

19 September 2017

Mr John Pierce  
Chairman  
Australian Energy Market Commission  
PO Box A2449  
Sydney NSW 1235

Lodged online via: [www.aemc.gov.au](http://www.aemc.gov.au)

Dear John,

### **EPR0052 Approach Paper: Coordination of generation and transmission investment**

TransGrid welcomes the opportunity to respond to the AEMC's approach paper on the coordination of generation and transmission investment.

TransGrid is the operator and manager of the high voltage transmission network connecting electricity generators, distributors and major end users in New South Wales and the Australian Capital Territory. TransGrid's network is also interconnected to Queensland and Victoria, and is instrumental to an electricity system that allows for interstate energy trading.

TransGrid supports a review of the coordination of generation and transmission. The current framework under the National Electricity Rules (NER) has flaws which are likely to become even more problematic in the context of the rapidly changing energy sector, particularly the transition towards renewable energy and its implications for the future transmission network.

As recognised by the AEMC, efficient coordination of generation and transmission investment is most likely to occur when their combined costs are taken into account. Under the current framework incremental decision-making by generators and incremental network augmentation assessments under the regulatory investment test (RIT-T) can lead to a sub-optimal combination of generation and transmission investment when viewed on a system-wide basis. This is further exacerbated by the fact that generators can request connection to any point on the transmission network. The current lack of coordination leads to higher customer bills in the long run.

TransGrid believes the focus should be on the long term interests of consumers, and the combination of mechanisms which will support those interests. This aligns with the National Electricity Objective (NEO). Where market-based mechanisms alone do not lead to efficient outcomes, there is a strong case for other measures to be introduced. We believe that the coordination of generation and transmission clearly falls into this category.

Resolving this investment coordination issue is central to the development of the NEM and the scope of this review could involve significant changes to the framework. The timeframe of the review and the level of stakeholder engagement need to be commensurate with that scope. More specifically, TransGrid is concerned that:

- > the approach paper does not describe a structured program of stakeholder engagement and consultation; and
- > the production of an options paper in November suggests a rapid narrowing of options without the necessary supporting analysis and consultation, and before there is clarity about the wider interactions and overlap of this review with other reviews currently underway.

We appreciate the opportunity to comment on the approach paper and look forward to engaging further with the AEMC during this review. If you would like to discuss this submission, please contact Rachel Houston on 02 9284 3336 in the first instance.

Yours faithfully,



Anthony Meehan

**Executive Manager, Regulation**

## Attachment: TransGrid response to specific AEMC consultation questions

### Question 1 Transmission charging arrangements – issues

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

The AEMC has identified a range of issues that have arisen under the current framework, in particular the potential for generators to make locational investment decisions that do not take account of transmission costs and may lead to higher overall costs to consumers.

TransGrid agrees that the review should consider changes to transmission charging arrangements, including the option of generators being charged for the use of the shared transmission network, and the introduction of a locational signal. However, we note the complexity of issues that arise when considering generator TUOS charges (discussed further below). Furthermore, generator TUOS charges are unlikely to ensure an efficient combination of generation and transmission investment. Other mechanisms, including coordinated network planning, play a central role in promoting the lowest cost of system-wide investment for the long term interests of consumers.

We also agree that the treatment of large scale batteries needs to be resolved.

### Question 2 Transmission charging arrangements - options

- (a) Are any of the above options worth of further consideration, or no further consideration? Why? Why not?
- (b) Are there any additional options that should be considered through this Review?

TransGrid supports consideration of the options outlined by the AEMC. However, the options outlined should not be seen as mutually exclusive – a special registration category for storage should be considered, regardless of whether or not TUOS charges are introduced for generators. A separate registration category for storage would recognise that its characteristics do not sit easily within the existing categories in the NER.

The options outlined by the AEMC are very high level. If TUOS charges are to be introduced for generators, there are a range of options and more detailed issues to consider, including the arrangements for access and planning. Applying the current TUOS pricing methodology used for load customers would not be appropriate for generators for a range of reasons, and additional issues arise. For example:

- > How would a locational signal for generators be determined? Current TUOS charges have a limited locational element which is largely backward-looking. If locational charges are introduced for generators, to what extent would they reflect use of existing network assets versus future investment needs? How would future investment needs be incorporated, particularly in the context of uncertainty?
- > TUOS charges for customers have side constraints to avoid price shocks. To avoid distorted price signalling, what sort of price volatility would be considered acceptable for generators from one year to the next? Would a transition period be required and how could the need to avoid shocks be balanced with the need for coordinated investment?
- > TUOS charges for customers reference their maximum demand. What is the appropriate mechanism for calculating generator TUOS charges? Does the approach need to consider that intermittent generators may not be running at maximum at peak times?

- > The introduction of TUOS charges on generators would likely come with additional processes and administrative costs for generators and TNSPs. These added costs will be viewed as additional operating costs by generators and will ultimately be passed on to the end user.

Finally, we reiterate that generator charges are not a panacea for the challenges of coordinating generation and transmission.

### **Question 3                      Transmission planning arrangements**

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

The AEMC has understated the role of integrated planning in providing the basis for coordinating generation and transmission at least cost to consumers. The current framework results in incremental generation and transmission investment decisions. In the past, this did not lead to significant inefficiency because generator fuel sources were generally close to the existing network. In the future, this incremental approach will not lead to the lowest overall system cost. These problems arise from a range of factors including the lack of any locational signal for generators, and deficiencies in the current regulatory investment test for transmission (RIT-T).

In the future, where the best locations for new (renewable) generation is further from the existing network, providing customers with least cost 'delivered energy' via a combination of generation and transmission will require coordinated planning. The 'integrated grid plan' recommended by the Finkel review would advance this objective. As noted by the AEMC, network businesses including TransGrid have started considering the development of 'renewable energy hubs'. However, TransGrid contends that the current NER presents challenges where the lowest cost 'delivered energy' option involves a strategic transmission investment that will service a number of generators into the future. Currently, generators are reluctant to participate in coordination processes which are allowed under the NER.

The Finkel review also proposed a framework for evaluating projects that could incorporate government involvement, including the development of an evaluation framework by the AEMC. The AEMC's approach paper does not clarify whether the AEMC intends to develop this evaluation framework as part of the current review. Furthermore, the paper does not address how a 'national plan' or 'national planner' might interact. These issues are integral to the coordination of generation and transmission.

### **Question 4                      Transmission planning arrangements - options**

- (a) Are any of the above options worth of further consideration, or no further consideration? Why? Why not?
- (b) Are there any additional options that should be considered through this Review?

We note that one of the options put forward by the AEMC, where generators group together to jointly fund transmission investment, has had very limited success to date. In a contestable market new entrant generators are often unwilling to share information or work with other new entrants to get the best network solution. Furthermore, new entrant generators are at different stages of development so may not be in a position to negotiate transmission investment jointly with other generators.

TransGrid is concerned that the options have been narrowed too quickly given that this is the first paper in the review, and given the overall context of energy sector reform following the Finkel review. For example:

- > What is the role and purpose of national planning? Who should undertake planning and how should these bodies interact? How does this review interact with and take account of the work being done to develop an Integrated Grid plan?
- > What are the different options for planning and developing renewable zones, and recovering the costs of there? To date fuel sources have been limited to certain areas, but solar energy development may occur over a wider area. Like other TNSPs, TransGrid has started to consider where the best generation locations might be (in terms of resource quality and existing land use) and how these could be efficiently integrated into the NEM. The best approach needs to consider the practical barriers as well as the best theoretical arrangements.
- > How should 'strategic investments' (such as renewable zones) be evaluated? The current RIT-T guidelines present challenges for assessing strategic network investments, particularly where future generation plans and technology costs are uncertain.
- > What is the link between strategic transmission investments and cost recovery? Once an efficient integrated grid plan has been developed, the focus should be on ensuring it is implemented efficiently and safely, with no impact on system security, rather than revisiting the need for investment on an incremental project basis.

#### **Question 5                      Transmission access arrangements**

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

TransGrid agrees with the AEMC's observation that increasing levels of intermittent generation are posing challenges for forecasting generator dispatch and the associated impact on networks.

As noted by the AEMC, transmission pricing issues must be considered jointly with access conditions, with allowance made for future conditions and not what we can observe now.

#### **Question 6                      Transmission access arrangements - options**

- (a) Are any of the above options worth of further consideration, or no further consideration? Why? Why not?
- (b) Are there any additional options that should be considered through this Review?

The AEMC has outlined a wide range of options, some of which could involve fundamental changes to the NEM design. This demonstrates the need for a measured review with clearly defined objectives, and adequate time for analysis and stakeholder input and consultation, in order to identify the most appropriate options.

We note that the 'status quo' option includes not only an open access arrangement, but also the potential for generators to negotiate with TNSPs for firmer access rights in return for negotiated transmission charges. TransGrid urges the AEMC to consider an option which enhances the existing negotiated access arrangements so that if generators and TNSPs negotiate firmer access, these will be reflected in wholesale market dispatch algorithms.