



26 November 2013

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235
Ref: EMO0026

Dear Commission members

The NGF appreciates this opportunity to comment on the *Consultation Paper – Advice to SCER on linking the reliability standard and reliability settings with VCR*.

Introduction and context

The NGF has participated extensively on consultations into the market design and reliability of the NEM. The NEM, as an energy-only market design, with no payments for generating capacity and short-term reserves¹ aims to ensure reliability through the reliability standard and settings. The NEM to date has proven to be highly reliable with no breaches in any region of the 0.002% USE standard over the Long Term (10 year average) and only a minor breach of the standard in any given year in 2008/09 in Victoria and South Australia due extreme (1% POE) weather conditions.

Previous reviews have considered the level of the settings needed to provide the standard, using the theory that the price cap has to be high enough so that when there is a period of acceptable lost load the marginal generator providing capacity up to the standard is compensated with an acceptable return². This theory was applied by ROAM consulting in previous reviews and indicated that prices of the order of \$16,000/MWh to \$40,000/MWh should ensure a standard of about 0.002% unserved energy (USE)³. The ROAM report also clearly demonstrated that increasing the MPC above \$40,000/MWh would provide diminishing returns⁴.

The Panel and Commission decided not to increase the MPC in 2010, instead deciding to preserve the real value of the then current MPC. One of the reasons advanced by the Panel was that there appeared to be adequate provision of capacity in spite of a theoretically insufficient market price cap. Neither the Panel nor the Commission explained why this was the case.

In response to the 2013 RSSR the NGF requested the Reliability Panel investigate why the NEM was providing adequate levels of reliability given previous analysis⁵ indicated that the MPC is not high enough to meet the Standard. By deduction, the NGF believed other incentives must be resulting in the Standard being met.

¹ Excepting contingency frequency response capability

² Reliability Standard and Settings Review and Review of NEM in Extreme Weather Events (EWE) – 2009-10

³ Notwithstanding the affect of the Cumulative Price Threshold which was not modelled by ROAM

⁴ A \$55,000/MWh MPC did not provide significantly better USE results

⁵ Modelling provided by ROAM in the 2010 Review of the NEM in Extreme Weather Events

We added that the Panel should question what these incentives are and whether there are any problems associated with these incentives meeting the Standard, rather than the Settings themselves.

We believe the AEMC and Reliability Panel should investigate why the theoretical application of the Reliability Standard and Settings in the NEM does not match what happens in practice, before considering changing the Reliability Settings to match the Value of Customer Reliability (VCR).

We say this because the Reliability Settings do not appear to be effective. Evidence has been that they are too low (or wrong given the CPT), yet we have reliable supply. Why is this?

In this review the AEMC can change the settings (to VCR for instance) but given the affect of the Settings is unknown (as the theory is not supported by evidence) the NGF cannot really reach any conclusions as to whether such change is warranted. For example, how can the AEMC quantify the benefits of changing the MPC to the VCR when it does not know the effect of the MPC now? There appears to be a disjunct between the regulatory theory and practice in electricity markets with regards to reliability parameters.

To avoid any doubt the NGF still supports the current Reliability Standard and the reliability settings with the current level of the MPC indexed up each year. We have advocated in the Reliability Standard and Settings Review that the Maximum Price Floor be indexed down to a more negative value in proportion the indexation up of the MPC. This would result in the current relationship between the MPC and MFP being maintained.

The NGF may posit the following theories of a currently oversupplied NEM, falling demand due to a material reduction in demand, the unanticipated penetration of solar roof top PVs, and the risk appetite of Market Participants as some of the reasons why the NEM is reliable even when theory suggests the Settings are inadequate (too low MPC) (see Appendix A). We suggest the AEMC investigate these further before instigating and change to the Settings to VCR.

The AEMC has asked the following questions in the consultation paper:

1. Reliability in the NEM

(a) What should be the primary purpose of the market price cap and other reliability settings in the NEM?

Reliability Settings were a theoretical construct used to set parameters around the efficient pricing and consumption of electricity. They were designed to prevent consumers paying in excess of the utility gained from consuming electricity (VoLL), with price being the input and the volume of unserved energy an output. They morphed into a theoretical construct associated with supplying electricity for an acceptable level of shortages in supply (MPC) with volume being the input and price being the output.

Whether one approach is more efficient than the other is probably difficult to determine given in practice the majority of consumers are not directly exposed to the MPC or VoLL. Instead the primary purpose of the reliability settings is to provide a trading or risk envelope on participants to provide a reasonable average cost to consumers. As long as participants are able to provide a reasonable average cost below the utility received by consuming electricity then we do not hit the Settings (either the VoLL, MPC or USE), but we do get the reliability we are paying for. This is probably why it does not matter whether the settings are \$13,100/MWh or \$20,000/MWh (or USE is 0.004% or 0.001%) as participants would still be able to provide a reasonable average cost that does not discourage consumption. The averaging of costs through market participants trading must dull the effect of the settings. Obviously if the setting is too low, say at \$1,000, then there would be little incentive for participants to manage this risk in ensuring supply and electricity would not be consumed (much to the detriment of consumers).

The NGF can therefore say that the Settings primary purpose is to provide a risk envelope where industry can provide a reasonable average cost to consumers below the utility received in consuming electricity.

This does not answer the question as to why we presently get a higher standard of reliability than the existing settings are expected to pay for.

(b) If the MPC is linked to some level of VCR is a Reliability Standard required?

No. This is because the VCR is supposed to reflect a maximum utility that can be gained by consuming electricity. Above this price cost is greater than the benefit. The price is the input and the unserved energy is an output, we do not need two inputs.

2. Value of Customer reliability (VCR)

(a) Once a VCR method is determined and a range of VCR estimates collected, how should the data be used to determine a VCR which best reflects the diverse preference of customers?

The NGF expressed doubts in the response to the Productivity Commission inquiry into electricity networks on the usefulness of estimates of VCR from customer surveys. It is our view these surveys are presented as being highly scientific / quantitative, although they are really subjective / qualitative.

In particular we struggle to understand how a value can be established from customers which are not homogenous. Electricity is an input into nearly every activity we have, and the value of this is difficult to understand. This is because the utility changes depending on the activity we are performing. There are temporal aspects that need to be considered. What cost is a power cut to a bride on her wedding day when she is preparing for her wedding ceremony compared to the day after? What cost is a power cut to our more vulnerable consumers (the young and the old)? This lack of homogeneity in the utility received from consuming electricity means there are problems with surveys and averages. Also, we live in a society where we empathise with the needs of the few, such that they are paid for by the many. To give an example, we do not build doorways to the median. There are also problems in defining the outage - what is the effect of short outages compared to longer ones, what is the effect of uncertainty of electricity supply and loss of consumer confidence, undermining the use of electricity and leading to inefficient investments to ensure supply?

The only true VCR that can ever be correct is a bid to consume electricity. The consumer could indicate whether it wishes to consume through submitting a bid (a price at or below which it will consume, above it will not) into the market. At the moment we probably do not need this complication because retailers have managed to provide consumers with flat energy prices that are nearly always below the utility the consumer is receiving for the consumption of electricity⁶. This should be seen to be the true “value-add” of the electricity industry, in that electricity is reasonably priced such that we do not question its everyday use.

Given our earlier point, in that reliability settings are the “risk envelope” to which market participants provide and average cost to consumers, fiddling with the MPC to VCR by a few \$1,000 will probably not change average costs significantly. Therefore the “false accuracy” presented by VCRs could be pointless. Electricity market participants have been successful in supplying the energy component of electricity at prices well below the utility received by consumers within the risk envelope of the NEM. Whether or not the setting is a VCR of \$15,000/MWh, \$20,000/MWh or the MPC of \$13,100/MWh is probably not going to make a great deal of difference.

⁶ It may be that excessive network tariffs with non cost reflective variable tariffs and bill shock (where prices increase above inflation and are paid in arrears) have resulted in consumers questioning the utility vs. price equation for electricity

3. Options for linking the reliability standard and settings with the VCR

(a) Which of the 4 options for linking the VCR with MPC is the most appropriate for the NEM?

The consultation paper outlines 4 options.

The NGF believes the Options 1 and 2 are largely interchangeable. The difference is that we either set the price or the USE volume as the input. Either can be calibrated to get roughly the same result. Given the settings do not appear to work perfectly in practice these two options can be procrastinated over by economists looking for the theoretically perfect solution.

We hold concerns over option 3 which does not appear sensible. Under option 3 the NEM may clear at a price above the VCR, which means consumers may be paying more for electricity than the average utility they receive from consuming it.

As for option 4 we doubt the idea of producers competing against regulators' bids for consumption of electricity set by consumer survey is a good one. In any case we believe that we can produce electricity reliably, well below the cost associated with shedding load for the vast majority of consumers. Therefore the application of bids for consuming electricity by ranges of VCR may not be worthwhile. Any customers that presently shed load in response to high wholesale prices do so through agreements with their electricity retailer or through their own trading activities. There is presently no regulatory impediment / oversight for these consumers to compete with producers in the NEM.

(b) Are there any other options which would be more appropriate than the four listed?

We could consider the option of no cap at all, although this may not be sensible given the energy-only market design of the NEM which has no reserve payments or contracts⁷. Participants will not value reliable supply, the risk envelope of the NEM could shrink, reserves may decrease and load may be shed.

Instead an option could be to investigate why the NEM has provided a greater level of reliability than the Reliability Standard, especially considering previous reviews have suggested the Settings have been too low to provide the Standard. This may be time better spent than discussing options as to the level of the Settings (see Appendix A).

Conclusion

The NGF is opposed to the options to include VCR in the NEM's Reliability Framework. We do not believe there is sufficient evidence that the existing framework is efficient and because of such we do not support additional complexity for ill-defined benefits. Rather than considering new options we believe the AEMC could better spend its time investigating whether the NEM's reliability framework is working as intended. Given the above statement we are largely indifferent to options 1 and 2, which suggest minor changes to MPC or VoLL. With these options we advocate an indexation down of the Maximum Price Floor in proportion to any increases in the MPC. We think options 3 and 4 may have some design flaws and should not be considered further.

⁷ Please note the reference to GB NETA/BETTA is incorrect in calling it an energy only market – the market operator NGET offers a number of contracting methods standing reserve, short term operating reserve, balancing trades, response availability payments, warming and hot standby "option" payments to ensure there are adequate reserves in the balancing mechanism. A number of new reserve contracts are being developed in light of the looming reserve deficit caused by the Large Combustion Plant Directive (LCPD)

We thank the AEMC for the opportunity to comment on the VCR and hope our comments assist in conducting the review. Please feel free to contact David Scott of CS Energy on 07 3854 7440 should you have any questions.

Yours faithfully

A handwritten signature in black ink, appearing to read 'TR', with a long horizontal flourish extending to the right.

Tim Reardon
Executive Director

Appendix A – Is there a disconnect between Reliability in the NEM and the Reliability Settings?

The NGF posits a number of theories as to why there may be a disconnect between reliability experienced in the NEM and the reliability settings.

Theory 1: “NEM participants are not in the business of going out of business”

The NEM is made of participants that with diametrically opposing risks. They may also be both buyers and sellers that have tried to internalise some of these risks. These participants manage market risk through derivative trading (hedging), contracting and investing in capacity. The risk appetite of these participants sets the reliability envelope, not the settings themselves. It appears participants think the NEM is riskier than it actually is and therefore consumers receive a higher reliability than they are theoretically paying for. Participants must also cap their *individual* exposure to market risk, (be it from changes to forecast levels of customer demand or failure of a generating unit) at an acceptable level and to a reasonable cost, rather than the risk of supply shortages for the NEM overall. This may lead to duplicative risk management measures.

There is a concept of risk adjusted return exists within the NEM where higher returns are discounted by the downside risks of being exposed to the vagaries of the market. These participants may have found that “hedging” the market risks of the NEM result in acceptable prices for consumers – the long term market equilibrium associated with derivative trading, which captures market risks and secures returns on investment have proved to be at a reasonable cost, below the utility received by consumers.

It may be the reliability is set by the risk envelope Participants are willing to take, hence the market responds to this risk appetite and provides a higher level of reliability, yet still at a reasonable cost. The market therefore clears well below the reliability settings envelope set by the regulations.

Theory 2: “NEM reliability has been distorted by other incentives”

There may be other incentives in play that have encouraged new capacity to be provided, to the extent that there is oversupply in the present market. The NGF is concerned that subsidised generation has been forced into the NEM via the Renewable Energy (Electricity) Act, Queensland Gas Scheme⁸, Solar FiTs and possibly the NSW GGAS scheme may be resulting in a false sense of security that the existing Reliability Settings are adequate. For instance the firm capacity of wind may only be a fraction of its rated nameplate capacity and hence appropriate pricing signals are still required to ensure conventional generation plant fills the gap in this unfirm capacity.

Regulatory pricing determinations using long-run marginal costing approaches, rather than market prices in setting retailer wholesale energy costs, may have also encouraged new unrequired capacity by some participants.

⁸ In this case a stronger reference may be made to the burgeoning gas industry in Queensland, as evidenced by the falling GEC prices in recent years

The disposition of capacity between participants, such as with retailers and merchant generators and the illiquid nature of the transfer of assets between these participants, (physically through asset sales or financially through PPAs and derivatives), may have encouraged the investment in capacity⁹, such as peaking capacity to transfer wealth between competitors in the wholesale market, rather than for reliability.

In addition there may have been enthusiasm for new investment in the early days of the market, which after a number of years of low returns may now have left the market. For example the original project-finance style investor in the NEM may now have been marginalised. For instance, we don't expect any new market network service providers to enter the market. History of investment in the NEM may provide a false sense of security that investment will return.

⁹ Good examples of this may be the Regional Electricity Companies (RECs) investment in CCGTs in GB to compete with Powergen and National Power in the 1990s, which is also known as the "Dash for Gas". These turned out to be poor investments.