

19 September 2017

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## **AEMC's Coordination of generation and transmission investment - Approach Paper (22 August 2017) - EPR0052**

Energy Networks Australia welcomes the opportunity to make a submission to the Australian Energy Market Commission's (AEMC) Approach Paper on the Coordination of generation and transmission investment Review (the Review).

We represent all of Australia's major transmission networks. These businesses are already developing an integrated transmission system that continues to deliver reliable supply from a transforming generation sector. We are investigating a wide range of options to deliver the best outcomes for customers, particularly in the context of an expected significant increase in investment in both generation and transmission in the medium term.

Our response to specific questions is attached. The key points to our response are as follows:

- » The Review should not prejudge other reform processes likely to take place in the short to medium term
- » A broader range of options to address issues with co-ordination of future generation and transmission investment should be considered.

### 1. Review must not prejudge other reform processes

The coordination of generation and transmission investment should not be considered in isolation. It is essential that the Commission first take a system-wide view and take into account likely changes to the system before determining a specific way forward in this area.

In our submission to the Commission in May 2017, Energy Networks Australia noted that much of the uncertainty was driven by less predictable policy and regulatory frameworks which were is being addressed by reform processes and government interventions already underway. We continue to recommend the Commission adopt an approach that does not prejudge particular outcomes, noting that the future investment identified is likely to be under a different market and regulatory environment to the one we have now.

For example, the Commission's own views of how future transmission and generation supplies should be coordinated may be self-limiting the full range of issues that need to be explored:

*“...the Commission prefers market-based solutions to centrally planned or mandated ones. Centrally-planned solutions rely on a centralised agency making a decisions about coordination of transmission and generation investment, which will likely foreclose the considerable potential benefits of a well-functioning market, and may result in trade-offs being made between different objectives by governments on behalf of consumers. It also means that consumers, not competitive businesses, bear the costs of investment risk.” (p.13)*

However, many well-functioning markets have some level of central planning and co-ordination. Again, a system-wide, consumer-outcome perspective must guide the approach. Just as there are considerable potential benefits of a well-functioning market, there can be significant costs to consumers from dysfunctional markets, as we can see all too readily at present. It will be important for the AEMC to explore these issues as part of this Review, with evidence and international experience, rather than dismiss them as part of this Review.

## 2. A broader range of options to address issues with co-ordination of future generation and transmission investment should be considered

Energy Networks Australia understands that the AEMC's decision to proceed with this Review was based on its assessment that:

- » the drivers of change that impact transmission and generation investment have changed since October 2015
  - » there is likely to be large amounts of transmission and generation investment in the near to medium term, and
  - » future expected investment is uncertain in its location or technology
- are evident.

In Section 2.2.3 of the Approach Paper, the Commission notes that despite the level of uncertainty:

- » The observed trend of the exit of thermal generation and the entry of renewable generation is expected to continue.
- » Technology costs are changing and new technologies, such as battery storage, will increasingly become economic in the future.
- » The increased penetration of intermittent renewable generation may require new investment to maintain system security.
- » The changing generation mix has implications for the transmission network, as new renewable generation may locate in areas that are not well serviced by the current transmission infrastructure.

While we generally agree with the issues of transmission charging, transmission access and access arrangements identified in the Approach Paper are worthy of further examination, we support a broader range of options to enhance transmission and generation investment being considered by also taking into account international experience.

In continuing this Review, it is important that the project progress in alignment with the broader 'blueprint' for the National Electricity Market (NEM), and that the extent to which the work supports this, must be clearly set out by the AEMC in a coordinated and integrated way.

This will assist all stakeholders to respond having regard to the broad NEM development context. Additionally, the timeframe of the Review<sup>1</sup> and the level of stakeholder engagement needs to be commensurate with the Review's scope, noting that the scheduled November 2017 Options Paper, should at a minimum, provide a structured program of stakeholder engagement and consultation going forward, and noting linkages to other inter-dependent NEM framework developments.

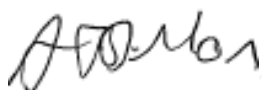
Energy Networks Australia also suggests that any potential solutions must assure capability for the NEM to address the factors driving future investment including the step change shift in generation location that is commencing.

Finally, it is important that in the assessment of options, the Commission must be explicit on the likely impacts for end consumers.

Energy Networks Australia and its members would be pleased to assist the AEMC in any aspect of its deliberations on this Review and would welcome engagement with the AEMC in workshops or other forums to discuss the market design options as part of the AEMC's preparation of its November 2017 Options Paper.

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](mailto:njip@energynetworks.com.au).

Yours sincerely



**Andrew Dillon**  
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<sup>1</sup> According to page 6 of the [Terms of Reference](#) for this Review, the Stage 2 report must be provided to the Council of Australian Government's Energy Council within twelve months of the Stage 1 report.

# Attachment 1 - Responses to Approach Paper Questions

## Transmission charging arrangements - issues

*1. (a) Do you agree with the issues identified with respect to transmission charging, and how this impacts on the coordination of transmission and generation investment?*

These issues are complex and would represent some significant challenges in amending transmission-charging arrangements in the NEM. Despite the complexities, industry should try to identify first best options. The promotion of efficient transmission infrastructure investment is a clear priority.

Energy Network Australia considers that a further examination of generator Transmission Use of System (TUoS) and definitively settling charging arrangements for large-scale batteries in the NEM are within scope of this Review, given the increased likelihood of the need for transmission networks to accommodate and facilitate more renewable energy sources for the foreseeable future.

*1. (b) Are there any other issues that should be examined as part of this Review?*

As noted above, the issues identified are too narrow. The Commission should examine a broader range of issues focused toward generation and transmission co-ordination that would address its own findings that:

- » The observed trend of the exit of thermal generation and the entry of renewable generation is expected to continue.
- » Technology costs are changing and new technologies, such as battery storage, will increasingly become economic in the future.
- » The increased penetration of intermittent renewable generation may require new investment to maintain system security.
- » The changing generation mix has implications for the transmission network, as new renewable generation may locate in areas that are not well serviced by the current transmission infrastructure.

The AEMC should not prejudge other reform processes underway but instead ensure the flexibility to consider a range of future co-ordination decisions is allowed. For example, issues should consider a fulsome overarching coverage of inter-related Finkel recommendations in conjunction with related rule changes.

Energy Networks Australia recommends that a broader range of issues and options taking into account broad international experience should occur as part of the Options Paper consultation process without a narrowing of potential issues for stakeholder deliberation.

### **Transmission charging arrangements – options**

*2. (a) Are any of the above options worth of further consideration, or no further consideration? Why? Why not?*

As noted above, Energy Networks Australia would welcome a broader range of options to be included in the Review. For example, the Review should consider options to address issues that may assist in providing a clear resolution and understanding by all stakeholders of the regulatory and pricing arrangements for storage and large scale batteries. Energy Networks Australia considers that there is a strong case for charging scheduled loads to a transmission network, on a negotiated transmission service basis, for a pure battery or a combined battery and generator connection configuration.

Energy Networks Australia and our members would be happy to participate in any fora to progress these issues.

### **Transmission planning arrangements**

*3. (a) Do you agree with the issues identified with respect to transmission planning, and how this impacts on the coordination of transmission and generation investment?*

While Energy Networks Australia generally agrees that transmission planning arrangements are primarily fit for purpose from an ‘information flow’ perspective, we welcome the examination a broader range of issues being explored, especially in the context of potential changes to transmission planning and grid integration.

Collaborative initiatives currently underway with AEMO and Energy Networks Australia’s TNSP members as part of addressing the Finkel Panel’s recommendations of an Integrated Grid Plan and development of renewable energy zones is a key focus area for 2017/18.

*3. (b) Are there any other issues that should be examined as part of this Review?*

We welcome the exploration of a broader range of issues. Providing customers with the least cost combination of generation and transmission requires coordinated planning to ensure strategic transmission investments occur. Arguably, the current planning process does not provide adequate information to networks in the current fast-changing generation investment/retirement and connection environment. It is also necessary to examine options that would provide better energy zones or hub access for generators in terms of transmission infrastructure and to explore connection ‘queuing’ issues.

A system-wide perspective is essential to facilitate timely network investment in several areas where significant generation investment is almost certain to occur and significant congestion an issue.

### **Transmission planning arrangements – options**

*4. (a) Are any of the above options worth(y) of further consideration, or no further consideration? Why? Why not?*

Energy Networks Australia would caution against any unnecessarily narrowing of options as part of Stage 2 of the Review. It seems more appropriate that the objectives need to be more clearly set out before a screening process of any option. For example, coordinated planning needs to, amongst other things:

- » Maintain system security and allows reliability (i.e. resource adequacy) to be provided efficiently
- » Minimise total delivered cost to customers over the long term, and
- » Provide some level of certainty for those investing.

The NEM requires a framework that supports these or similar objectives. Overseas arrangements (or adaptations of these) need to be explored and assessed in the NEM context. We also note that any mechanism whereby generators group together to jointly fund transmission investment has had very limited success to date. Accordingly, there is a need to consider alternatives, as the Finkel Panel has recommended, and as discussed above.

Energy Networks Australia supports options that further examine the development of renewable zones and clarification of the AEMC's views on increased co-ordination between TNSPs and AEMO. We note that the establishment of 'slightly larger connection assets' does not necessarily address the critical main transmission capacity limitation issues for new renewable energy zones, but may assist in more efficient radial connections into the network. Energy Networks Australia and our members would be happy to participate in industry workshops to discuss potential options in trying to achieve this goal as part of this Review.

#### **Transmission access arrangements**

*5. (a) Do you agree with the issues identified with respect to transmission access arrangements, and how this impacts on the coordination of transmission and generation investment?*

Energy Networks Australia agrees that there is increasing uncertainty in forecasting generator connections and for generators, the certainty of dispatch. Additionally, there is the need to address system strength and fault level issues for intending participants and generators, at both the transmission and distribution level.

When considering options to address issues it will be important to avoid unintended incentives for parties to connect in an inefficient way.

#### **Transmission access arrangements - options**

*6. (a) Are any of the above options worth of further consideration, or no further consideration? Why? Why not?*

Energy Networks Australia members are seeing unprecedented numbers of connection requests for renewable generation and are looking for outcomes which allow for the connection of such generators that delivers the best outcomes for customers.

The options mainly cover issues regarding open versus firm access. We also note that those not involving the status quo of open access<sup>2</sup> all involve fundamental changes to the NEM.

We would welcome further consideration of these and other options in the next phase of the Review. This should also include further consideration of new renewable energy zone development scenarios, and how the various options would facilitate their establishment. It should also include international experience of how transmission networks are being coordinated to address the changing energy mix.

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<sup>2</sup> We note the AEMC 's recent public position contained in its Final Determination of 23 May 2017 on the COAG Energy Council's Transmission Connection and Planning Arrangements rule change that removed the contentious clause 5.4A of the Rules. At page 8 of that determination, it explains that:

*“The National Electricity Market (NEM) operates under an open access regime in which generators have a right to negotiate a connection to the network in accordance with the NER, but no right to the regional reference price.”*

The relevant footnote # 7 explains that: *“Clause 5.4A of the current NER appears to contemplate generators negotiating firm transmission network user access with TNSPs i.e. for generators to negotiate compensation from a TNSP in the event they are constrained off or on the network, in return for an access charge. However, this provision cannot work in practice because the scheme is not mandatory and all generators have open access to the network. The final rule deletes this clause in order to make it clear that the NEM operates under an open access regime”.*

Such a position will need to be considered in any future deliberations on any new access arrangements.