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5 March 2018

Ms Audrey Zibelman  
Chief Executive Officer  
Australian Energy Market Operator  
Level 22, 530 Collins Street  
Melbourne VIC 3000

By email: [isp@aemo.com.au](mailto:isp@aemo.com.au)

Dear Ms Zibelman

## **Re: Submission on the Integrated System Plan Consultation Paper**

The Australian Energy Regulator (AER) welcomes the opportunity to provide input on this important step towards developing a strategic plan for the National Electricity Market (NEM).

Please see our attached response to the questions posed in the Consultation Paper. Along with this response, we would like to emphasise the following points:

- We support the expansion of AEMO's National Transmission Development Plan into the Integrated System Plan (ISP), including the improvements in modelling that AEMO has noted in its Consultation Paper. Improving scenario planning to account for uncertainty facing the industry is also a logical step. We support taking a coordinated inter-regional view and note that the more transparent and consultative, the more robust is the analysis.
- As the Consultation Paper acknowledges, the Finkel report is clear that 'augmentations in line with the integrated grid plan would be evaluated through the RIT-T process or its successor'. We agree that while the ISP is an appropriate planning document, it is not a substitute for a rigorous and transparent cost-benefit analysis. The COAG EC found the regulatory investment test for transmission (RIT-T) to be a robust and appropriate mechanism to assess transmission network investments, which customers fund through transmission use of system charges. It also found that the RIT-T provides an appropriate balance between rigour and timely investment decisions. We envisage the RIT-T and ISP working well together, particularly as the National Electricity Rules and the RIT-T application guidelines encourage RIT-Ts, where necessary, to take a multi-regional view. The identification of transmission projects in the ISP will not of itself be considered an exemption trigger to a RIT-T.

- We recognise that coordination of the ISP development, the AEMC's work on 'coordination of generation and transmission investment', and our review of the RIT-T application guidelines is important.

We would also like to acknowledge that understanding the analysis supporting the ISP will be challenging, particularly given the potential impact of a dynamic environment on the cost input assumptions. However, ensuring the analysis and assumptions are robust, transparent and sensitivity tested will be paramount to instil confidence in the process with industry and the community.

AEMO is well placed to undertake this important analysis. We understand that it has been testing its assumptions, scenarios and sensitivities with transmission and distribution network service providers (TNSPs and DNSPs), and we encourage this collaboration. However, we consider the testing of assumptions regarding the cost and development potential for distributed energy resources and new technologies would benefit from a wider engagement with suppliers and project developers.

If you have questions regarding this submission or wish to arrange a meeting to further discuss our views, please contact Mark Wilson on (08) 8213 3419.

Yours sincerely

Paula W. Conboy  
Chair  
Australian Energy Regulator

Sent by email on: 05.03.2018

## AER response to questions

### Question 2.1: What are the key factors which can enable generation and transmission development to be more coordinated in future?

In the Consultation Paper, AEMO identified several material questions facing infrastructure planners in the National Electricity Market (NEM). While there are multiple key factors, in our view, one of the most important factors is the extent that aggregated load shifting and price-responsive load management, made available through investment into distributed energy resources (DER) will reduce the need for large-scale generation and transmission development.

In light of this, we strongly support AEMO's proposed scenario design for the ISP which provides as one sensitivity, how highly orchestrated DER could influence future large-scale infrastructure developments. In doing this, it would be helpful to carefully consider:

- The impact of increased DER uptake in light of forecast price reductions in small scale generation and storage. This may involve more aggressive assumptions on battery/storage take up, cost or efficiency improvements in wind turbine efficiency and services they deliver, or changes in alternative technologies.
- The interplay between changes in DER penetration, disconnections from the grid and changes in network charges following transmission upgrades to support potential Renewable Energy Zones (REZs).

We would be pleased to continue to work with AEMO on this issue.

### Question 3.1 Does this analysis capture the full range of potential REZs in eastern Australia?

While AEMO appears to have proposed a large range of REZs for consideration, we are not well placed to comment on whether there are additional potential REZs to explore.

However, given the range of REZs initially identified, we support the intention of AEMO's output expressed in the Consultation Paper to, 'perform a high-level assessment of the relative economics of each REZ, to rank the most prospective ones and inform future decisions on how to develop the transmission network'. We agree it is essential to narrow down the range and to make an informed decision when ranking potential REZs in terms of the net benefits AEMO expects could be delivered across the NEM.

This includes the use of qualitative commentary on factors that warrant close consideration in the regulatory investment test for transmission (RIT-T) for a particular network investment. The AER will continue to work with AEMO on this area.

We recognise that ranking potential REZs will be a difficult task to achieve by mid-2018, such that a trade-off might emerge between making more informed recommendations on potential REZs and meeting this deadline.

### Question 3.2 What other factors should be considered in determining how to narrow down the range of potential REZs to those which should be prioritised for development?

We broadly agree with the factors AEMO has highlighted in its Consultation Paper. However, we consider that the fundamental factor in determining the range of potential REZs should be the extent to which they contribute to the achievement of the national electricity objective, and relatedly, the strategic development of the NEM. The weight, if any, given to the objective of promoting regional economic growth should only be considered in that context. It

may be that this factor is only relevant to the extent that state governments guarantee or commit funding to particular investments. In this case, it should be captured in a different factor—such as the cost of the network upgrade or extension, rather than as promoting regional economic development.

We would also be keen to understand the weight AEMO intends to place on the benefits of smoothing aggregate wind and PV generation across the NEM and avoiding concentrating too much renewable generation within an area. This could reduce the relative attractiveness of some potential REZs identified in South Australia, which already has a high penetration of renewables relative to other parts of the NEM, for example.

We also note that, after carefully considering these factors, and taking into account the Finkel review finding that it may be many years until network investment occurs to connect particular REZs due to reasons of commercial attractiveness and economic efficiency, that, the optimal number of REZs to prioritise for development, at this stage, might be zero. That is, it may well be that after taking a NEM-wide perspective on strategic infrastructure development, a more distributed grid delivers a higher system-wide net benefit than a more centralised grid based around REZs.

### **Question 3.3 What are the potential barriers to developing REZs, and how should these be addressed?**

To the extent a REZ is economically attractive, but its attractiveness is contingent on multiple parties making investment decisions, there will be benefits in coordinating private investment. The Finkel review identified that the publication of the ISP itself would help this as it will:

- Send a clearer signal to investors about the proposed future of the transmission network, enabling them to make informed decisions about where to plan new renewable generation capacity.
- Inform governments of what potential priority projects they could support if the market is unable to deliver the investment required to enable the development of REZs.

The AEMC's current program for developing a reporting regime on drivers affecting future generation and transmission investment will further assist in identifying and addressing barriers to coordinating generation and transmission investments

### **Question 4.1 Have the right transmission options been identified for consideration in the ISP?**

Our response to 3.1 similarly applies to the identified transmission options

### **Question 4.2 How can the coordination of regional transmission planning be improved to implement a strategic long-term outcome?**

We support the coordination of regional transmission planning, and have the following suggestions on this matter:

- The ISP in of itself will play a helpful role in facilitating coordination of regional transmission planning. We note that AEMO's National Transmission Network Development Plan had a similar role. However, as AEMO has pointed out, the ISP will be more thorough and will be underpinned by more sophisticated modelling techniques. We are supportive of this task and reiterate the importance of AEMO's work in ensuring that the assumptions behind its modelling are robust, transparent and sensitivity tested.

- In coordinating regional transmission planning, it is important to take an energy market-wide perspective. A component of this entails considering how transmission investments will affect gas transmission and distribution investment.
- The ISP itself should be complemented by joint planning between AEMO, the TNSPs, DNSPs, and where applicable, non-network service providers. The network planning framework allows for joint planning and supports engagement with non-network service providers. While joint planning occurs, we support it being used more extensively and transparently, particularly given the interrelationship between the increased penetration of DER, and the possibility of replacing retiring coal generation with REZs.
- While individual TNSPs often conduct investment tests in each region as a cost–benefit analysis called the RIT–T, TNSPs are required to consider inter-regional effects as part of the framework. It is possible that, in practice, inter-regional costs and benefits are insufficiently considered and RIT–T proponents insufficiently coordinate their efforts with other market participants to understand broader costs and benefits. If this is the case, we would like to explore how we can better encourage such efforts through our review of the RIT–T (along with the RIT–D) application guidelines, which we have recently commenced.

#### **Question 4.3 What are the biggest challenges to justifying augmentations which align to an over-arching long-term plan? How can these challenges be met?**

We welcome the opportunity to provide further input to AEMO on this point when more details are released in the inaugural ISP, which aims to provide an over-arching long-term plan.

#### **Question 4.4 Is the existing regulatory framework suitable for implementing the ISP?**

We expect to provide a more detailed input to AEMO after it publishes its first ISP, as this will enable us to provide a more informed view on whether the existing regulatory framework will be suitable for implementing the ISP.

Based on the content in the Finkel Review and AEMO's Consultation Paper, our view is that the ISP should align with the regulatory framework. This content suggests the ISP will be a long-term strategic development plan to deliver continued reliability and security, at least long-term cost for consumers, while meeting emissions reduction targets. In our view, this should generally align with the objective of the regulatory framework to deliver a reliable, secure and affordable energy supply in the long-term interests of consumers. As such, ISP implementation would generally fit well with the regulatory framework as this would entail:

- As AEMO identified, it will publish an ISP that considers transmission development options along with what makes a successful REZ and, if REZs are identified, how to develop them. This will include a high-level assessment of the relative economics of different REZs. This will enable the REZs to be classified according to how prospective they are, and informing future decisions about the network projects that warrant further detailed examination through the RIT. As discussed in 3.1, this would include any location specific factors that warrant special consideration.
- As the Finkel review identified, once publicised, the ISP will:
  - Send a clearer signal to investors about the future plan for the transmission network, enabling them to make more informed decisions about where to plan the location of new renewable generation capacity.

- Inform governments of what potential priority projects they could support if the market is unable to deliver the investment required to enable the development of REZs.
- As the Finkel Review identified, augmentations in line with the ISP would be evaluated through the RIT–T process or its successor. To pass a RIT–T, transmission investments must have a positive net benefit or have the highest net benefit (which could be negative) in addressing a reliability obligation. We consider this should align well with the ISP because, when applying a RIT–T, a RIT–T proponent will consider market-wide benefits, including inter-regional impacts and wholesale market benefits. To the extent that governments want to support priority projects by guaranteeing the connection of generation or providing project funding, the RIT–T should capture the benefits associated with this. To this extent, as the Finkel Review stated, and as the Consultation Paper recognises, the ISP is an extension rather than a substitute for the RIT–T process. The RIT–T process is of particular importance in assessing and informing decisions on projects, for which electricity consumers pay. As such we are of the view that the ISP and the RIT–T process will work effectively in combination to provide an appropriate level of planning and regulatory scrutiny in the long term interest of consumers.

These factors suggest the implementation of the ISP should align with the regulatory framework.

We also note that the AEMC is currently:

- Reviewing whether to change the regulatory framework in relation to transmission charging and planning arrangements, as well as access arrangements in the NEM.
- Implementing a reporting regime on drivers affecting future generation and transmission investment. This is with a view to assisting governments and industry in considering whether net benefits would be derived from adopting a transmission framework that allows for better coordination between transmission and generation investments

To the extent that aspects of the regulatory regime should change to support ISP implementation, where the coordination of transmission and generation investment will be important, we consider the AEMC's analysis and findings will be useful for answering this question, and/or addressing any potential issues with the current regulatory framework.