

21 September 2017

Ms. Anne Pearson
Chief Executive
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Attention: Ms. Sarah-Jane Derby

Reliability Frameworks Review – Issues Paper (22 August 2017) (EPRO060)

Energy Networks Australia welcomes the opportunity to make a submission to the Australian Energy Market Commission's (AEMC) Reliability Frameworks Review's (the Review) Issues Paper.

Our Association represents Australia's energy grid companies, supporting all Australian customers with over 900,000 km of electricity transmission and distribution lines and almost 90,000 km of gas distribution mains. Energy Networks Australia notes that the reliability of transmission and distribution networks is specifically outside the scope of the Review. However, the role of a future grid will be vital in ensuring variable renewable energy can be incorporated into the National Electricity Market (NEM) while also maintaining an adequate amount of dispatchable capacity to meet reliability standards.

Energy Networks Australia sees **a need for policy certainty**. During a period of numerous fast-moving and inter-dependent reviews, significant investment risks to an efficient energy transition will result from blurred governance, dysfunctional markets and poorly coordinated policy and regulatory frameworks. This includes risks emanating from multiple and overlapping reviews on similar issues. The issues paper sets out a comprehensive set of different reviews, the findings of which will either inform this Review, be undertaken in parallel with this Review or be separate from (and therefore out of scope for) this Review. There may be benefit in the AEMC **clarifying the issues that this particular Review will address in summary form** as well as those inter-related issues that will be covered in other reviews.

Stakeholders would benefit from regular updates on the progress and outcomes of interrelated work, reviews and rule changes and more information on the linkages and how the Review will be informed by those processes.

The **inclusion of a more diverse generation mix is a core challenge for the market**, particularly when a significant quantity of generation in a geographic area is subject to the same intermittency effects. A coincidence in variability of output poses significant challenges in the planning, investment and operation of a reliable and secure power system and it demands a **holistic approach to incorporating intermittent generation** in the NEM. AEMO's advice to the Commonwealth Government on dispatchable capability recommended a series

of short-term measures, which will contribute to a more holistic approach and should be considered in this Review.

Transmission interconnection is vital to facilitating a reliable renewable energy future.

Greater inter-regional transmission capacity will allow for better management of intermittent generation profiles utilising geographic diversity, lead to lower energy prices for consumers, and greater energy security and emissions reduction benefits from better utilisation of renewable energy resources. Energy Networks Australia recommends that the AEMC particularly examine whether the current Australian Energy Regulator (AER's) Regulatory Investment Test – Transmission (RIT-T) adequately enables Transmission Network Service Providers (TNSPs) to undertake system reliability related assessments or estimating the value of sharing reserves. The outcome of that assessment could inform the AER's impending Review of the RIT-T.

Networks are contributing to the demand response picture. We support initiatives such as the demand response (DR) pilot program currently being undertaken by ARENA and AEMO and the incorporation of learnings into the outcomes of this Review. A successful DR program should increase the number of contract-ready demand response participants to: (a) enable increased participation and competition for network-based demand response contracts; and (b) encourage demand response into areas where there are network risks and can be readily contracted quickly through market proponents.

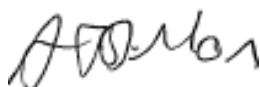
Distribution businesses already have significant network demand management programs in place, which provide a range of initiatives to incentivise customers to either reduce their consumption at peak times or shift their consumption to non-peak times. This Review should look at the potential for greater benefit if this same resource could also be accessed directly by AEMO for Reliability and Emergency Reserve Trader (RERT) purposes, (e.g. via Distribution businesses).

These perspectives are reinforced where appropriate in the responses to a selection of the Issues Paper's questions, which are provided in Attachment 1 to this submission.

Energy Networks Australia notes the intention to establish a Technical Working Group to provide technical advice as part of the Review and looks forward to participating in that forum and other stakeholder engagement forums provided through the consultation process.

Should you have any additional queries, please contact Norman Jip, Energy Network Australia's Senior Program Manager – Transmission on (02) 6272 1521 or njip@energynetworks.com.au.

Yours sincerely



Andrew Dillon
Interim Chief Executive Officer

Attachment 1 - Responses to Selected Issues Paper Questions

Question 1 - Assessment principles

1. (a) Do stakeholders agree with the Commission's proposed assessment principles?

Energy Network Australia broadly agrees with the proposed assessment principles.

We also consider it is important for the AEMC to ensure that '*efficient investment in and operation of energy resources to promote a reliable supply*' is not considered in isolation from the related network requirements and costs (i.e. most efficient solution accounts for both of these together).

1. (b) Are there any other relevant principles that should be included in the assessment framework?

Energy Networks Australia highlights that given the inter-relationships with other on-going reviews and rule changes that the issues raised in this Review need to be very closely coordinated. It could be appropriate to suggest '*coordination*' is an additional assessment principle. For example, the impact of any alternative options need to be fully assessed against possible/likely outcomes from other on-going processes.

Question 3 - Forecasting

3. (a) What are stakeholders' views on the variances occurring in forecasting? Could these variances be minimised through more sophisticated forecasting techniques?

We note that more accurate forecasting could have significant efficiency benefits and improve overall reliability in the NEM. This is not restricted only to reliability. However, we note that good forecasting needs timely information from all appropriate sources, and involves trade-offs between the timing of such data and the eventual accuracy of such forecasts (i.e. the closer to the event the more accurate the forecasts should be).

Question 4 - Options to accommodate intermittent generation

Do stakeholders consider that facilitating additional dispatchable generation, or facilitation of more flexible energy sources, or a combination of both, can more easily achieve the aims of better incorporating intermittent generation into the NEM?

Any option considered should take into account both system reliability and system security imperatives. An AEMO rule change on generator performance standards and the potential wider adoption of the Essential Services Commission of South Australia arrangements (advised by AEMO) for inverter generation will clearly need to be taken into account on this topic (as recommended by the Finkel June 2017 Final report). This would encompass a more holistic approach to incorporating intermittent generation, fully recognising system reliability and security obligations.

4. (c) What factors should be taken into account when considering a Generator Reliability Obligation

Energy Networks Australia considers the factors outlined in Box 5.1 on page 50 of the Issues Paper including:

- » total variable renewable energy generation as a proportion of dispatchable generation
- » network (system) strength
- » the extent of variation in variable renewable energy generation
- » interconnections with other NEM regions
- » load profiles
- » wholesale and contract market considerations, and
- » expected future trends

is a worthwhile start.

Energy Networks Australia thinks it is just as crucial that requiring generators to have storage does not solve the reliability problem *if* the transmission network cannot deliver the capacity due to current and potential constraints. If a GRO is the preferred response, it could be efficient to examine and identify where the dispatchable capacity is to be located.

Question 6 - Interconnector(s)

(a) What role can interconnectors play in relation to reliability?

Energy Networks Australia fundamentally supports the role of interconnectors in providing a reliable electricity supply. We note that the AEMC explains in its Executive Summary, that:

“A “reliable power system” has enough generation, demand-side and network capacity to supply customers with the energy that they demand with a very high degree of confidence. This requires several elements: efficient investment, retirement and operational decisions by market participants (on both the supply and demand side) resulting in an adequate supply of dispatchable capacity, reliable transmission and distribution networks and a secure system”. (page i).

We also concur with the AEMC’s assessment at page 62, that:

“interconnectors can be considered a partial (but not perfect) substitute for dispatchable capacity in relation to reliability. Instead of investing in generation capacity in a particular region, it may be cheaper to upgrade an interconnector in order to allow sharing of reserves.”

6. (b) What factors should the Commission consider in this regard?

Investment decisions have usually been made in the context of traditional drivers of serving growing load, reducing congestion and facilitating large generation export within and between regions. A move toward a more diverse mix of renewable generation requires a rethink of how transmission interconnection is valued and planned because the “drivers” of

value for interconnection are changing with the transforming energy mix. These new drivers now need equal consideration when assessing value. These include:

- Access to low-cost renewable and clean energy
- Capturing renewable energy/fuel diversity
- Meeting regional economic and public policy needs
- Efficiencies from better inter-regional co-ordination
- Option value to address future uncertainties and mitigate risks

A re-emphasis of placing value on interconnection to deliver benefits from a diverse energy mix has been a hallmark of change in Europe over the last decade, as recognised by Finkel which noted some jurisdictions like Germany, the United Kingdom and Texas, USA, are making a “strategic policy choice” to facilitate large scale renewable energy generation.

The current Australian Energy Regulator’s Regulatory Investment Test - Transmission (RIT-T) is very challenging when trying to justify greater interconnection, especially where “reliability” or a “sharing reserve margin” is a potential key driver for such infrastructure.

Question 16 - Demand response for reliability purpose(s)

(b) What findings can be taken from the ARENA-AEMO trial in terms of how demand response could be better incorporated into the RERT?

Energy Networks Australia considers that this demand response (DR) trial should be successful if it is well established and fully understood. The need for payments to potential DR providers for the Reliability and Emergency Reserve Trader (RERT) purposes indicates a relatively immature market.

Distribution businesses already have significant network demand management programs in place, which provide a range of initiatives to incentivise customers to either reduce their consumption at peak times or shift their consumption to non-peak times. Some examples include:

- » residential appliance load control (hot water, pool pumps and air-conditioning) and
- » contracted demand response to support network needs (shifting of commercial production times or shutting down of processes).

For instance, in Queensland, Energex and Ergon Energy have approximately 850 MW of available load for use during extreme demand periods or emergency response and have led the industry with market-driven engagement techniques such as interactive maps and Optimal Incremental Pricing. Ongoing reforms are also aimed at further incentivising distribution businesses to engage in demand management as an alternative to network options to remove constraints.

Energy Networks Australia considers that, as these resources provide some benefit to system reliability, there may be potential for further value to be gained from AEMO and third parties having greater access to the existing DR capabilities that distribution businesses have for market reliability purposes. The potential for this service to be coordinated and provided by distribution businesses to the broader market should therefore not be overlooked, at least as an interim measure until the DR market has reached a sustainable level of maturity.