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8 March 2018
Dr Kerry Schott AO
Independent Chair

Energy Security Board (ESB)
C/O COAG Energy Council Secretariat
Department of the Environment and Energy
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Email: info@esb.org.au

Dear Dr Schott

National Energy Guarantee – Draft Design Consultation Paper – Powerlink Queensland Submission

Powerlink Queensland (Powerlink) welcomes the opportunity to provide input into the design options of the National Energy Guarantee (the Guarantee) as outlined in the *Energy Security Board's National Energy Guarantee Draft Design Consultation Paper* (the Consultation Paper).

This submission is made on behalf of Powerlink Queensland and does not represent Queensland Government policy.

Powerlink also endorses and refers the ESB to matters raised in the submission from Energy Networks Australia.

Powerlink supports the purpose and intent of the Guarantee to facilitate the achievement of both energy security and emissions reduction policy objectives at the lowest overall cost to consumers. The objectives of the Guarantee to contribute to reduced risks and costs associated with new investment in the National Electricity Market (NEM) and increase the overall level of contracting in wholesale electricity arrangements to deliver lower cost outcomes for customers are noted.

The **attached** submission primarily addresses the reliability requirement aspect of the Guarantee, how these arrangements interact with the above objectives and the broader reliability framework. The key points in our submission are:

- **Interaction between the Guarantee and related reviews** - greater coordination by the ESB is necessary to minimise overlapping and potentially conflicting outcomes while ensuring the full extent of reviews and potential market design changes are considered as part of the design of the Guarantee.

- **Reliability requirement** – the design of the reliability requirement aspect of the Guarantee should provide appropriate market signals that lead to efficient investment over time that meets reliability needs of the power system.

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Powerlink appreciates the collaborative approach being undertaken by the ESB on the development of the guarantee.

Powerlink recognises the development of the NEG is at an early stage and looks forward to further detail being made available following the consultation process, which will enable stakeholders to take a fully formed position on the intended approach and outcomes.

If you have any questions in relation to this submission or would like to meet with Powerlink to discuss further, please contact Kevin Kehl.

Yours sincerely

Merryn York
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1. Interaction between the Guarantee and existing reliability and security work program

A holistic approach to the design and implementation of the Guarantee that considers the Guarantee within the broader reliability framework, including against potential market design changes and reforms, will minimise overlap and potentially conflicting outcomes and assist to ensure the Guarantee is enduring and effective in achieving the intended objectives and expected outcomes.

Powerlink is encouraged that consideration of related reviews recommended by the *Independent Review into the Future Security of the National Electricity Market - Blueprint for the Future* (Finkel Review) are acknowledged and that the ESB intends to coordinate progress on those matters. However, given the extent and scope of potential changes resulting from related reviews that are currently underway, Powerlink suggests it is necessary that the ESB to take a more active coordination role across the full range of reviews. That is, the ESB in developing the Guarantee should not limit itself to implementation of Finkel Review recommendations. The ESB should seek to eliminate overlap between actions from the Finkel Review with other reviews that are already occurring, prioritise issues and necessary actions and clarify their interaction. This approach would be consistent with the intended whole of system oversight role of the ESB and would ensure the design of the Guarantee takes account of potential changes in market settings.

Further, while it is appropriate that the ESB applies current market settings in its assessment and consideration of the design of the Guarantee, consideration of alternatives settings as sensitivity analysis would inform the proposed framework's applicability for possible changes in setting such as alternative emissions trajectories and alternative reliability requirements. Undertaking this analysis as part of the early design phase will be important if the Guarantee is to be an effective enduring mechanism.

2. Reliability requirement

Powerlink's comments primarily relate to the following aspects of the reliability requirement: -

- forecasting the reliability gap
- timeframes for triggering the reliability requirement
- allocating the requirement
- demand response
- system security services

a. Forecasting the gap

The proposed design of the reliability aspect of the Guarantee involves a requirement on retailers to enter contracts related to dispatchable resources. This requirement would be expressed in terms of MW in a region, at a particular point in time, for a particular duration. It is expected that information provided through this process will signal the appropriate level of capacity required for a reliable supply and whether more investment is required in a particular region. However, Powerlink notes that this information is linked to controllability of output from a generator and therefore may be too narrow and may lead to over investment in the market.

'Dispatchability' is an attribute of generators and load that is not currently defined in the National Electricity Rules (NER). The AEMC is currently considering the definition of

dispatchability (and flexibility) through the *Reliability Framework Review*. The AEMC recently described 'dispatchability' as referring to sources of energy or load that can respond to instructions to increase or decrease output or usage. Resources that are dispatchable are valuable to maintaining the balance of supply and demand because their output can be adjusted by instruction in response to changing supply and demand[1]. The construction of the term in this context incorrectly implies that dispatchability is a binary concept (it can either respond or it cannot) rather than a continuum between being highly controllable and not controllable at all.

Powerlink considers that viewing dispatchability as a binary concept is too limiting and not reflective of the many technical characteristics of supply and demand response options that can contribute to reliability. What is critical is the degree to which a generator has control over their input energy source. Sources with a low level of dispatchability have little or no control over the input energy sources to their generator – examples include wind, solar and run-of-river hydro. Once there is an element of storage of the input energy source the level of dispatchability increases, whether this be water storages for hydro-electric, gas storage, batteries and line-pack or coal stockpiles.

On this view, dispatchability is a continuum, rather than a binary delineation, and a wide range of sources could be valued for their contribution to reliability outcomes by an appropriate weighting of their capacity to reflect their ability to control their level of output over an extended period of time. If the Guarantee operates to only include a limited number of technologies as contributing to reliability outcomes, and excluding others, the contracting arrangements will be unnecessarily constrained and reflective of the physical characteristics that determine reliability outcomes.

Powerlink is concerned that there is a risk of over investment with consequent higher costs to customers if controllable capability that is not contracted is not taken into account as part of assessing the reliability gap or triggering of the requirement. Therefore it is important that the process for determining whether a reliability gap exists takes into account all of the physical controllable capability of plant which is available to the market.

b. Triggering the requirement

It is expected that if a reliability gap is forecast, the market will respond to deliver the required capacity through investment or demand response decisions to avoid the reliability requirement being triggered. The period between the start of the forecast horizon and the reliability requirement trigger point effectively provides a warning period to allow the market to respond.

The design options proposed in the Consultation Paper envisage the possibility of either a short term warning period or a long term period and note that ultimately determining the period will involve a trade-off between accuracy of information available at the point in time and the lead time of potential responses to the gap.

The regulatory framework for reliability is primarily market based, and includes an escalating series of interventions to account for market limitations. Broadly, market-based solutions are preferred as competitive pressures are considered to drive more cost-effective and efficient investment, operational and consumption decisions. From this perspective, Powerlink suggest the timeframes for triggering the reliability requirement should be as late as

[1] AEMC, Issues Paper, Reliability Frameworks Review, August 2017, p. 8.

practicable, allowing the market to respond just in time before the reliability requirement is triggered or the procurer of last resort responds. Powerlink acknowledges that this approach will likely contribute to higher costs than if procured earlier, however this is balanced against ensuring the market is incentivised to respond to the maximum extent possible.

c. Allocating the requirement

It is proposed that the forecast reliability gap will form the basis for the required response from retailers and will need to be allocated to individual retailers via a defined methodology for filling or allocating the gap to retailers. Powerlink suggest that the allocation process should also ensure incentives are provided to parties who have contributed to the gap. If there is no penalty for non-compliance retailers may simply elect to wait for a regulatory intervention to deliver the reliability outcomes and then pass on those costs to customers.

d. Demand response

Powerlink notes the ESB's acknowledgement that the development of the Guarantee should take into account demand response. Mechanisms may need to be developed concurrently to ensure that additional demand response qualify for compliance under the Guarantee.

In addition, Powerlink considers it appropriate that the design of the Guarantee should acknowledge existing demand responses which contribute to peak demand reduction but which have not been recognised as demand response systems. For instance, peak demand in Queensland would be significantly higher without controllable electric hot water systems, pool pumps and a range of other demand responses which have existed for over 30 years. These demand response products, including differentiated tariffs, provide ongoing rewards to customers through lower energy rates instead of a specific payment for turning off at certain times.

e. System security services

Powerlink notes that the Guarantee is intended to be one part of a broader, multi faceted approach to meeting reliability and security needs. Powerlink notes and supports the ESB's view that, other than driving more dispatchable capacity in the NEM, the Guarantee is not intended to directly address system security matters such as inertia, frequency response, system strength, etc. These necessary aspects of power system operation can be delivered through other recent rule changes in place or underway.

3. Emissions Requirement

Powerlink's comments primarily relate to the emission target review processes and contracting arrangements proposed under the emissions requirement aspect of the Guarantee.

a. Emissions target review process

The emission reduction target for the NEM, including the level and form of the target is an aspect of the emissions requirement that the Commonwealth Government primarily has responsibility for. The Commonwealth Government proposes that the target should be expressed as a trajectory of annual average emissions per MWh levels (electricity emissions

targets) for retailers in the NEM. It is proposed that the Government will initially set the electricity emissions target trajectory for ten years, from 2021 to 2030 and will set at least a further five years of targets every five years in a process that will align with the five-yearly review process under the Paris Agreement. To provide investor certainty, it is proposed that changes to the target trajectory will only apply with five years notice. Powerlink is supportive of an approach that provides appropriate forward notification of change and considers it essential that sufficient forward notification is provided to ensure efficiently timed and utilised investment. However, Powerlink notes that the end of the current arrangement in 2020 is already less than five years ahead.

b. Contracting arrangements

Where a reliability requirement is triggered and the reliability gap assigned, the Guarantee will require retailers to ensure that their share of the peak demand requirement, at the time of the gap, is covered by eligible contracts. The contract market is not currently transparent and has been designed that way. It is noted that the use of contracts will likely change the requirements regarding transparency of contract arrangements going forward which may provide more visibility to the broader market, including network businesses, and can be used optimise network investment.

Interconnections

Powerlink notes the emissions element of the Guarantee is intended to be geographically neutral to support efficient investment decisions, reduce compliance costs for the electricity sector and costs to consumers. With the relatively weak interconnections between states, Powerlink is concerned that there is a risk that the Guarantee may strengthen incentives to achieve outcomes in individual jurisdictions or market regions rather than considering the overall outcomes for electricity users. To the maximum extent possible, the design of the Guarantee should be on a whole of system basis to drive the lowest overall cost outcome and should not preclude the role of interconnectors in delivering emission or reliability reduction benefits across the entire NEM.

4. Governance arrangements

Powerlink is supportive of an approach that seeks to implement the Guarantee through existing governance arrangements to allow for consistency between the reliability and emissions requirements, reduce complexity and compliance costs for market participants and consumers. For the same reasons, to the extent possible, the design of the Guarantee should build on existing arrangements particularly with respect to flexible compliance arrangements and enforcement (carry-over of overachievement, enforcement mechanisms based on regulators' current powers and discretion) to provide consistency and to assist with implementation.