5 June 2020

Mr Mark Feather

General Manager, Policy and Performance

Australian Energy Regulator

GPO Box 520

Melbourne VIC 3001

Email – AERInquiry@aer.gov.au

Dear Mr Feather,

Consultation Paper – Widespread and Long Duration Outages - Value of Customer Reliability

Energy Networks Australia welcomes the opportunity to provide feedback to the Australian Energy Regulator (AER) on the Consultation Paper, Widespread and Long Duration Outages (WALDO) - Value of Customer Reliability (VCR).

Energy Networks Australia is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide electricity and gas to more than 16 million homes and businesses across Australia.

Energy Networks Australia is supportive of the AER efforts to develop WALDO VCRs to represent significant outage events which impact a large number of customers in a jurisdiction, potentially over an extended period of time. Energy Networks Australia also generally supports the macroeconomic approach the AER has undertaken with ACIL Allen. However, Energy Networks Australia would like to see a number of improvements to the final VCR WALDO paper:

- The model needs to account for likely Australian weather events, for example heat related and cyclone events that are not considered in the original New York Study;
- The upper threshold of 15 GWh needs to be increased to better represent likely loss in each state for a significant or single state widespread outage; and
- WALDO's need to be fit for purpose for all regulatory uses not just declared protected events and system restart standards, there is benefit in the AER clarifying a number of matters relating to their use in regulatory investment tests.

Fit for purpose for Australian conditions

The model has been developed by adjusting a New York study from 1978. While many factors that applied to New York's circumstances have been appropriately excluded, it is also important that effects not accounted for in the study arising from likely

Australian conditions are included. For example, widespread shutdowns are likely to coincide with heatwave conditions across Eastern Australia, therefore heat related health incidents should be included.

In addition, the role of electricity in society is markedly different to the 1970s, with a far higher reliance on electricity to deliver the expected quality of life. Therefore, the broader impacts of WALDO events need to reflect community expectations and the associated risk aversion and/or acceptance. While it is recognised the AER has not had the chance to take this into account, the value consumers place on reliability may have increased further due to the current pandemic.

There has been an example where the undersea cable to Bruny Island, Tasmania, has been out of service. This type of incident results in a long duration outage of low load with total lost load well below 1GWh. Indeed, an outage to any remote community may last longer than the 12-hour maximum used in the modelling for 'standard' VCRs. These long duration outages result in a much larger customer impact than is provided through standard VCRs and it would seem a missed opportunity if the WALDO VCR model does not cater for these larger types of outages, which have a longer duration but lower unserved energy (USE). For example, being able to model the impact on customers using WALDO VCRs could encourage a range of innovative solutions. These could include critical spares or mobile generator sets that can be critical to facilitating prompt supply to communities impacted by natural disasters such as bushfires and cyclones.

Upper threshold to cater for the complete or partial loss of a state

The current upper limit only caters for a major state-wide disruption in a small state like South Australia or Tasmania. The AER should explain why increasing the threshold of applicable WALDO events to include significant or state-wide disruptions to larger states would be inconsistent with the aims of the methodology.

Energy Networks Australia would welcome further discussion with the AER on the methodology for adjusting the upper threshold upwards to better cater for a full or partial disruption of supply in each state of Australia. Events anticipated to exceed the current threshold are possible, even though the probability that they would occur is low.

For example, a low probability yet plausible scenario in Queensland is a severe tropical cyclone in North Queensland. North and Far North Queensland regions represent load of approximately 1100MW supplied by three transmission lines that share an easement for approximately 160km. While this represents a low probability event, it is plausible that a severe tropical cyclone in this location could result in the collapse of multiple transmission structures. Even the most optimistic case study of this scenario leads to energy at risk in excess of 15GWh. It is plausible the unserved energy could exceed 100GWh. This is a scenario where VCR WALDOs could be applied to test the economic merits of rebuild of end of life assets on geographically diverse alignments to increase network resilience for low probability events. Powerlink also identified other plausible scenarios in the Queensland network that could lead to energy at risk in excess of 15GWh.

Furthermore, considering a full shutdown of the New South Wales network, it has been estimated that restoration of 80% of the load could take 12 hours with full restoration after 24 hours. The unserved energy would range from 50 GWh to 80 GWh.

Major use of WALDO VCRs – regulatory investment test to improve resilience

The AER's initial consultation on VCRs noted a broad range of uses for VCRs. Energy Networks Australia is concerned that the Consultation Paper appears to suggest that the primary use of WALDO VCRs is not for use in regulatory investment tests (RIT) but rather for use in declarations of protected events or reviews of System Restart Standards.

WALDO VCRs are one component of the VCR framework which can be used to test, in a measured and consistent way, network alternatives that improve resilience, response to and recovery from a major event. Network Service Providers or the Australian Energy Market Operator (AEMO) could apply WALDO VCRs to assess alternative arrangements that may mitigate the impact of an event through:

- improved network design and construction methods;
- acceptance of the risk and faster response by ready access to critical spares;
- alternative network routes that are less prone to bushfire and cyclone interruption; or
- amendments to control schemes and operational practices in certain weather events.

Given the Integrated System Plan and/or RIT processes are already lengthy, Energy Networks Australia would welcome guidance from the AER in the form of a WALDO VCR table in addition to the WALDO model. A table of WALDO VCRs may be helpful for intra-regional RITs where the extensive analysis required to use the model in every instance may not be proportional to the investment and potential benefits.

Clarity of use in regulatory investment tests

As noted above WALDO VCRs can be used in the Integrated System Plan (ISP) and RITs. The RIT Guidelines currently do not explicitly cater for broader benefits beyond the electricity market and hence do not allow for costs and benefits of the broader impacts that the WALDO methodology includes. Given the AER is reviewing the ISP/RIT-T (Regulatory Investment Test for Transmission) Guidelines with a view to completing this by the end of July, it would also be useful if the AER could clarify that the application of WALDO VCRs (published values or modelled values) is consistent with these Guidelines. It would also be useful to clarify how AEMO or network service providers would gain the AER's approval to apply a modelled WALDO VCR to the ISP or RIT given the processes are already lengthy.

As part of finalising this review it would be useful for the AER to clarify the additive nature of the VCRs e.g. use the relevant VCR up to the first 12 hours of unserved energy and use the WALDO VCR for the incremental unserved energy beyond the 12 hours.

Energy Networks Australia looks forward to the AER's continued engagement with network service providers as part of the further WALDO VCR development and clarifications in RIT Guidelines.

Should you have any queries on this response please feel free to contact Verity Watson, vwatson@energynetworks.com.au.

Yours sincerely,

Andrew Dillon

Chief Executive Officer