify whether there is an alternative approach to setting the reliability standard and reliability settings which may better promote the NEO [National Electricity Objective] than the current approach.[1]

After considering the four options proposed by the AEMC for consideration by SCER, the Major Energy Users Inc (MEU) has come to the conclusion that none of the options better promote the NEO than the current approach to setting the reliability parameters for the wholesale market

The MEU's reasoning is summarised below, and expanded in Sections 2 to 4. Many of the MEU's concerns with this proposal mirror the MEU's concerns that were raised in the MEU's response[2] to the AEMC's 2010 review of the impact of extreme weather events.[3]

The AEMC's Approach

The AEMC's Consultation Paper provides a qualitative assessment of a number of options for linking the reliability parameters with the VCR in the context of the objective outlined above. Despite the absence of cost-benefit assessment, the Consultation Paper provides the only opportunity for stakeholders to comment on the AEMC's proposed advice to SCER on these important issues.

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[1] AEMC 2013, *Advice to SCER on linking the reliability standard and reliability settings with VCR, Consultation Paper*, 29 October 2013, Sydney. p. 9. [AEMC 2013 Consultation Paper]
[2] MEU, *AEMC Review of the Effectiveness of NEM Security and Reliability Arrangements in light of Extreme Weather Events, Response to Consultation Paper,* March 2010. [MEU 2010*, Response to AEMC 2010 Review*].
[3] AEMC 2010, *Review of the Effectiveness of NEM Security and Reliability Arrangements in light of Extreme Weather Events, Final Report,* 31 May 2010, Sydney, [AEMC 2010 Review].

The most relevant reliability parameters to be considered in this assessment of the VCR linkages are the reliability standard (expressed as unserved energy or USE) and the market price cap (MCP). However, there are also some potential implications for the level of the cumulative price threshold (CPT).

The AEMC's Consultation Paper considers four options for linking the reliability standard and settings with VCR. They were[4]:

- Option 1: direct application of VCR as a market price cap;
- Option 2: use VCR as a cross-check on the reliability standard and reliability settings;
- Option 3: direct application of VCR as a market price cap at "periods of scarcity"; and
- Option 4: different levels of VCR offered into dispatch.[5]

The AEMC previously proposed Options 1 and 2 to SCER as a result of the AEMC's 2010 review.[6] Options 3 and 4 in the Consultation Paper have been developed more recently by the AEMC after considering arrangements in other parts of the world.

Of the two options initially proposed by the AEMC to SCER in 2010, the AEMC recommended Option 2. SCER, however, was concerned with the complexity of the proposal and the difficulties of reliably measuring VRC. It requested the AEMC to conduct a further investigation into the links between VCR and the MCP. The current Consultation Paper forms part of the development of the AEMC's response to the SCER's request for further advice (see above).

The MEU's response to the AEMC's 2010 study[7]

The MEU has already provided an extensive submission to the AEMC in response to the AEMC's 2010 study, including the AEMC's recommendation in the 2010 study to adopt Option 2, namely the use of VCR as a cross-check to the reliability standard and settings, particularly the MCP.

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[4] The MEU notes that another option (that of making no change) has not been proposed by the AEMC. In previous requests for feedback, the AEMC has included the "do nothing" option and the MEU queries why this has not been the case in this instance.
[5] AEMC 2013*, Consultation Paper,* p. 31.
[6] See AEMC, *2010 Review*.
[7] MEU, 2010, *Response to AEMC 2010 Review.*

Many of the issues raised by the MEU in this previous submission are still relevant to the MEU's submission on the current Consultation Paper. These are discussed in detail in Section 2 of this submission.

In brief, the MEU's proposition was that increases in the MCP were not in the long-term interests of consumers as required by the National Electricity Objective (NEO). Given that reliance on the VCR to set (or influence the setting of) the maximum price cap in the market, the AEMC should consider alternatives, such as encouraging demand side options in the market.

Specifically, the MEU considered that increases in the MCP above $10,000/MWh (or $12,500/MWh)[8] were unnecessary to ensure sufficient investment in generation to meet the reliability standard of unused energy (USE) of 0.002 per cent of total annual energy in a region of the NEM.

On the other hand, increases in the MCP reduce liquidity in the contract market and enhance generator transient market power (e.g. through enhanced incentives for economic bidding and economic withholding of capacity). This, in turn, increases the risks and costs to retailers and reduces retail competition.

Moreover, the MEU considered that the AEMC's analysis paid too little attention to the potential for demand-side actions to address short-term supply limitations at lower cost.

Nor did the AEMC's study adequately consider the fact that the consumers' experiences of reliability are a result of events throughout the supply chain (generation, transmission and distribution). The MEU considered it was inappropriate to set an MPC that attempted to capture all the reliability risks in the wholesale energy market mechanisms.

In fact, the evidence points to the major supply reliability issues stemming from problems in the transmission and distribution systems rather than shortages of electricity supply in the wholesale market. In addition, the MEU noted that the events in Victoria and South Australia that prompted the initial SCER request, while causing major interruptions to supply did not lead to a breach of the reliability standard overall.

The necessity of higher MPC prices was therefore not demonstrated in this initial study.

[8] At the time of the MEU's submission it was expected that the MPC would increase to $12,500/MWh in the near future. It was increased to this value for 2011/12 and indexed to CPI for subsequent three years (four years in total). The MCP to apply for 2013/14 is $13,100/MWh.

The MEU's response to the current AEMC Consultation Paper

The MEU acknowledges that the AEMC has been asked to further investigate the potential links between the VCR and the MCP by SCER, and in doing so has identified four options and provided a qualitative assessment of each of these.

However, the MEU considers that the issues that the MEU raised in response to the original AEMC 2010 study remain of critical importance to the assessment of options for wholesale electricity market reliability measures in the current Consultation Paper.

Based on the VCR assessment to date, application of the VCR will result in a significantly higher maximum price cap, even if this VCR is based on the VCR for the residential electricity market.[9] This, in turn, will increase spot price volatility and substantially increase risks and costs to retailers with flow on effects to retailer financial viability, retail competition and retail prices to consumers. These points were made to and accepted by the AEMC Reliability Panel in its 2010 review of the reliability standard and settings.

Moreover, the MEU considers that a higher maximum price cap will have little or no commensurate impact on incentives to invest in new generation.

Nor is there a need for such an expansion of the supply side, even for supplying peak demand. The most recent data from AEMO on the energy market indicates that there is already a substantial overhang of supply and this is likely to continue for a decade given the policy settings and trends in demand and supply.

For instance, the MEU highlights that since the AEMC's original recommendations in 2010, there have been significant changes in the supply/demand balance across the NEM, and these trends are likely to continue. In particular, the MEU notes the following:

- Overall energy and peak energy demand has declined significantly compared to forecasts made at the time the current reliability settings were put in place.

- Successful implementation of demand-side management options arising from the AEMC's Power of Choice study, such as demand-

[9] AEMC, *2010 Review*, p 34. The AEMC states that the level of VCR for residential consumers in Victoria is estimated to be $13,250/MWh, which 'aligns reasonably with the current MPC'. However, AEMO's 2011 study of VCR indicated a residential VCR in Victoria of $16,330/MWh (see footnote 20) while the study by Oakley Greenwood (indicated a state wide residential VCR of $20,710/MWh. (see footnote 22)

side bidding and smart metering, will directly impact on peak demand to further reduce growth rates.

- Government policies, particularly the Renewable Energy Target scheme (RET), mean that renewable generation (mainly wind and solar) will continue to dominate supply-side investment. The expansion of generation capacity over the next 10 years will, therefore, be largely independent of pricing signals such as the MPC.

- AEMO's 2013 Statement of Opportunities (SOO) confirms that there is no requirement for new conventional generation to meet annual energy and peak demand for five years or more.

- Since 2009, there have not been any years where the reliability standard of 0.002 per cent has been breached, and most NEM regions experienced a level of USE of 0.000 per cent.

In summary, the MEU continues to oppose any further increases in the maximum price cap over the foreseeable future, whether this increase arises from the adoption of the VCR to influence or set the maximum price cap or as part of the general review of reliability settings.

Not only is such an increase unnecessary to achieve the original reliability objectives of the MPC, it will add risks and costs to the detriment of all consumers in the NEM. Moreover, implementing a new approach to reliability standards and settings will prove to be a significant distraction of time and money from other, more essential reforms, such as the Power of Choice reforms.

As a result, the MEU considers that all four of the Options put forward by the AEMC in its advice to SCER's request fail the test set by the AEMC in the Consultation Paper of 'setting the reliability standard and reliability settings which may better promote the NEO than the current approach'. The linking of VCR to the MCP will not achieve this outcome.

The clear import of the current arrangements for the reliability standard and settings for the wholesale market is that they have resulted in sufficient new generation being provided as and when it is needed and therefore have demonstrated they are more than adequate for achieving the task of providing high reliability of the wholesale market[10]. The MEU considers that this aspect of the market is meeting consumer needs extremely well. In light of this, the MEU questions the value of changing the approach - "if it ain't broke, why fix it!"

[10] They could even be construed to be excessively conservative considering it is the most reliable sector of the supply chain

This is not to say that the current approach cannot be improved. However, linking the VCR with the reliability parameters for the wholesale market is, at this stage, likely to raise the maximum price cap and increase risks and uncertainties (given the instability of VCR measures) with no discernable benefit in terms of the reliability of supply.

1. Introduction

The Major Energy Users Inc (MEU) welcomes the opportunity to respond to the AEMC's Consultation Paper, *Advice to SCER on linking the reliability standard and reliability settings with the VCR* (Consultation Paper).

In June 2012, the Standing Council of Energy and Resources (SCER) requested the AEMC to provide advice on linking the reliability standard and reliability settings that apply to the wholesale national electricity market (NEM) with the value of customer reliability (VCR).

Specifically, the AEMC summarises the terms of reference from the SCER as follows:

> Provide information on how linking the reliability parameters with VCR will promote the NEO [National Electricity Objective]. It will include an assessment of the possible approaches to linking the reliability parameters with VCR. A preferred approach based on this assessment will be included.
> …[However], the AEMC will not carry out a detailed review of the existing reliability parameters, to determine whether they have been, or will continue to be, effective in encouraging sufficient investment in generation capacity in the NEM [National Energy Market]. [11]

The Consultation Paper sets out the AEMC's proposed scope and approach to providing that advice as well as seeking comments from stakeholders on various issues related to the use of VCR to define reliability levels in the wholesale electricity market.

1.1 The broader context of the assessment of reliability

Before responding to the options proposed by the AEMC to link VCR with the reliability standards and settings, the MEU highlights the need for the AEMC (and SCER) to consider the broader context in which the power market operations apply both now and are likely to in the future.

For example, the MEU is particularly concerned with the very significant electricity price rises that have occurred over the last five years and which have deeply impacted on consumers. While the wholesale market has not been a prime contributor to this increase, nevertheless it is vital that the

[11] AEMC 2013, *Consultation Paper*, p. 8.

impact on consumer prices is a key consideration by the AEMC and SCER.

In addition, the AEMC's advice to SCER should recognise the fact that the important outcome to consumers is the reliability of the power system as a whole from generation to delivery to the factory, shop or household. There is already a disparity between the high reliability standards in the wholesale energy market and transmission systems with that provided in the distribution systems., with the latter having much higher levels of interruption of supply. There is no point in proposing higher reliability standards for the upstream segments of the supply chain, when downstream distribution network reliability issues dominate consumer outcomes.

The MEU also highlights that the MPC used in the wholesale market and the VCR used for assessing the value of network augmentation have been both directly and indirectly the focus of market reviews for some years. There is considerable information available to the AEMC and SCER from these earlier studies that is still relevant today, and should be taken into account in the AEMC's current evaluation

1.2 Reliability Standard and Reliability Settings

The *reliability standard* in the NEM is set by the Reliability Panel (Panel) and is expressed in terms of the maximum expected level of unserved energy (USE) in each NEM region in a financial year. That is, the reliability standard defines 'the maximum amount of electricity expected to be at risk of not being supplied to consumers'.[12]

The USE standard of 0.002 per cent of the total consumption of each NEM region in a financial year was established at the start of the NEM and has remained at this level since then. The standard was a carry over from electricity supply operations before the advent of the NEM and replicates an average loss of supply for 10 minutes in a year. As such it is a deterministic input standard rather than the preferred output standard..

Importantly, compliance with the reliability standard generally involves measuring USE over the longer term, using a moving average of observed levels of USE for the most recent ten financial years.[13] Thus, the standard is not a 'guarantee' of performance level of USE for a particular region in a particular year. Nevertheless the value of USE (0.002 per cent) has never been exceeded in any one year across the whole of the NEM, with only very infrequent breaches of the standard at a regional level.

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[12] AEMC Reliability Panel 2013, *Reliability Standard and Settings Review 2013, Issues Paper*, 9 May 2013, Sydney, p. 4.[AEMC Reliability Panel, *2013 Review*]
[13] Ibid.

The *reliability settings* are three pricing mechanisms defined in the National Electricity Rules (NER). Under the NER, the Reliability Panel is responsible for conducting a review of the reliability settings every four years.[14]

The AEMC is responsible for publishing the standards and settings and, where appropriate, updating the settings on an annual basis (in particular, updating the settings, as required, for CPI movements)

The reliability settings include the following pricing elements:

- A market price cap (MPC); this has been set $13,100/MWh for the 2013/14 financial year and is indexed to CPI on an annual basis;[15]
- A market price floor (MPF): this has been set at -$1,000/MWh;[16] and is not indexed;
- A cumulative price threshold (CPT); this is set at $197,100 for 2013/14 and is indexed to CPI on an annual basis.[17]

Of these three reliability price settings, it is the MPC that is the most relevant to considering the issues being addressed in the Consultation Paper.

That is, under the current arrangements, it is the MPC that is supposed to provide the signals to the market to encourage efficient levels of investment in generation capacity[18] to satisfy the reliability standard (USE) of 0.002 per cent of total energy consumed in a region.

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[14] The Reliability Panel is currently conducting a review of the reliability standard and settings that will apply from 1 July 2016. The review will be completed by 30 April 2014. See also, AEMC Reliability Panel *2013 Review,* . The review is carried out under clause 8.8.3(b) of the NER.

[15] In 2010, the Reliability Panel decided to set the MPC at $12,500/MWh for 2010/11, to be increased by CPI each year until the last year of the current review period (2015/2016).

[16] The MPF is not subject to annual indexation, and will remain at -$1,000 until the next review.

[17] Where the sum of the spot prices in a region in 336 consecutive trading intervals exceeds the CPT, an administered price cap (APC) of $300/MWh will be applied in that region.

[18] The AEMC indicates that generation capacity includes 'bulk transmission', where bulk transmission equates to interregional transmission capacity. From a regional standpoint, bulk transmission is equivalent to generation in the region. The Panel states that 'capacity is calculated as the sum of local generation available within the region itself and of interstate generation available via an interconnector. See *AEMC Reliability Panel*, *2013 Review*

The theory is that the MPC should be set at a sufficiently high level to encourage sufficient generation investment to satisfy the reliability standard (over time) while not being so high that it encourages excess investment in generation.

However, the MPC also serves other functions in the energy market place in addition to signalling generation investment. The MPC also allows the market to clear when electricity demand exceeds available supply.[19] Without a cap on prices, spot market prices for a trading period could (in theory) reach infinity, or at least very extreme prices given the inelasticity of electricity demand in the short term.[20] This would clearly be detrimental to the long-term interests of consumers and other stakeholders.[21]

This function of the MPC is an important consideration when assessing the role of the VCR as an addition to, or alternative to the MPC. The current submission will discuss this in more detail in Sections 2 to 4.

The MPC is currently set through a process of economic analysis and supply side modelling to determine the marginal cost of generation to satisfy the USE (of 0.002 per cent). The assumption is that an MPC set at this level will provide efficient incentives to build generation capacity to satisfy the demand (to the level set by USE). This analysis does not provide for recognition of demand-side options (such as an option to contract for planned interruption to supply the market at peak times).

1.3 Value of Customer Reliability (VCR)

An alternative approach to linking the MPC to USE, is to focus the analysis on the requirements and preferences of the end-use consumers.

The VCR is a 'measure' of the value of customer reliability of supply. In theory, it provides a direct link between consumers and the decisions regarding augmentation of different sectors of the supply chain (additional generation, transmission or distribution reinforcement etc.). For example, when the market price equals the VCR, consumers (in theory) are no longer willing to purchase electricity and demand reduces to the point where demand and supply are again in balance.

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[19] The assumption here is that electricity demand (in the short term) is inelastic, and without a MPC, the wholesale price in a trading period could theoretically reach 'infinity'.
[20] The presumption is that there is very limited capacity for demand response, particularly unplanned supply interruptions that would require near immediate responsiveness.
[21] Although retailers and direct market customers could purchase hedges to reduce their exposure to volatility (as they do now), extreme prices would significantly increase the cost of these hedges while adding little value.

In Victoria for instance, AEMO uses VCR as an integral part of its transmission planning processes and has been developing the VCR measure with this end in mind over a number of years. This is not the case in all other NEM regions.[22]

However, as noted above, the VCR is neither easy to measure or to apply across the different NEM regions. There are distinct differences in the observed VCR depending on the location of these consumers, the types of consumers and the methodology used to elicit and quantify the reliability preferences of consumers.

For example, the Australian Energy Market Operator (AEMO) has provided estimates of VCR for *different NEM regions* based on AEMO's established Victorian methodology) for *different NEM regions.* Weighted average estimates for VCR for 2010 range from $41.53/kWh (NSW) to $57.29/kWh (Victoria).[23]

However, AEM0 also acknowledges that the results for regions outside Victoria are very preliminary and considerably more work is required if they were to be used for market and network planning purposes across the NEM. For example, a more recent study conducted for the AEMC by Oakley Greenwood to assess VCRs for NSW distribution businesses, suggested an average state-wide VCR for NSW of $94.99/kWh (versus AEMO $41.53/kWh). It was claimed that this difference was largely due to unexplained, but very significant differences, in the small business VCR outcomes.[24]

Considerably larger differences in estimated VCRs are seen between the values estimated for *different classes of consumers*. AEMO summarises the results of the Victorian sectorial analysis as follows:[25]

Residential	$16.33/kWh	($16,330/MWh)
Agricultural	$114.68/kWh	($114,680/MWh)
Commercial	$134.15/kWh	($134,150/MWh)
Industrial	$45.94//kWh	($45,940/MWh)
Total (Weighted)	$60.18//kWh	($60,180/MWh)

[22] However, South Australia has undertaken a survey of consumers with the aim of refining its network performance measures. As noted by AEMO, the study 'stopped short of providing planning values for the cost of unserved energy', although the results could perhaps be converted into planning values. See for instance, AEMO, *Value of Customer Reliability Issues Paper, Version 1.3,* June 2011*,* [AEMO, *VCR Issues Paper*]*,* p. 14.

[23] Ibid, p.17. The results for different NEM regions are based on the Victorian VCR study (based on customer surveys), then reweighted for differences between regions in their customer mix. AEMO states that the figures for other NEM regions are therefore only indicative.

[24] Oakley Greenwood, *NSW Value of Customer Reliability, Final Report*, May 2012, p. 6. The study was based on surveys of different customers groups across NSW.

[25] AEMO, *VCR Issues Paper*, p.14.

It was also observed in these studies that there were significant changes in the measured VCR over time. Again, it was difficult to discern whether these changes were due to substantive matters or measurement issues.

If, therefore, the VCR is to be used for informing or setting the reliability standard and settings for the NEM by replacing or supplementing the NEM-wide MPC, important decisions will have to be made about the measurement and choice of VCR and how to address the issue of divergent results as the MEU has observed that the value consumers place on reliability is extremely subjective and heavily a number of variables such as type and location of the consumer, the time (of year, of month, of week and of day) the loss of supply occurs the duration of the loss and its frequency[26]. This makes calculating a single value for VCR so subjective as to lose much of its use as a quantitative measure.

Notwithstanding the difficulties with VCR measurement, however, in 2010 the AEMC recommended to SCER that the *residentia*l VCR should be considered when determining the reliability standard and settings in the future.

1.4 Background to the Consultation Paper

The request from SCER for additional advice on the relationships between reliability parameters and VCR followed on from the recommendations provided by the AEMC to SCER in the AEMC's 2010 review cited above.[27]

The AEMC's 2010 review was, in turn, in response to a direction by the Ministerial Council on Energy (MCE, now SCER) following a number of significant disruptions to electricity supply during severe heat wave conditions experienced in early 2009 and with the expectations that such extreme weather events might increase in the future.

In its final report, the AEMC made a number of recommendations, including a recommendation that a new requirement be included in the National Electricity Rules (NER) for a VCR, based on the residential consumer class to be developed to apply to both the 'power market' (generation) and transmission. The AEMC concluded:

> Efficient investment in reliability across the supply chain can be achieved by investing to the level of VCR for those consumers most affected by the investment. For generation investment the VCR level of residential consumers should be used because this class of

[26] As a result, the value placed on reliability tends to reflect the worst set of conditions rather than an average across time
[27] AEMC, *2010 Review*.

> consumer places the lowest value on reliability and are usually shed first during a reliability event.[28]

While the MCE endorsed many of the AEMC's recommendations from its final report, the MCE also requested additional advice on the options for adopting VCR as part of the reliability setting process for power market. The MCE was concerned that, given the complexity and broader implications of the AEMC's proposals to use the VCR to set the reliability parameters, further investigation was required before it could confirm its policy position.[29] For example, the MCE stated:

> The MCE recognises that there are a number of different approaches that can be used in estimating a VCR. … The MCE notes that depending on the process adopted in calculating the VCR the resulting outcome may be different, which may have different implications for consumer types and the market more broadly.[30]

Notwithstanding these concerns, the MCE also directed AEMO to undertake a review of national and regional VCR levels in the NEM.[31] The MCE also requested advice from the AEMC about '**how VCR and MPC interrelate, the process for amending the MPC based on a VCR and the implications this may have on the market'.**[32]

It should be noted that the AEMC has recently completed two studies for SCER on the development of a national framework for distribution and for transmission services.[33] The AEMC has recommended that as part of the national framework, the AER would progress the development of VCR to 'assist jurisdictions to assess reliability levels' [for distribution and transmission].[34] The MEU supported the AEMC's approach to increasing the use of output reliability standards such as the VCR, but supported by other output measures such as System Target Performance Incentive Standards (STPIS).[35]

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[28] Ibid, p 34.
[29] MCE 2012, *Review of the Effectiveness of NEM Security and Reliability Arrangements in light of Extreme Weather Events, MCE Response to AEMC Final Report,* June 2012. [MCE 2012, *Response to AEMC 2010 Review*]
[30] Ibid, p. 14.
[31] Ibid, p. 16.
[32] Ibid, p 15.
[33] AEMC 2013, *Review of the national framework for distribution reliability,* September 2013, Sydney. AEMC 2013, *Review of the national framework for transmission reliability,* November 2013, Sydney.
[34] See for example, AEMC 2013, *Information Sheet, An efficient approach to distribution reliability,* September 2013, Sydney, p 2.
[35] MEU, *Consultation Paper on National Reliability Standards, Comments on the Consultation Paper,* August 2013.

Overall, there are a number of current projects that are relevant to consideration of the relationships between reliability settings and VCR. These include:

- AEMC review of the national frameworks for transmission and distribution reliability (as above);

- AEMC Reliability Panel review (2014) of reliability standard and settings for the energy market (to apply from 2016/2017).

- AEMO review of the national value of customer reliability (largely for network planning but with possible relevance for other planning and revenue setting processes).

The MEU considers that all these reviews (including the framework for distribution and transmission) are inter-related and stresses the importance to the AEMC and SCER of ensuring that collectively they will result in a consistent and integrated suite of reforms to enhance the National Electricity Objective (NEO).

MEU members and all other consumers have been for too long exposed to very significant price rises, policy changes and uncoordinated actions across jurisdictions and national regulatory bodies and governments. Its members are concerned that, yet again, jurisdictional interests will delay or even undermine the much-needed reforms required to make a truly efficient national electricity market from generation to consumer.

Industry cannot afford further delays in decision making in areas such as reliability standards and reliability settings which have considerable flow on effects to electricity prices, and adaption to a rapidly changing energy market. The MEU notes, for instance, that in responding to the AEMC's initial 2010 review of NEM security and reliability, the MCE set the following dates:[36]

- AEMC to provide advice on how the VCR and the reliability settings (specifically the MPC) interrelate, 'targeting the end of 2012'.

- AEMO to complete the review of national and regional VCR levels in the NEM, including proposed methodology, 'by end of July 2013'.

The MEU appreciates that there were multiple factors that may have caused the initial timetables to be delayed. However, the delays do illustrate the importance of the AEMC, other regulatory bodies and SCER progressing the various investigations with some sense of urgency. It is

[36] MCE 2012, *Response to AEMC Review*, pp. 15 and 16 respectively.

essential that these issues are resolved (one way or the other) in line with other reforms such as those arising from the Power of Choice study.

The following sections of this submission will focus more specifically on the issues raised in the AEMC's Consultation Paper. However it would be remiss to do so without adequately re-stating the MEU's concerns with these central issues, and the views the MEU has already expressed in response to the various studies over many years into the reliability standards and settings to apply to the wholesale power market and downstream transmission and distribution services.

Section 2 of this report will therefore summarise the main elements of the MEU's previous submissions to the AEMC 2010 review on reliability settings. Section 3 will focus on responding to the Consultation Paper itself. Section 4 addresses the specific questions asked by the AEMC in the Consultation Paper.

However, the MEU's response to the Consultation Paper is deeply influenced by the matters raised in its previous submissions. The changing nature of the energy supply/demand equation further reinforces the MEU's concerns on these matters.

2. The MEU's Response to the AEMC's previous studies on reliability standards and settings.

The MEU provided an extensive response to the AEMC's 2010 Review of the effectiveness of NEM security and reliability arrangements in light of extreme weather events.[37]

Many of the comments made in the MEU's submission are very pertinent to the current AEMC Consultation Paper. That is, the MEU's 2010 submission highlights the conceptual and practical problems arising from any increase in MCP and the risks this would create for participants and consumers.

The reiteration of this position by the MEU in the current submission reflects that fact that the MEU believes:

- Use of VCR, whether to act directly as a cap on the wholesale market prices (replacing the MPC) or, indirectly, to influence the MPC (or its equivalent), will result in a **higher maximum price cap** in the wholesale market; and

- A higher maximum price cap in the wholesale market **increases risks** and will ultimately flow through to prices to consumers.

With respect to the prospect of a higher MPC (or equivalent), the MEU's views can be captured in the following quote from the MEU's submission:

> There appears to be a mindset amongst some in government and some of the NEM practitioners that continually increasing MPC will lead to increased investment in new generation. It is on this assumption that the only lever available to the RP [Reliability Panel] to deliver the targeted reliability standard, is to adjust MPC.[38]

As a result, many of the concerns raised by the MEU in its 2010 submission to the AEMC are still most relevant to the MEU's views on the current Consultation Paper. The MEU's previous concerns with the AEMC's 2010 recommendations are, therefore, summarised below and should be read as part of the MEU's response to the current Consultation Paper.

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[37] MEU, *Response to AEMC 2010 Review*.
[38] Ibid, p. 39.

2.1 The AEMC's focus on supply-side initiatives.

The discussion on reliability standards for the wholesale energy market by the AEMC, and more generally, in the studies on the reliability parameters (such as the work of the Reliability Panel) has been focussed on the need to set a MPC to incentivise additional supply-side generation to meet the reliability standard. The MEU noted that the 'review [of the proposed MPC increase] is fundamentally flawed, as all the analysis undertaken on the MPC is based on supply-side solutions'.[39]

However, the MEU also noted in its 2010 submission that a growing number of consumers are already supplying additional demand side responsiveness or are prepared to accept voluntary load shedding (e.g. through interruptible retail supply contracts) if the mechanisms for this are enhanced. The MEU therefore believed 'it would be more productive to see why this is occurring and how to harness it, rather than increasing the risks and cost of the NEM simply by increasing the MPC' (or its equivalent).[40]

As an update to this criticism, the MEU highlights the programme of rule changes and other policy developments that are being planned in response to the AEMC's Power of Choice review.[41] The MEU considers that if the VCR is used to set or influence the MPC, then the maximum price will be greater than that needed to deliver efficient levels of additional generation or demand-side offers, and will thus distort the market place at the expense of prices to consumers.

2.2 The assumption that there is a relatively straight-line relationship between USE and MPC.

In its 2010 submission, the MEU contended very strongly that there is no simple direct mathematical relationship between the USE and MPC, stating; 'In fact, there are other aspects of the market which both impact on USE and the MPC and where MPC has a significant impact'.[42]

In presenting this view, the MEU accepted the principle that when the MCP is set too low, then it will not incentivise sufficient investment in generation to meet the USE reliability standard of 0.002 per cent. Similarly,

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[39] Ibid, p. 41.
[40] Ibid, p. 3.
[41] AEMC 2012, *Power of choice review – giving consumers options in the way they use electricity, Final Report*, 30 November 2012, Sydney. [AEMC, 2012 *Power of Choice Review*]
[42] MEU, *Response to AEMC 2010 review*, p. 4.

it could be argued that a low MCP would not provide adequate incentives for a demand-side response as the price has to be sufficiently high for the demand-side service provider to recover (for example) the cost of any production losses.

However, that does not mean that a higher MCP than the current MCP (or equivalent higher VCR based maximum price cap) will provide stronger incentives for reliability investments. The MEU, for instance, noted that:

- Even when the MPC was at $10,000/MWh there was still considerable new generation being installed and planned; and

- Investment in generation is driven by multiple factors, of which the MPC is only part. For instance, retailers with significant generation portfolios ('gentailers') have driven much of the more recent investment in conventional thermal generation such as gas peaking plant. The MEU's observation (based on retailer advice) was that investment by retailers in generation relied on the existence of a 'bankable' counterparty in order to obtain funding for the investment, rather than revenue from opportunistic pricing in the wholesale market.

  Similarly, retailers with a large retail customer base prefer to manage wholesale exposure through both physical (generation plant) and financial hedges. These factors, rather than the (risky) opportunity for capturing occasional MPC prices, drive gentailer investment decisions.

2.3 Increases in MPC increase the risks and costs for generators, retailers and consumers.

In its 2010 submission, the MEU contended that the previous reviews of MPC have not adequately considered the 'perverse' impacts of a higher MPC on the market in general and on downstream consumers.[43]

For example, the MEU submission cited evidence from Origin Energy (Origin) and from the Energy Retailers Association of Australia (ERAA), that increasing the MPC will increase volatility in the wholesale market. This, in turn, will result in higher costs to consumers as retailers are forced to adopt more expensive risk management tools including increased hedging costs.

In addition, the MEU cited both Origin and the National Generators Forum (NGF) who suggested that a higher MPC has the effect of generators

[43] Ibid. See pp 42-43 for a summary of the key issues for consumers. .

contracting less and supplying more of their output to the spot market. This will increase volatility in earnings for generators while also further increasing the costs of managing market exposure for retailers.

The MEU also argued that a higher MPC will exacerbate the incentives on generators to exercise greater, albeit transient, market power by undertaking strategic bidding and economic withholding of capacity.

A further downstream effect from reduced contracting and higher spot prices is increases in prudential obligations on retailers, a fact that is likely to discourage new entrant competition in the retail market.

A separate report to the AEMC by Frontier Economics (Frontier) provides support for the MEU's contentions above. Frontier highlights the potential impacts of a higher MPC (or Value of Lost Load (VoLL)) on spot prices, prudential levels, hedging costs and market power incentives. For instance, Frontier states:

> A high MPC can create incentives for generators to exercise transient market power in the NEM…if it occurs frequently, transient market power can raise wholesale prices and compromise economic efficiency in both the short and long run. Increasing the MPC is likely to increase existing incentives to exercise transient market power because it increases the 'payoff' to any given generator from engaging in economic withholding strategies.[44]

In its presentation to the Reliability Panel at the public forum as part of its 2010 review of reliability, ROAM Consulting quantified that higher wholesale market prices would result from implementing higher values for MPC.[45]

2.4 The importance of considering the total supply chain

The MEU was most concerned that the AEMC's approach to setting the MPC looked at the generation/wholesale market in isolation from the whole electricity supply chain from generation to the delivery of the service to consumers' premises.

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[44] Frontier Economics, *Implications for the National Electricity Market from increases to the Market Price Cap and/or Cumulative Price Threshold, A Report prepared for the Australian Energy Market Commission*, April 2010, p. 75. Frontier also suggests a number of ways to mitigate this outcome, e.g. through reduction in the CPT level, however, Frontier also notes that each of these options have drawbacks and create risks of their own.

[45] ROAM Consulting, Presentation to AEMC Reliability Panel public forum 12 February 2010 available at http://www.aemc.gov.au/Media/docs/Public%20Forum%20presentation%20-%20ROAM%20Consulting%20(sml)-c7bc7e0c-7f7c-465f-bd10-879226dae637-1.PDF.

When end-consumers consider the cost of lost load (or, conversely, the value of reliability), they are considering interruption to their electricity supply at the delivery point. From the consumers perspective it does not matter whether the interruption occurs as a result of generation, transmission or distribution issues.

Moreover, the MEU highlighted that the great majority of interruption to supply events (including those arising during 'extreme weather events') have been due to disruptions in the transmission and distribution networks rather than to shortages in supply in the generation market.

The priority therefore is to focus the assessment and application of VCR on improving the approach to setting reliability standards for transmission and distribution networks with the objectives of enhancing or maintaining network reliability performance while constraining excess capital expenditures caused by rigid input standards. The recent reports by the AEMC on a national approach to distribution and transmission network reliability setting reflect this priority.

3. The AEMC 2013 Consultation Paper

3.1 Options evaluated by the AEMC

The MEU acknowledges that the Consultation Paper is limited in scope by the requirements of the SCER terms of reference. It is also a qualitative analysis providing a conceptual framework for linking VCR and reliability standards and settings, rather than an empirical and/or quantitative analysis of the costs and benefits of changing the current approach.

The AEMC has identified four options for linking the reliability standard and settings with the VCR. These options include two options which were already proposed by the AEMC to SCER in its initial 2010 study (Option 1 and 2 below), and two new options based on a more recent review of international approaches to VCR and reliability standards (Options 3 and 4 below).

These four options are summarised below.

- Option 1: direct application of VCR as a market price cap;
- Option 2: use VCR as a cross-check on the reliability standard and reliability settings;
- Option 3: direct application of VCR as a market price cap at "periods of scarcity", and
- Option 4: different levels of VCR for different consumer groups offered into dispatch, including the possibility of consumers engaging directly in demand-side offers into the market ('revealed VCR').[46]

AEMC addressed a series of questions for each option, viz:

- How would it work?
- Role of the MPC under this approach?
- Assessment of:
  - potential impact on consumers, including price and reliability;
  - potential impact on generators, retailers and other relevant market participants, including impacts on investment signals;

[46] AEMC *2013 Consultation Paper*, p. 31.

- the extent to which linking the MPC to a VCR could duplicate the signals provided by the reliability standard and other existing market settings.

The MEU understands that the Consultation Paper and submissions responding to it will form the basis of advice to be provided to SCER in December 2013.

3.2 The MEU's response to these options

In the first instance, the MEU comments that it is disappointing that the Consultation Paper, which appears to be the only opportunity for consumer input into the recommendations to SCER, provides only a qualitative assessment of the issues.

There is very little in the way of quantitative assessment of the costs and benefits. In the absence of a more detailed cost-benefit analysis, it is difficult for stakeholders to evaluate the options and their relevance to an economic, without which it is difficult to be determinative in establishing a preference between the options.

Nevertheless, the MEU has provided some specific feedback on each of these options in Section 4 of this submission. Section 4 addresses each of the specific questions asked by the AEMC in the Consultation Paper.

However, as a general, and overriding, view the MEU emphasises again its considerable concern that all the options will add complexity, risk and uncertainty without significantly promoting the objectives of an efficient wholesale market operating in the long-term interests of consumers.

The principle reasons for the MEU's view on this relate to the likelihood that the use of the VCR (or multiple VCR's) to replace, or to influence the MPC will increase the level of the maximum market price cap beyond current settings.

The deleterious impact of this has been discussed in Section 2 above. In brief, the MEU believes an increase in the MCP arising from the use of the VCR will do very little to incentivise additional generation in a market that is already over-supplied and likely to remain so for at least a decade. However, using the VCR will add significantly to the risks to be managed by retailers, market participants and even generators that will in turn be passed through to consumers in higher prices and reduced retail competition.

3.3 Measurement issues with the VCR

The MEU's concerns with replacing the current approach to linking the MPC with the use of the VCR are magnified by the fact that the work of the AEMC, the AEMO and others all point to the VCR being unreliable as a stable measure of consumer preferences.

As noted in Section 2 above, accurate measurement of the VCR is very challenging as it is difficult to get consumers to accurately describe and quantify their preferences in the trade-off between reliability and price.

The studies conducted to date by AEMO, for instance, demonstrate not only significant differences between regions and customer segments (see Section 1.3 above), but also reveal unexplained changes in the VCR over relatively short periods of time.

In addition, other studies have provided quite different outcomes for the VCR, again without clear reasons to explain the differences.

When a measure demonstrates such a significant lack of reliability and stability over time and is highly sensitive to small methodological differences, it is not the appropriate basis for providing values for the reliability standard and its settings for the wholesale market.

This is particularly the case when spot prices are intrinsically volatile even within the current MPC and even more so when there appear to be still opportunities for generators to exercise transient market power at high cost to consumers. This can occur through the exercise of strategic bidding, even when there is no physical constraint on supply.[47] In South Australia, for instance, there have been regular summer price spikes as illustrated in Figure 1,[48] none of which can be accounted for by shortages of generation supply..

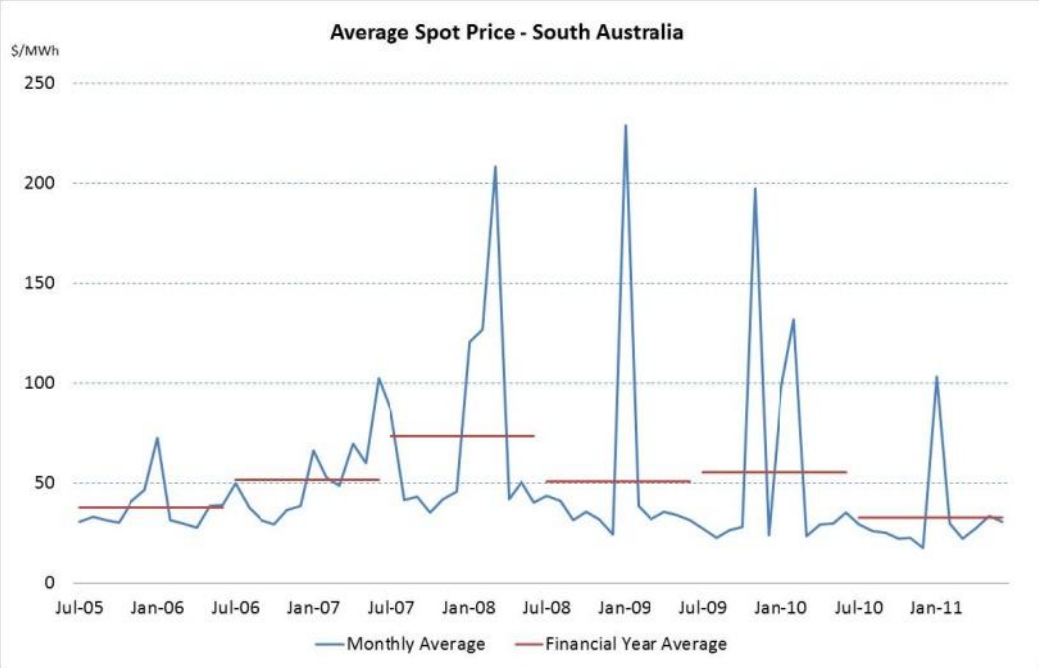
The MEU's very real concern is that where there are no cap on the spot price or a relatively high cap (such as might occur under a VCR), there is even more incentive for generators to implement strategic bidding, such as late rebids into the market and capacity withholding. These strategies not only increases costs to retailers (hedge costs), but also adds to the risks of

[47] Strategic bidding appears to have been a significant factor in the very high prices seen in South Australia in summer periods through 2008-10, and in Queensland in the summer of 2011-12. While the AER has had some success in 'naming and shaming' relevant market participants, it has limited formal regulatory powers to investigate and penalise such bidding behaviour

[48] Note that Figure 2 is based on average monthly spot prices and the monthly spikes will include instances of very high prices up to or close to the MCP. See, for instance, the AER, *State of the Energy Market 2012*, which illustrates the causes of high prices (Figure 1.14, page 45) and the number of trading intervals above $5,000/MWh (Figure 1.16, p 46).

generators without market power and large consumers who are direct participants in the market or potential demand-side bidders. [49]

Figure 1: Average spot prices in South Australia



Source: AEMC Conference Paper to World Forum on Energy Regulation, May 2012. Figure 3.4, p 31.

3.4 Developments in electricity demand and supply in the NEM

In addition to the issues raised by the MEU in its responses to the 2010 AEMC study and, to the Reliability Panel in its reviews of reliability parameters in the wholesale market, the MEU would also highlight the changes to the market place that have been occurring since these studies.

These changes in the demand and supply in the NEM further underline the fact that there it is not the right time to introduce new levels of complexity and risk.

Current trends in electricity demand and supply provide further reasons for ***not*** using the VCR to set or influence the maximum price cap in the wholesale power market, under any of the Options listed by the AEMC. In particular:

[49] Demand-side bidders and smaller generators will rarely have the capacity to respond to prices that are driven up through late rebidding by large generators.

3.4.1 Changes in Demand:

- *There has been a continued decline in energy consumption and a slower growth in peak demand across the NEM than was forecast*.

  AEMO has continually had to revise downwards its forecasts of demand to reflect the changes in industry and consumer behaviour etc. For example, AEMO's 2013 Electricity Statement of Opportunities (ESOO) states the following:

  > Reduced growth in energy use across the NEM compared to 2012, rising domestic rooftop photovoltaic (PV) generation, increasing consumer response to recent growth in electricity prices and the development of large scale renewable generation is expected to defer new thermal electricity generation.[50]

  The 2013 ESOO was published in August 2013. However, by November 2013, AEMO reported that in the first quarter of 2013-14, demand trended down lower than forecast by about 3.5 per cent, leading AEMO to revise its full year 2013-14 forecast down by 1.3 per cent.

  AEMO's most recent 10-year forecasts also predict lower growth in both energy and demand than previous forecasts for all states in the NEM except Queensland (due to demand from the new LNG export facilities). For example, AEMO 10-year forecasts for energy demand have been reduced from 1.1 per cent (2012 forecast) to 0.6 per cent (2013 forecast). Maximum demand forecast growth has declined from 1.1 per cent to 1.0 per cent. Similar differences are seen in the other non-Queensland states.

  The MEU concludes from this that demand growth is not sufficient to drive greater investment in generation (except at specific sites), and therefore, stronger investment signals are not required to ensure reliability of supply.

- *Higher prices for electricity and efficiency schemes*

  There is no doubt that higher prices for electricity have already had a considerable impact on the demand for and consumption of electricity. There is no forecast reduction in prices forecast although the rate of price increases seen in recent times might slow. This means that the price pressures for reducing demand and consumption will still impose restraint on consumers.

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[50] AEMO, *2013 Electricity Statement of Opportunities,* 13 August, 2013, p iii. [*AEMO 2013 ESOO*).

Similarly, there are many energy efficiency programs established by the State governments that are expected to continue. These programs have two important effects on consumers - firstly that the costs for their operation imposes higher prices for electricity and secondly, if they are successful then lower demand and consumption results,

These effects will continue for the foreseeable future.

- *Implementation of the recommendations from the AEMC's 2012 Power of Choice study*.

  SCER has accepted many of the AEMC's recommendations from the Power of Choice study and their implementation over the next five years or so can be expected to achieve a more 'efficient demand-supply balance in the market'[51] and reduce the need for high cost peaking generation plant. More generally, when adopted, the Power of Choice recommendations have the potential to significantly enhance the resilience of the power market in the face of extreme events.

  Key recommendations accepted by SCER include amending the rules to enable consumers or third parties to directly participate in the wholesale market and to receive the spot price for the change in demand.[52]

  Other relevant recommendations include the phasing in of efficient and flexible pricing options and promoting the introduction of smart meters and their services to small consumers.[53]

  With such significant changes in the offing, the MEU considers that the MPC should be retained in its current form and tested to see if the outcomes of a more efficient power market are facilitated. Introducing a new market reliability measure such as the VCR at the same time will confuse rather than clarify the outcomes of the Power of Choice program.

3.4.2 Changes in Supply:

- *The continuation of the enhanced Mandatory Renewable Energy Target (MRET), based on a target quantity of renewable energy up to 2020*

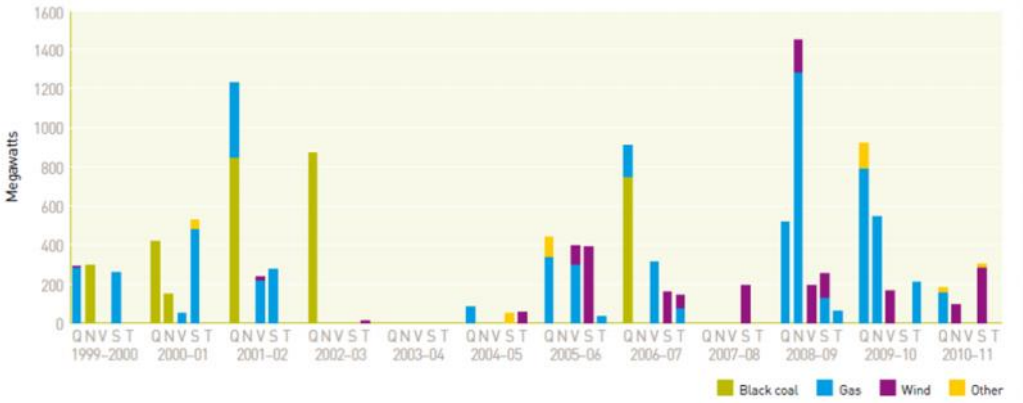
[51] AEMC, *2012 Power of Choice Review*, p ii.
[52] Ibid.
[53] Ibid, p ii – iii.

While currently renewable energy currently makes up only some 3 per cent of total energy output in the NEM, it is the main source of new generation committed and planned generation construction. Achievement of the forecast 45,000 GWh each year from renewable sources by 2020 will require a considerable increase generation capacity from renewable sources.

Figure 2 below illustrates the change in the pattern of investment during the period1999-2000 to 2010-11.[54] AEMO reports that of the 1,000 MW in new generation that have been committed since 2011-12, 95 per cent is wind generation and 5 per cent is large scale solar.[55] AEMO subsequently announced that:

> Since June 2013, all newly committed, commissioned or announced projects have been renewable in nature, consisting primarily of wind generation, with several solar projects and a 1 MW wave energy project also committed.[56]

Figure 2: Investment since market start to 2010-11



Source: AER, *State of the energy market 2011*.

Given current policy settings, therefore, it is reasonable to conclude that non-market factors will drive investment decisions in generation over the next decade.

As a corollary to this, there is no reason to impose a higher MCP through the use of the VCR to stimulate investment.

- *There is adequate generation capacity in the NEM for some time ahead.*

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[54] Extract from conference paper by John Pierce, Chairman of AEMC, *The Australian National Electricity Market: Choosing a New Future,* World Energy Forum 13-16 May 2012, Quebec City, Canada.
[55] AEMO, *AEMO 2013 ESOO*].
[56] AEMO, *2013 Supply-Demand Snapshot for the National Electricity Market*, November 2013, p. 3.

AEMO's supply-demand modelling assesses the adequacy of existing and committed electricity supply (excluding demand-side option) to meet demand by identifying Low Reserve Condition (LRC) points. LRC points indicate when additional investment is required to maintain supply reliability in the NEM. The LRC points are, therefore, complementary to the task of setting reliability parameters.

AEMO's latest modelling for the 2013 ESOO suggests that, under a medium growth scenario, for all states other than Queensland the LRC occurs after 2022-23. For Queensland (due to LNG related developments) the LRC occurs in 2019-20.[57]

Again the MEU asks the question, what is to be gained by imposing a higher maximum price cap through the application of the VCR when there is more than adequate supply in the market.

- *The reliability of supply is performing considerably better than the reliability standard of 0.002 per cent USE.*

  The Reliability Panel provides an annual review of market performance to assess reliability for the generation, transmission and distribution sectors relative to their respective target performance.

  Examination of the 2013 report (which covers up to 2011-2012) indicates that the reliability of *generation* has remained at consistently high levels. For example: [58]

  - There has been no USE in any NEM region since 2009-10 (inclusive);
  - There were two relatively minor USE observations above the standard in 2008-09 (for Victoria and South Australia); and
  - In terms of average USE over a 10-year period, Queensland, NSW and Tasmania experienced USE of 0.0000 per cent, while Victoria was 0.0004 per cent and South Australia was 0.0003 per cent. That is, the worst state (Victoria) was still less than 0.2 per cent of the reliability standard of 0.002 per cent.

  Overall, therefore, the breaching of the reliability standard has been rare and only then on a regional rather than NEM-wide basis.

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[57] Ibid.
[58] See: AEMC Reliability Panel 2013, *Annual Market Performance Review, Final Report,* 27 March 2013, Sydney, Table 3.4 p. 14.

3.5 Summary

In Section 3, the MEU has considered many of the key factors of demand and supply that might necessitate additional incentives in the market (such as a VCR based market price cap) for generation investment. The MEU has not seen any such pressure. Rather, there is an indication of a supply over-hang, particularly if the RET policy remains in place, leaving an expectation that less efficient generation may well be withdrawn from the market rather than additions being required. This might lower the average long run marginal costs of generation and flow through to consumers over time.

However, increases in the MCP based on theoretical principles, such as the VCR, will provide incentives for owners of less efficient high cost generation to remain in the market in the hope of opportunistic wind-fall profits. This is not in the long-term interests of consumers.

In summary, the MEU believes there must be must be considerably more evaluation of the AEMC's original proposal than contained in the current Consolation Paper.

Key challenges in linking the VCR to the MPC and other reliability parameters are:

1. The setting of the VCR is subjective and the measure itself experiences such variability that is use in the wholesale power market is highly questionable.

2. The current level of MPC has a consistent theoretical foundation and has been set at a level that has provided more than adequate incentives for new generation as needed;

3. Increasing the MPC (by reference to the VCR) is likely to deliver perverse outcomes such as increasing wholesale prices, increasing risks for existing generators and retailers and even raising additional barriers to new entrant generators, retailers and consumers providing demand side- services.

The MEU strongly believes that given these challenges, the answer to the objectives set by the AEMC for its advice to SCER is a clear *'**no, not at this time.'*** The introduction of any of the alternative approaches that use the VCR to set the wholesale market reliability parameters will not 'better promote the NEO'.

Section 4 below provides the MEU's response to the specific questions asked by the AEMC in the Consultation Paper. Each of the four options

are briefly considered, although as noted, the MEU considers that none of the four options are appropriate for development at this stage, and are certainly not a priority given the many other reforms required.

4. Responses to AEMC questions

The MEU provides the following responses to the specific questions raised in the Consultation Paper. The MEU has endeavoured to keep its answers as concise as possible and refers to the commentary in the preceding sections to amplify its reasoning.

Chapter	#	AEMC question	MEU response
6	1(a)	**What should be the primary purpose of the market price cap and other reliability settings in the NEM?**	The MEU considers that there are multiple reasons for implementing a market price cap (MPC), including incentivising generation investment, limiting the exercise of market power by generators, protecting the financial integrity of the market and encouraging demand-side bidding. The MPC should be set based on consideration of the predominate reasons for introducing or retaining it in a particular market. The MEU argues that the MPC does serve important functions, although over the next few years the concern is less about incentivising generation (at least beyond the current level of supply adequacy) and more about protection of the financial viability of retailers, minimising incentives for exercising transient market power and reducing the pressure on energy prices to consumers. The MEU is also strongly supportive of the policy direction of facilitating greater demand-side participation in the market but does not believe changing the MPC (and in particular, increasing the MPC through explicit links to the VCR) is a cost-effective way of achieving this end. Removal of institutional and regulatory barriers would provide much better outcomes.

6	**1(b)**	**If the market price cap linked to some level of VCR, is a reliability standard required.**	No, in theory a standard would not be required if the VCR became the sole determinant of the market price cap. The Reliability Standard is a deterministic input standard whereas VCR is an output assessment of consumer needs. While the MEU considers that output based standards are preferable to input standards, output standards need to be properly based[59]. The MEU is strongly opposed to the principle of relying on a VCR as the VCR will not only increase the maximum price cap but is itself an unreliable measure that changes over time. The MEU would therefore much prefer the AEMC and the Reliability Panel concentrate on re-assessing the reliability standard and settings to ensure most efficient pricing outcomes (given the current supply/demand situation) than replacing these with the VCR.
6	**2 (a)**	**Once a VCR methodology is determined and a range of VCR estimates collected, how should the data be used to determine a VCR which best reflects the diverse preferences of customers?**	The MEU opposes the use of the VCR for determining the market price cap. Amongst other reasons, there is considerable difficulty in measuring, verifying and collating consumer data. The MEU cannot identify a methodology which would appropriately reflect the diversity of consumer preferences. In contrast, the development of the MPC as currently carried out provides a strong theoretical basis for setting the MPC The MEU would prefer the current MPC to be calculated as it currently is and the reform process to be focussed on removing the institutional and regulatory barriers to demand-side participation in

[59] Whilst the MEU agrees in principle with using output standards (such as VCR) for market settings, such output standards must be stable, replicable and apply across all consumer sectors. The VCR does not meet these requirements and this point is expanded on in this submission

			the wholesale market. Removal of these barriers will provide scope for short-term price elasticity response to emerge in the market, and thereby to 'discover' the efficient price to resolve supply and demand at peak times. This is not to say that the MEU opposes the AEMO's current project to develop a national VCR. The MEU strongly supports this. However, the application of this program should be focussed on distribution and transmission reliability measures over the next 5 years or so at least. It is in these sectors that the most immediate issues of both reliable performance and over-investment are to be found. At some point in the future, when there is a stronger basis for assuming the VCR reflects the cost of reliability of all consumers over time, it may prove to be useful to consider some alignment of the wholesale electricity reliability parameters with the transmission and distribution reliability measures based on outputs such as the VCR. That time is not now as the risks and costs to all parties, including consumers, are too great and outweigh the theoretical benefits of such an exercise.
6	**3 (a)**	**Which of the four options for linking the VCR with MPC are the most appropriate for the NEM.**	The MEU does not support any of the four options and considers no change is necessary as the current approach more than meets the needs of consumers and meets the requirements of the NEO. Put bluntly, the MEU prefers the option of no change to any of the four options for change proposed by the AEMC.

			Option 1 is claimed to have the benefit of minimising regulatory intervention in the market place (i.e. consumers rather than regulators determine the parameters of its operation). This assertion overlooks the fact that it will be regulators that develop the VCR based on consumer input and that it will be regulators that impose the calculated VCR as the wholesale market price cap. The MPC is currently assessed based on costs incurred by the last generator to be dispatched to fulfil the demand imposed by consumers. The MEU has difficulty in seeing how there will be a reduction in regulatory intervention In addition, the option places too much reliance on the VCR when there are still considerable difficulties in its measurement. The difficulties of determining the VCR, and the volatility that results, will be unreliable, inconsistent over time and significantly higher than the current MPC, substantially increases market risk with no clear compensating benefit in terms of improved reliability of supply. These concerns outweigh the benefits of the very modest reduction (if any) in regulatory intervention in the market. Option 2 is preferred by the AEMC (relative to Option 1). Option 2 proposes to use the VCR as a cross-check to the MPC. However, it leaves open the value of using the VCR as a cross-check using a measure which is unreliable and inconsistent. Once a VCR is set, questionable decisions would have to be made about how much to move the MPC (determined by reference to modelling generation costs as currently occurs) if the VCR is significantly different to the MPC as currently calculated. To utilise option 2 requires the answers

			to the following questions. How would the MPC be set? To what degree would the MPC be varied by the VCR? Whatever is decided here, the final market price cap would be an arbitrary hybrid number built from two different approaches with no theoretical foundation in its own right and driven by subjective assessments on how the two outcomes are to be blended. Option 3 proposes that there is no price cap outside 'periods of scarcity' defined by a pre-defined volume or type of load shedding. In these periods of scarcity the VCR would be invoked to provide a cap on maximum prices. In the NEM, an MPC under option 3 could be expected to be applied very infrequently because of the high levels of supply relative to demand. Nevertheless, its existence provides opportunities for gaming the availability of capacity and suffers the same exposure to the issues around the reliability of the VCR as a measure of consumer preferences identified above. It also leaves retailers and their consumers exposed to the risk of uncapped high price events occurring in the absence of genuine supply shortfalls, e.g. through generator strategic bidding behaviour. Option 4 proposes a range of values for MPC, each representing the VCR of a given group of customers and would be offered into the market in competition with generator offers. This, in effect, creates a demand side bid stack based on different VCRs and provides a market-based mechanism that would, in theory, limit the ability of generators to set the marginal price.

			The MEU accepts that this does have some theoretical appeal. However, the MEU also agrees with the AEMC that there are many technical and administrative difficulties in implementing such a scheme that would restrict the delivery of efficient outcomes. These difficulties have to be offset by the value of using VCR as MPC rather than the relative simplicity of the current situation. In addition, while it would enable very large and sophisticated users to set their own VCR price and volume bids (to reflect the value/cost of load shedding to their business), it is difficult to see how other consumers could participate effectively in this market. For these other consumers, the VCR price, and volumes offered would generally be set externally. If based on current VCR segment estimates, some groups – such as smaller businesses – would face very high VCRs and ultimately this would be expressed in retail prices set for that sector by retailers.
6	**3(b)**	**Are there any other options which would be more appropriate than the four listed.**	No. At this stage, the MEU favours continuing with the current market reliability settings and focussing attention more on minimising the barriers to effective demand side participation by willing consumers. Given the supply overhang in the market and other changes, there is no urgency to further address the issues and/or change the settings and a period of stability would be welcome by most consumers. The MEU would recommend, however, that the work on the VCR itself continue. The VCR is most immediately important and relevant

			to consumers in improving the approach to reliability standards for transmission and distribution networks. Lack of a coherent and logical base for setting reliability standards in most NEM jurisdictions has been identified as one of the more significant causes of the rapid rises in network prices and overinvestment in the networks. When the VCR measurement processes are bedded down, it is then more appropriate to consider whether and how VCR might assist in enhancing reliability and efficiency in the wholesale energy market. At that point, for instance, VCR might prove a useful adjunct to the technological determination of the MPC, although for the reasons given above, the MEU doubts that an output standard for networks can effectively provide a management tool for incentivising new generation and demand-side participation.