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Value of Customer Reliability Review –Application Guide

The Energy Supply Association of Australia (esaa) welcomes the opportunity to make a submission to the Australian Energy Market Operator's (AEMO's) Value of Customer Reliability Review – Application Guide.

The esaa is the peak industry body for the stationary energy sector in Australia and represents the policy positions of the Chief Executives of 36 electricity and downstream natural gas businesses. These businesses own and operate some \$120 billion in assets, employ more than 51,000 people and contribute \$16.5 billion directly to the nation's Gross Domestic Product.

VCR and the Reliability Standard and Settings

The esaa notes that the Reliability Standard and Reliability Settings are interrelated. For instance, tightening the Reliability Standard to a higher level of reliability may require a corresponding increase in the level of the Maximum Price Cap (MPC) to signal the appropriate level of supply and demand response to deliver the more onerous Reliability Standard.

The esaa is supportive of the Value of Customer Reliability (VCR) being given some consideration in future review of the Reliability Standard and Reliability Settings. However, the esaa highlights:

- the difficulties associated with determining an accurate measure of VCR. For example, the VCR typically cannot account for customers' exposure to high impact, low probability events on the transmission network and are subject to uncertainty and measurement error; and
- the Maximum Price Cap (MPC) and VCR are different mechanisms; the value of the MPC required to achieve a given level of reliability may not be the same as the VCR.

The esaa highlights that multi-faceted issues are considered by the Reliability Panel in its role of setting the Reliability Standards and advising on the Reliability Settings.

The Reliability Panel has regard to the following factors to assist its review of the reliability standard and reliability settings¹:

1. Modelling – Both quantitative and qualitative modelling can be used to investigate a range of issues relating to the reliability standard and reliability settings. Modelling is limited by a number of factors, including input assumptions made. It is only one consideration amongst other factors, described below.
2. Broader NEM philosophy - competition between buyers and sellers in the market should be allowed to set the efficient price to achieve the appropriate level of reliability that is valued by customers in the market. The reliability settings should be designed to provide a sufficient range to promote this behaviour in the market.
3. **Value to customers** - the reliability standard and reliability settings should be set at a level which reflects the price at which customers are willing to pay for reliability. That is, at a price that is not higher than the value customers place on reliability.
4. Trade-off between price and reliability - in assessing the level of the reliability settings required to achieve the reliability standard, there is a tension between price and reliability outcomes. Regard should be given to the trade-off between the price to consumers and reliability of the electricity supply.
5. Investment certainty - any changes to the reliability settings need to take into account the impact on investor certainty and incentives to invest in generation in order to achieve the reliability standard.
6. Financial risk - the reliability settings need to be set at appropriate levels such that market participants and consumers are not exposed to risks of extreme or sustained high prices.
7. Stability and predictability - consistency in the approach to setting the reliability standard and reliability settings provides stability and predictability for market participants. This includes taking into account relevant reviews, determination and recommendations. Such an approach will promote confidence in the market, investment certainty and efficiency in investment. In addition, some flexibility is required to accommodate changes in market conditions, while not undermining investor confidence. Therefore, any departure from previous approaches to setting the reliability standard and reliability settings should be transparent and based on clearly articulated objectives.
8. Proportionality and materiality - any change to the reliability standard and reliability settings should be proportionate to the scale of any issue identified with the current reliability standard and reliability settings. In addition, the likely benefits from making a change should be balanced against the likely risks and costs to the market of doing so.

¹ Reliability Panel AEMC Final Report, Reliability Standard and Reliability Settings Review 2014 pages 14-15.

From the above list the VCR is only one of eight key factors (item 3) to be considered in setting the Reliability Standard and Settings. Hence AEMO's application guide should make this observation clear to its potential application. The esaa also considers that caution should be exercised by the Reliability Panel when using VCR in its future review of the Reliability Standard and Settings.

Potential Application to System Restart Ancillary Services

AEMO is required under the National Electricity Rules (NER) to procure System Restart Ancillary Services (SRAS) from generators to facilitate a power system restart following an event leading to black system conditions.

In executing its SRAS responsibilities, AEMO must have regard to the SRAS objective, defined in the NER clause 3.11.4A (a):

The objective for system restart ancillary services is to minimise the expected economic costs to the market in the long term and in the short term, of a major supply disruption, taking into account the costs of supplying system restart ancillary services, consistent with the national electricity objective (the SRAS objective).

AEMO has recognised that the number and nature of system restart services that are procured and the price paid for these services are a trade-off. That is, a greater number of restart services would mean that if a system black incident occurs the system would be able to be restored more quickly, thereby lessening the social and economic impact on customers.

The esaa agrees with AEMO that, "The probable length and severity of system black events may be able to be predicted for a particular level of SRAS" and that, "The VCR may then aid in approximating the expected economic costs to the market from those predictions"².

The National Generator Forum had commissioned ROAM Consulting to assess the probability of a black system event affecting varying demand levels. ROAM surveyed the available literature of the probability of large blackouts in power systems around the world and from this literature estimated the probability of blackouts of varying magnitudes for the National Electricity Market. The results from this study suggest procuring an additional SRAS per sub electrical network delivers an estimated economic benefit of \$28.4 million per year³.

What became apparent from the ROAM study is that the probability of major black system events is a significantly higher in practice than what has been assumed in AEMO's 2013 review of SRAS. For instance ROAM states:

² AEMO Value of Customer Reliability Review – Application Guide, page 25.

³ Roam's report, "Review of SRAS Requirements in the NEM – 7 May 2014" to the NGF can be viewed at: <http://www.aemc.gov.au/Rule-Changes/System-Restart-Ancillary-Services>

On page 10: “However, large blackouts can occur and their probability of occurring in the NEM is not zero, including those involving multiple sub-networks. Even a full system blackout does not have a zero probability anywhere in the world, including the NEM.”

On page 41: “ROAM estimated the probability of a significant system disruption of varying magnitudes occurring in the NEM and found that a blackout involving multiple sub-networks in the NEM or even the entire NEM does not have a negligibly low probability.”

In summary while the esaa supports the use of the VCR in approximating the expected economic costs to the market from predictions of the probable length and severity of system black events, the probability ascribed to large blackout events must be realistic and based on available statistics from comparable electricity markets from around the world.

If you have any questions relating to this submission, please contact Kevin Ly on 02 9278 1862 or by email to kevin.ly@snowyhydro.com.au.

Yours sincerely



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