AEMC ISSUES PAPER

RELIABILITY STANDARD AND SETTINGS REVIEW 2014

AEMC REF: REL0051

A submission from a consumer perspective.

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Introduction

This submission has been coordinated by Andrew Nance as end-use customer representative on the Australian Energy Market Commission's Reliability Panel.

This submission to the Issues Paper stage of the Review[1] presents an overview of the matters raised during discussions with a number of energy consumers and their advocates. In summary, a number have expressed a desire to participate in the review but with varying capacities to do so. As a result, this submission does not present fixed views on the outcomes of the review but provides an outline of the information required to foster further engagement in the process by electricity users and by small consumers in particular.

Consumers do see that the Reliability Standard and Settings represent very important components of the overall price/service trade-off inherent in the NEM. In simple terms, consumers only want to pay for the reliability they value and they want to make sure they get the reliability they pay for.

Specific contributions have been made by the Australian Council of Social Service (ACOSS, Ms Andrea Pape) and EnerNOC Pty Ltd (Mr Ross Fraser and Dr Paul Troughton).

Role of the Reliability Standard

The Reliability Standard only refers to the wholesale market and the reliability of the ability to transfer bulk energy between NEM regions via interconnectors. In simple terms it is about ensuring there is enough generation capacity or Demand Response to meet 'peak demand' in each region (i.e. demand to be met by generation in the region or from adjoining regions via the interconnectors).

In seeking a consumer perspective on the matters raised in the Issues Paper for the Review, it is important to be able to relate the Reliability Standard to the objectives of the NEM.

The National Electricity Objective (NEO) is to be found at section 7 of the National Electricity Law (A schedule to the National Electricity (South Australia) Act 1996)[2]:

> **7—National electricity objective**
>
> The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

[1] http://www.aemc.gov.au/Market-reviews/Open/reliability-standard-and-settings-review-2014.html
[2] A copy of the Act is available from www.legislation.sa.gov.au

It is important to note that the NEO refers to investment in *electricity services* and it is a widely supported consumer view that this should be interpreted as some sort of optimal mix of investment in both *supply infrastructure* and *demand responses* to meet the reliability standard since this is considered to be the most likely path to a 'least cost' outcome.

Appendix A provides more detail on the economic efficiency interpretation of the NEO and the relationship with the Reliability Standard and Settings. It should be acknowledged that not all consumers accept an economic efficiency only interpretation of the NEO. However, it is also acknowledged that the Reliability Standards and Settings Review is not a forum likely to resolve this issue.

In summary, the ability for consumers to participate in the latter stages of the review will be contingent on the ability of the Reliability Panel to communicate the interpretation of the NEO in its assessment of the Reliability Standard and Settings: How will the long-term interests of consumers be served by any options being canvassed?

The Current Context

The Issues Paper states (p5) that a purpose of this review is to " … *determine whether the existing reliability standard is appropriate for the current market arrangements*." A key consideration for the promotion of the consumer interest is in whether the 'current market arrangements' are different to what may have been the case when last reviewed in 2010.

There are a number of contemporary factors that are considered to materially change past perspectives on reliability in the wholesale market. These include:

- Slowing growth in peak demand in most regions but acknowledging challenges in forecasting future demand;
- A better appreciation of the importance, but limited understanding, of the Value of Customer Reliability (VCR) in the NEM;
- The increasing availability of Demand Response and recognition of the need for even greater opportunities for DR in the Power of Choice Review[3];
- The increasing prevalence of vertical integration between Generators and Retailers as a response to Wholesale Market Risk (i.e. retailers purchasing generation capacity as a physical hedge against spot price volatility).

[3] See http://www.aemc.gov.au/market-reviews/open/power-of-choice-update-page.html, for example Final Report Chapter 5 Recommendation 11:

A demand response mechanism is introduced that pays demand resources via the wholesale electricity market (rewards changes in demand). Under this mechanism demand resources would be treated in a manner analogous to generation and be paid the wholesale electricity spot price for reducing demand.

Issues for Consultation

Chapter 4 of the Issues Paper sets out a number of consultation questions. These are discussed below:

Question 1 Form of the reliability standard

Should an alternative form of the reliability standard be adopted or is the current form of using unserved energy appropriate?

Historically, there has not been a strong push to change the form of the Reliability Standard from its current expression as maximum permissible unserved energy (USE). However, it is also true that the intent of the Standard and Settings is to reveal *capacity* (MW) not *energy* (MWh).

It would be of value to consumers for the Panel to elaborate how the concept of USE remains appropriate in the context of increased Demand Response capability – that is: the ability of consumers to lower demand to meet available supply rather than the historic assumption that investment was centred on increasing supply to meet demand.

Question 2 Level of the reliability standard

Is the current level of the reliability standard at 0.002 per cent USE appropriate under the current market arrangements? What factors should be considered by the Panel in its assessment of the level of the standard?

There does not appear to be a case for tightening the standard. As outlined in the Issues Paper, other than a case of extreme temperature driven demand in VIC and SA in 2009, the NEM has consistently delivered the 0.002% USE standard.

Consumers reasonably expect that everything is being done to keep costs down. If contemplating a tighter standard to improve reliability, it is likely that consumers at large would prefer to see reliability investments that target outages originating in the distribution network rather than at the wholesale market level.

Question 3 Market price cap

Is the current value of the MPC appropriate to meet the reliability standard? If no, what should be the value of the MPC? Should the MPC continue to be indexed? Is the CPI the appropriate index to be applied? What factors should be considered by the Panel in its review of the MPC?

As discussed in the Issues Paper (p12) the Panel was concerned in the 2010 review *" … that increases in the MPC may reach a tipping point beyond which the benefits of increasing the MPC (and CPT) would not offset the costs in terms of market risks."*

This is a very important aspect of the process for consumers. A fundamental role of electricity retailers is to manage risk on behalf of end users. It is noted that only a few of the very largest consumers are confident and capable of managing wholesale market risks in their own right. Small customers such as households and small business, engage a retailer to perform this function. The retail price of electricity includes the cost of managing (hedging) uncertainty and volatility in the wholesale cost of electricity. The cost of risk is ultimately borne by consumers with the discipline of the competitive retail market being the prime mechanism for containing these costs. As mentioned, this pursuit of cost-effective risk management has manifested as vertical integration as the dominant form of new investment in the NEM.

For consumers to make an informed contribution to the latter stages of this review, it will be important for the Panel to communicate their analysis of the trade-off between incentivising investment and introducing additional price risk. Similarly, the Panel's analysis and communication must now reflect the tangible impact of Demand Response (and remove barriers to encourage its appearance where it is demonstrably more cost effective) rather than the historic approach of estimating the costs associated with the capital and operating costs of the traditional solution of open-cycle gas turbine based capacity.

There is also a view that the price signals (especially the MPC) don't need to be stronger but more 'actionable' to allow for the appearance of cost-effective DR.

Consumers will need substantial convincing that there is a case for increasing the MPC. Further, the case for ongoing indexation appears to be weaker now than it was in 2010.

Question 4 Cumulative price threshold

Is the current value of the CPT appropriate to meet the reliability standard? If no, what should be the value of the CPT? Should the CPT continue to be indexed? Is the CPI the appropriate index to be applied? What factors should be considered by the Panel in its review of the CPT?

The Issues Paper explains (p11) that the philosophy behind the CPT is to establish a financial safety net without hindering investment. The CPT seeks to limit exposure (of retailers and some end-users) to extended periods of high prices in the wholesale spot market. The CPT refers to the sum of half-hourly spot prices over a rolling 7-day window (336 trading intervals) and is currently $193,900, implying an average wholesale price of $577/MWh ($0.58 per kWh) over the 7 days. If the CPT is reached, AEMO must impose what is referred to as the Administered Price Cap (APC). The APC is set at $300/MWh ($0.30 per kWh).

Given that the Standard continues to be met, there is no evidence that the current CPT restricts the market's ability to meet the Standard.

Unfortunately, the Issues Paper does not provide any analysis of the current CPT in terms of the number of times it has been reached and the nature of those circumstances. As with the other settings, but specifically in the case of the CPT which has been set at a historically derived fixed multiple of the MPC, it will be important to explain how the long term interests of consumers will be served by changes to the CPT.

Question 5 Market floor price

Given recent market developments and pricing outcomes, is the current market floor price appropriate? If no, what would be an appropriate market floor price? What factors should be considered by the Panel in its review of the market floor price? Unlike the MPC and CPT, the market floor price is not currently indexed. Should it be indexed and, if so, is the CPI the appropriate index?

The Issues Paper does not explain the role of the floor price in satisfying the NEO. Given the historic lack of interest in the floor price in past reviews and the observation from past modelling that the floor price is unrelated to achievement of the Reliability Standard (Issues Paper p11), an appropriate question may be as to why a negative floor price is appropriate or why a floor is needed at all?

Question 6 Customer value of reliability

Does the current framework of the reliability standard and reliability settings appropriately take into account the value customers place on reliability? Should alternative factors or approaches be considered?

The Value of Customer Reliability (VCR) is an important consideration. It is understood that the MPC has previously been 'checked' against VCR estimates and its approximate alignment with residential VCR estimates taken as providing confidence the MPC is not excessive (since residential customers are the ones most likely to be impacted by 'rolling blackouts' in any load-shedding triggered by a lack of supply capacity).

In June 2012, the SCER provided a response to the AEMC's *Final Report on the Effectiveness of NEM Security and Reliability Arrangements in light of Extreme Weather Events*[4]. In this response, the SCER have requested some specific actions in relation to VCR and the wholesale market:

> *"The MCE requests, advice from the AEMC around how VCR and MPC* [Market Price Cap] *interrelate, the process for amending the MPC based on a VCR, and the implications that this may have on the market."*

It is unclear if this advice has been tabled but such analysis would be of great value to consumers in their participation in the Review. It is noted that a number of VCR related activities are underway in the NEM at the moment by both the AEMC and AEMO and that VCR estimates are used in the AER's Regulatory Investment Tests (for Transmission and Distribution).

Certainly, the residential VCR should be considered a ceiling on the MPC but this should not be interpreted as saying the MPC should necessarily increase to current estimates of VCR. As noted in previous work on VCR by the AEMC, AEMO and their consultants, estimates derived from surveys are contingent on the nature of the survey and it may be misleading to use estimates geared to estimated network reliability for the purpose of estimating willingness to pay for wholesale market reliability.

The other dimension to the VCR discussion is the emerging evidence of Demand Response at existing pricing. This appears to be evidence of a willingness to accept (by some large users at least) the production impacts of demand reductions at prices already revealed in the market.

[4] www.scer.gov.au/files/2012/06/MCE-Response_AEMC-Extreme-Weather-Evernts-Review_8-June-2012.pdf

Question 7 Other issues

Are there any other factors that the Panel should take into consideration in its assessment of the reliability standard and reliability settings in this review?

An area of further consideration is in relation to the barriers facing potential providers of Demand Response. There is a view that the price signals (especially the MPC) don't need to be stronger but more 'actionable' to allow for the appearance of cost-effective DR. It is understood that ex-ante pricing may go some way to delivering this. This and related issues have been investigated and discussed by the NZ Electricity Authority Wholesale Advisory Group in recent months[5].

Now that there is an acceptance of the role of DR in the NEM, the Reliability Panel should be considering the role that contracted and firm DR could play in cost-effectively avoiding USE. Comments were also received regarding the consideration of capacity mechanisms in the NEM for DR such as in Texas and Ontario where these exist separate to the wholesale market. Similarly, the UK market is an example of a changed role for capacity in their market.

The Issues Paper states (p5) that a purpose of this review is to " … *determine whether the existing reliability standard is appropriate for the current market arrangements*." It is therefore considered appropriate to consider whether the attributes of the current market arrangements and conditions have changed the costs and benefits of these alternative arrangements. Further consideration of the cost effectiveness of capacity mechanisms to deliver reliability in terms of the costs to consumers would be welcomed.

[5] See references to "discussion paper on aligning forecast and settlement prices" in the WAG meeting papers at http://www.ea.govt.nz/our-work/advisory-working-groups/wag/

Appendix A – The NEO and the Reliability Standard and Settings

The National Electricity Objective (NEO) is to be found at section 7 of the National Electricity Law (A schedule to the National Electricity (South Australia) Act 1996)[6]:

> **7—National electricity objective**
>
> The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system.

The Second Reading Speech that accompanied the introduction of the National Electricity Law (NEL) outlined the intended interpretation of the NEO (as recorded in Hansard of the House of Assembly of the South Australian Parliament p1452, 9th February 2005):

> ***National electricity market objective***
>
> *An important feature of the new National Electricity Law is that it defines the scope of the national electricity market which is regulated under the new National Electricity Law and Rules, and provides a single clear national electricity market objective.*
>
> *….*
>
> *The national electricity market objective in the new National Electricity Law is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity, and the safety, reliability and security of the national electricity system.*
>
> *The market objective is an economic concept and should be interpreted as such. For example, investment in and use of electricity services will be efficient when services are supplied in the long run at least cost, resources including infrastructure are used to deliver the greatest possible benefit and there is innovation and investment in response to changes in consumer needs and productive opportunities.*
>
> *The long term interest of consumers of electricity requires the economic welfare of consumers, over the long term, to be maximised. If the National Electricity Market is efficient in an economic sense the long term economic interests of consumers in respect of price, quality, reliability, safety and security of electricity services will be maximised.*

[6] A copy of the Act is available from www.legislation.sa.gov.au

The single national electricity market objective replaces and subsumes the more specific list of "Market objectives" and "Code objectives" under the current Code. A significant catalyst for making this change was the policy position agreed to by governments in the Australian Energy Market Agreement. This policy position was that the Australian Energy Market Commission will be required to consider the "long term interests of consumers" in making any Rule change decisions. The single objective has the benefit of being clear and avoiding the potential conflict that may arise where a list of separate, and sometimes disparate, objectives is specified.

This speech commits to the public record that the objective of the electricity market is to pursue economic efficiency in the long term interest of end-users (LTIE). This concept of LTIE builds on substantial experience in the economic regulation of the telecommunications industry by the Australian Competition and Consumer Commission (ACCC). The 'long-term interests of end-users' objective is the basis of operation of Part XIC of the Australian Consumer Law (*Competition and Consumer Act 2010 (Cth)*) and its predecessor, the Trade Practices Act. It is also used in the objects of the *Telecommunications Act 1997 (Cth)*.

In the past, the AEMC has made repeated reference to three dimensions of economic efficiency: productive, allocative and dynamic. One of the earliest descriptions of AEMC's interpretation of this was contained in the *Management of negative settlement residues in the Snowy region* Final Rule Determination in 2006[7]:

- *Productive efficiency – meaning the electricity system is operated on a "least cost" basis given the existing and likely network and other infrastructure. For example, generators should be dispatched in a manner that minimises the total system costs of meeting consumers' demands;*

- *Allocative efficiency – meaning electricity production and consumption decisions are based on prices that reflect the opportunity cost of the available resources; and*

- *Dynamic efficiency – meaning maximising ongoing productive and allocative efficiency over time, and is commonly linked to the promotion of efficient longer term investment decisions.*

Similarly, the Australian Competition and Consumer Commission (ACCC) made the following statements in relation to the objectives of the Telecommunications declaration provisions of the, then, Trade Practices Act[8]:

"In the Commission's view, the phrase 'economically efficient use of, and economically efficient investment in, ... infrastructure' refers to the economic concept of efficiency. The concept of 'efficiency' consists of three components.

- ***Productive efficiency.** This is achieved where individual firms produce the goods and services that they offer to consumers at least cost.*

[7] Management of negative settlement residues in the Snowy region, Final Rule Determination [ERC0007], 14 September 2006

[8] ACCC 1999: Telecommunications services—declaration provisions: a guide to the declaration provisions of Part XIC of the Trade Practices Act

- ***Allocative efficiency.*** *This is achieved where the prices of resources reflect their underlying costs so that resources are then allocated to their highest valued uses (i.e. those that provide the greatest benefit relative to costs).*

- ***Dynamic efficiency.*** *This reflects the need for industries to make timely changes to technology and products in response to changes in consumer tastes and in productive opportunities."*

The AEMC has provided some further clarity in their *Market Reviews*, such as the review into *Total Factor Productivity*[9] (AEMC, 2008b):

> *Economic efficiency has three principal dimensions (referred to as productive, allocative and dynamic efficiency), and there is some potential for trade-offs to arise between them. Each dimension is captured by specific references in the national objectives. For example:*
>
> - *efficiency in the use of electricity or gas requires that the system is operated on a least cost basis (productive efficiency), and that the quality, reliability, security and safety of services are both provided and priced in line with the preferences and valuations of consumers (allocative efficiency);*
>
> - *efficient investment in infrastructure captures the dynamic component of efficiency, and is met by ensuring there is sufficient incentives and financing capacity to undertake efficient long term investments and take advantage of technological developments in order to meet users' changing needs over time;*

So, the relevant interpretation of the NEO in the context of the Reliability Settings is therefore likely to be dominated by considerations of allocative and dynamic efficiency. Further, it is important to note that the NEO refers to investment in *electricity services* and it is a widely supported consumer view that this should be interpreted as some sort of optimal mix of investment in both *supply* and *demand* to meet the reliability standard since this is considered to be the most likely path to a 'least cost' outcome.

Allocative efficiency can only be assessed in terms of the costs and benefits of different levels of reliability compared to derived estimates of the willingness to pay of consumers. This links into the discussion of VCR.

Dynamic efficiency can be considered by reflecting on the above comments from the ACCC, and asking what are appropriate Standards and Settings are to ensure the NEM makes *timely changes to technology and products in response to changes in consumer tastes and in productive opportunities*?

[9] AEMC 2008: Review into the use of Total Factor Productivity for the determination of prices and revenues, Framework and Issues Paper, 12 December 2008 [EMO0006]