

8 April 2021

Reliability Panel
C/o Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

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Dear Reliability Panel,

Review of the Reliability Standard and Settings Guidelines – Consultation Paper – 4 March 2021

EnergyAustralia is one of Australia's largest energy companies with around 2.5 million electricity and gas accounts across eastern Australia. We also own, operate and contract a diverse energy generation portfolio across Australia, including coal, gas, battery storage, demand response, wind and solar assets, with control of over 4,500MW of generation capacity.

This review provides an opportunity to reflect on whether the standards and settings remain fit for purpose in the context of changing supply and demand profiles, and changes in government and consumer expectations. This review should complement the ESB's work on frameworks for investment in reliability.

In this submission we have provided responses to select questions posed in the Consultation Paper by the Reliability Panel (the Panel) including those on the Reliability Standard and the form of the Cumulative Price Threshold (CPT) and the Administered Price Cap (APC). We recommend that,

- a risk-based approach to determining the reliability standard should be retained to reflect consideration of costs, and
- the CPT and APC should be retained, but the form should be reconsidered to elicit greater market response during times of market stress, without increasing risk to price-exposed market participants.

More broadly, we consider there is a leading role for the Reliability Panel and the AEMC to take in articulating the relationship between system reliability and system resilience, and outlining the appropriate measures to be taken to manage both challenges.

System reliability and resilience

As part of this review, the Panel should consider the role of the reliability framework in managing unlikely, but consequential, shortfall events. The reliability standards and settings framework exists to ensure system reliability, but the sector's definition of

reliability is somewhat idiosyncratic and differs from that used in common language. A customer is indifferent to the source of an outage (be it a network event, fuel unavailability, unanticipated and extreme weather events or high levels of demand), all are considered blackouts. The role of the Panel should be to support discussions as to the extent of accountability the reliability framework should play in ensuring supply and manage expectations around the framework's capabilities.

As the electricity system becomes increasingly dependent on variable sources of energy, the probability of coincident conditions that lead to high-impact, low-probability (HILP) events, is likely to be increasing. These HILP events are comprised of discrete and reasonably probable events which on their own have negligible impact on reliability, but in aggregate cause operational supply challenges. They are captured in the 'long tail' of AEMO's reliability forecasting. While the probability of a specific and pre-defined HILP event is highly unlikely, the probability of a coincident event occurring, is reasonable and poses a challenge for the Panel in managing system reliability effectively.

Variable resources, when supported by firming capacity, can provide sufficient supply for the majority of the time, and it is the role of the reliability framework to ensure that reliable, yet efficient, supply is indeed the outcome. However, HILP events are plausible and can have catastrophic consequences, as evidenced by experiences in California (August 2020) and Texas (February 2021) where compounding events lead to shortfalls with undesirable social and economic outcomes. These are events that governments and regulators need to mitigate and prepare to manage.

As part of this Reliability Standards and Settings review, the Panel should take the opportunity to consider the scope of the reliability standard and whether it is the appropriate framework to be held responsible for mitigating HILP events. Seeking to manage HILP events through the reliability framework may lead to inefficient levels of investment, and set unrealistic expectations as to the level of reliability that can be expected within the framework. We suggest the Panel take the opportunity to articulate the relationship between the two frameworks and set expectations as to the role each plays in delivering energy to customers, as well as defining the threshold for HILP events. It may be more appropriate to utilise resilience frameworks that mitigate the likelihood of such events, in conjunction with broader government support systems to manage the effects of such outcomes. Resilience frameworks are the subject of an AEMC rule change¹ and we support continued work to establish frameworks for managing HILP events.

Question 2: Triggers for assessing components of the standard and settings

The Reliability Panel has questioned the basis on which different elements of the standard and settings should be reviewed.

EnergyAustralia believes that the current approach to determining which elements are assessed every four years remains appropriate. Regulatory stability is necessary for investment and frequent changes in the settings or standard add uncertainty in an already uncertain market environment.

Rather than changing the threshold for assessment we suggest that it is likely that the threshold will be reached in 2021, reflecting the breadth of changes occurring in the market. We therefore question whether the desire to change the review threshold is

¹ <https://www.aemc.gov.au/rule-changes/enhancing-operational-resilience-relation-indistinct-events>

based on current market conditions indicating that materiality will be breached, or if these elements should, fundamentally, be reviewed more regularly. In considering this matter, Reliability Panel should consider what level of stability is required to deliver value to investors. For example, having stability in the Market Price Cap being based on the Value of Customer Reliability (VCR), while the value of the VCR may be reviewed regularly.

We support a materiality assessment for 2021, reflecting changes in the market as the transition progresses, but a retention of the existing framework for considering changes in the long term to provide investors long term stability.

Question 3: Is there value in the Panel considering the form of the reliability standard? If so, what principles or assumptions should be included in the guidelines?

The Consultation Paper outlines that a Reliability Standard can consider shortfall frequency, probability, magnitude, or a combination of these metrics, but makes minimal reference to price. While the definition of reliability is important, so too are the costs customers are bearing to provide this reliability.

NEM consumers are currently covered by two reliability standards. The NEM-wide standards which take account of probability and magnitude of shortfalls;

- the reliability standard of 0.002% Unserved Energy, which is used in the MT PASA and for procuring medium and short notice RERT, and
- the interim reliability Standard of 0.00006% Unserved Energy which is used to trigger the Retailer Reliability Obligation (RRO) and the procurement for the out of market capacity reserve.

In NSW, two additional deterministic standards apply;

- the loss of the two largest units is applied to trigger (as yet undefined) State Ministerial action, and
- a loosely defined standard of an additional 1000MW over and above existing capacity, set by the Federal Government.

We believe the NEM-wide standard should continue to have a probabilistic basis, rather than pre-defined margin of units or MW. By setting a fixed quantum of reliability margin, price becomes the release valve and an over-set target will naturally outturn unnecessarily high costs for customers. A risk-based approach allows for costs to be considered in the assessment and ensures customers are not paying for unnecessary levels of reliability. Importantly, the standard should make direct reference to the value of customer reliability.

We also note that the proliferation of reliability standards may be working at cross purposes and leading to inefficient investment. We propose that a singular reliability standard should be used in all jurisdictions for all relevant purposes in the rules.

A further reflection for the Reliability Panel is to consider the basis on which any measure of reliability is calculated; operational or native². The National Electricity Rules (NER, cl. 3.9.3C(a) define the reliability standard as "a maximum expected unserved energy (USE) in a region of 0.002% of the total energy demanded in that region for a given financial year", which does not provide definitive guidance on this question.

This raises the question of whether the Reliability Panel is concerned with provision of a standard of reliability to customers, or only the standard of reliability as provided by the portfolio of large grid-connected generation.

The relevance of the interpretation is how the standard is assessed over time. As total consumer demand (also known as native demand) and operational demand (that supplied by large generation) diverge, the basis of the calculation could be changing. Mathematically, for the same absolute volume of unserved energy in each year, the proportion relative to operational demand will be increasing, while the proportion relative to total consumer demand is actually decreasing. This could lead to an erroneous perception of reduced customer reliability.

Question 4: Is there value in reviewing the form of the market price cap (MPC)? What principles or assumptions should be included in the guidelines for that review?

EnergyAustralia would like to highlight that the link between VCR and MPC is vague and arbitrary which warrants clarification in the guideline principles.

Question 6 & 7: Is there value in the reviewing the form of the CPT and APC? What principles or assumptions should be included in the guidelines?

EnergyAustralia believes there is merit in reviewing the form of the CPT and the APC to make the most of the market signals they provide, while minimising financial risk for market participants.

The well-publicised market events in Texas in February 2021 demonstrate the possible economic and social outcomes of having an unrestrained wholesale market for an essential service. The use of CPT and APC in the NEM make it unlikely the NEM would face such dramatic consequences and EnergyAustralia supports their continued use. However, we suggest some modifications could be made to improve the price signal under stressed market conditions.

During the events of 25 January 2019³⁴, we observed that once APC was applied, there was limited incentive for marginal supply, particularly demand response, to continue. Load subsequently increased and placed further stress on the system. The tight supply conditions persisted for several hours, indicating that a market response was required, but the signal for such a response was muted.

² Operational demand is that supplied by scheduled, semi-scheduled and large non-scheduled demand. Native demand includes demand that is supplied by small (but large in aggregate) unscheduled generation such as solar PV

³ *Load Shedding in Victoria on 24 and 25 January 2019*, AEMO Operating Incident report, published 16 April 2019, https://www.aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Power_System_Incident_Reports/2019/Load-Shedding-in-VIC-on-24-and-25-January-2019.pdf

⁴ During this event, high temperatures in South Australia and Victoria with coincident equipment failures, thermal inefficiencies and de-ratings, resulted in insufficient supply. RERT was activated and load shedding occurred.

There is a trade-off between providing price signals for a demand and supply response to supply shortfalls, and protecting market participants from severe financial exposure.⁵ Possible solutions that balance these competing goals include:

- Increasing the CPT value to lengthen the timeframe during which market signals for a response are provided, before prices are reduced.
- Increasing the APC. This value is notionally set to cover the operating cost of the marginal supplier (diesel). It is worth considering whether this remains appropriate as technologies available in the NEM change. For example, demand response capability is increasing, but has a higher operating cost than diesel.
- Creating a decreasing block MPC. Under this approach, MPC is reduced over time according to a schedule.⁶ This allows prices to remain at a reasonably high level for a longer period of time, to provide a signal for marginal suppliers. It would ensure a very sharp signal is retained for short MPC events, but some signal is retained for sustained MPC events, without putting market participants at higher levels of financial risk.
- Allow APC to act as a circuit breaker, but if a market issue continues the APC is slowly increased to incentivise and reward demand response, without creating a sudden financial shock for exposed market participants.
- Create a more targeted load shedding schedule. At present, AEMO relies on RERT to mitigate controlled load shedding of customers. The Reliability Panel should explore whether it is possible to insert a schedule of large industry that can be load shed (at a regulated fixed price) before moving to general customer load. This would reflect a more dynamic application of the VCR for valuation of supply by different market segments under different conditions.

It is worth noting that while CPT is calculated as 7.5 hours at the MPC, the CPT event on 25 January 2019 occurred after less than 7.5 hours of the spot price being set at the Market Price Cap due to the strength of prices that were not at MPC in the preceding dispatch intervals. This suggests that in some circumstances you could induce the CPT without a single dispatch interval being at MPC.

Question 9: Removal of strict modelling guidelines. Principles

Any changes the Reliability Panel makes to the guidelines for modelling should ensure that inputs and assumptions are consistent with those used in the ISP.

If you would like to discuss this submission, please contact me on 03 9976 8482 or Georgina.Snelling@energyaustralia.com.au.

Regards

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⁵ This is relevant for both retailers (through pool exposure) and generators (through contract exposure).

⁶ For example, after the equivalent of 5 hours at \$15,000, the MPC is reduced to, for example, \$13,000 for the equivalent of 2 hours.