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Dear Energy Project Team

Review of the Regulatory Investment Test for Transmission

AusNet Services is Victoria's largest energy delivery service business. The company owns and operates the majority of Victoria's electricity transmission network, as well as electricity and gas distribution networks.

We are pleased to have the opportunity to make this submission into the Review of the Regulatory Investment Test for Transmission (RIT-T), in response to the Energy Project Team's consultation paper dated 30 September 2016 (the Consultation Paper). The review is important and timely, having regard to the rapidly increasing proportion of renewable and intermittent energy in the power system, and the new challenges this brings in ensuring power system security and reliability of supply for customers.

In the future inter-regional power transfer capability and other benefits of robust connectivity will continue to play an important role in ensuring efficient and dependable electricity supply for consumers in all NEM states. Interconnectors may play an even greater role than in the past. It is important that the RIT-T provides confidence that the right and most efficient solutions are identified, having regard to the level of uncertainty surrounding carbon abatement policy and in projecting advances in technologies such as distributed renewable energy and energy storage.

In its introduction, the Consultation Paper identifies two key aspects for the review. These are:

- Whether the RIT-T is, in its design and application, working effectively to deliver optimal NEM investment outcomes in all circumstances; and
- Placing a particular focus on the test's application to interconnectors, in light of their distributed benefits and importance to all regions of the NEM.

Our submission addresses each of these points. Some improvements for assessment of network investment options could be made. Critically, given the very high cost that may be incurred in interconnector augmentation it is essential that there is a competitive process for delivering the preferred interconnector services, as this is the only way to ensure that new infrastructure is built and operated at the lowest cost to customers.

RIT-T Process

The RIT-T is a transparent economic benefits test which TNSPs must conduct, primarily to identify the preferable investment to address emerging constraints on the TNSP's network that affect its service obligations. The test requires both network and non-network options to be considered.

The test at the moment appropriately requires TNSPs to consider a wide range of NEM-wide impacts of interconnection investment such as generation mix, ancillary services, competition

benefits and optional value. It also seeks to test interconnection options under a range of reasonable scenarios with a view across the NEM, not just within one jurisdiction.

Interconnectors play an important role in facilitating diversity of a region's supply. This has always been of value to the NEM but has additional benefit for an energy future which has a growing proportion of renewable energy sources. For renewables, diversity encompasses the environmental conditions required for generation, in particular the presence of wind and sunlight.

Some power system events, such as resulting from the recent storms in South Australia, that occur only rarely can have extremely significant consequences, and it is difficult for normal reliability of supply benefit approaches to capture the implications actually felt by society when these occur. The RIT-T could be improved by providing greater clarity on methodology to ensure these major event costs are properly accounted for.

A further consideration is the emergence of new technologies, such as batteries, with as yet immature markets. Depending on assumptions made regarding the cost and performance of these technologies over the assessment period the RIT-T outcome may be sensitive to these assumptions. This leads to playing off the merits of incremental solutions with shorter term benefits, providing time to observe the development of new technologies, against the benefits of high capacity augmentations. Additional guidance, potentially through the RIT-T Application Guidelines, on how 'option value' should be appropriately considered would be beneficial.

Benefits of Competitive Interconnector Augmentation

The benefits of competitive service provision have been recognised by COAG EC in its Rule Change Proposal for Transmission Connection and Planning Arrangements. An objective of the rule change proposal is to enhance contestability in transmission connection arrangements.

As the AEMC's review of the Rule Change Proposal has progressed the scope for contestability under consideration has grown from Connection Assets only, to include augmentations to the Shared Network required on account of the new connection. The majority of stakeholders have supported an increased scope for competitive network service provision. The AEMC will release its final decision on this rule change request in November 2016.

A key benefit of competitive service provision is that it encourages innovative, cost-effective solutions. Competition has the potential for significant benefit on interconnectors, where the projects may be very high cost. The addition of a NSW-SA interconnector for example, is currently estimated at half a billion dollars. If a service performance specification was provided for a project of that scale, there is little doubt vigorous competition to win a service contract would be created. This would drive new ideas and result in the lowest possible project cost, meaning lower power bills for customers who fund it.

Compared to a monopoly provided service, competition in transmission service provision has only upside for consumers.

Framework for Contestability

Contestable interconnector service provision would require some independent functions to be established, to enable the incumbent TNSPs and others to compete fairly. In particular this would be oversight of the competitive tendering process. An approach requiring the least change would be a requirement for the regional TNSPs responsible for providing the interconnector to assign an independent technically qualified party to conduct the tender process and select a service provider. The NER would provide principles to ensure a fair and accountable process.

Once a service provider has been selected and commercial terms settled for the provision of the service, the regional TNSPs would assume contractual and network pricing responsibilities for the interconnector.

Our conclusion is that a contestable framework for the provision of interconnector augmentation can be practically implemented and is the only approach that will give confidence that infrastructure is built and operated at the lowest possible cost to customers.

The remainder of this submission, contained in the attachment to this letter, addresses the questions raised in the Consultation Paper.

We would be pleased to discuss our submission with the Energy Project Team. Please contact Kelvin Gebert, our Regulatory Frameworks Manager, if we can assist in this way.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Tom Hallam', written in a cursive style.

Tom Hallam

General Manager Regulation and Network Strategy

Attachment to AusNet Services Submission

COAG Energy Council Review of the Regulatory Investment Test for Transmission

This attachment provides AusNet Services responses to the questions raised in each section of the Consultation Paper.

The RIT-T and interconnector investments

1. Are there specific aspects of interconnector projects that present particular challenges to the application of the RIT-T?

- Interconnectors provide diversity of supply in a region, which may take on greater importance with a higher proportion of renewable generation. The improved security of supply provided in this way may be difficult to capture in the benefits assessment. This is discussed further in response to question 11
- The current environment exhibits rapidly changing generation mix and load / generation locational mix. The implications are found to be extremely complex, and understanding and responding to these involves both operational specialisation and planning specialisation. The RIT-T requires TNSPs to consult with stakeholders, including AEMO, and it should be expected that AEMO in return will respond with any comments in relation to alignment with inter-regional power system performance requirements

Interaction of the RIT-T with other aspects of the regulatory frameworks

2. Do existing transmission planning processes/incentives support the timely initiation of a RIT-T to assess options to relieve existing or emerging transmission constraints?

- The planning processes which precede the conduct of a RIT-T, including the National Transmission Network Development Plan as well as the Transmission Annual Planning Reports must fully account for the implications of power system constraints and their likely emergence to ensure timely initiation of the RIT-T. Our experience is that on occasions assets are constructed too late. This is also discussed in response to question 9.

Role of the RIT-T in a changing energy market environment

3. Do the RIT-T process and related planning frameworks adequately take in to account the evolving technology and policy environment? If not, how should they be included as part of the RIT-T process to support assessments/decisions about economically efficient options?

- Some uncertainty can arise on inclusion of future policy positions in modelling for 'future world' scenarios. The inclusion of an implicit carbon price is an example, since the future mechanism is not known. However it can be used as a proxy for mechanisms generally to drive carbon reduction goals. Whilst it is understood that this approach is acceptable, dispute is likely to occur, and this would extend or jeopardise RIT processes. A mechanism to clarify assumptions that have no precedent would be helpful as an option available to the proponent

- There may be a range of interconnector options, some not initially apparent for various reasons. The process must ensure that all are included in the proponent's assessment, and treated equally on their merits. This is a particular issue in relation to Victoria, where it sits between other jurisdictions and where its network can clearly facilitate stronger NEM interconnectivity for Tasmania, South Australia and New South Wales. Yet there is potential for bypassing some solutions to those proponents more prominent in the planning process and public messaging. This is partly due to the Victorian structural arrangements, where AEMO (in its Victorian transmission planner capacity) does not act as an incentivised proponent.
- The RIT-T allows the inclusion of evolving technology solutions, however this requires assumptions to be made regarding cost projections and performance in immature markets. There may accordingly be lower confidence in such solutions and they may not be satisfactorily dealt with. One way to account for such uncertainty where there is prospect that new technologies could significantly influence the outcome of the test is to apply option value considerations, which may lead to more incremental solutions and allowing a change of course in the medium term, being identified as preferable in the circumstances.

RIT-T Performance

4. Does the RIT-T process adequately assess all benefits interconnectors provide, including the contribution to efficiently achieve national carbon reduction goals, wholesale market competition and power system security and stability?

- Generally the RIT-T scope for benefits is sufficiently broad to capture market benefits permitted by the NEL and NER, and we do not dispute those principles.
- However, as noted earlier, there will be instances where assumptions used in modelling of scenarios do not have precedence, and a mechanism should be available for the proponent to obtain clarification, potentially involving policy support as well as AER ruling, prior to expending significant resources and time. This would also avoid later dispute that would jeopardise the process
- VCRs have been reviewed recently by AEMO, and these have reduced dramatically. Potentially, these do not reflect the implications of power system failure, and analysis may be necessary to see if there is a gap, and what drives this. There is some conjecture that VRC, as surveyed, increases after significant customer interruption events and therefore this needs to be part of the VCR assessment process
- For critical network interconnections however, High Impact Low Probability events should be weighted proportionate to their consequence for the purposes of the RIT assessment. The RIT-T could be improved by providing greater clarity on methodology to ensure these major event costs are properly accounted for
- The RIT-T guideline could include more practical examples of how existing market benefit categories of the impact on ancillary services and option value could be calculated

5. Is the RIT-T, as currently framed, appropriate to the assessment of interconnection investments? If not, what changes and/or alternative mechanisms should be considered?

- The test currently and appropriately requires TNSPs to consider a wide range of NEM-wide impacts of interconnection investment including:
 - Patterns of generation dispatch;
 - Ancillary services;

- Competition benefits;
- Option value; and
- Any penalty for not meeting the renewable energy target.

This ensures that interconnection options are tested under a range of reasonable scenarios with a view across the NEM, not just within one jurisdiction.

- Importantly, customers will benefit if the investment is contestable. Otherwise there is high risk that customers will pay too much for network solutions. Potential approaches are discussed in the opening section of this submission

Timeliness and efficiency of the RIT-T process

6. Are there any particular barriers to the timely and effective conduct of the RIT-T?

- Refer response to question 7.

7. Does the current RIT-T process strike the right balance between speed and efficiency versus a comprehensive and consultative process?

- It is critical that the starting point is timely. This will only occur if the transmission planning arrangements and coordination with developing operational scenarios, are appropriately accountable. Confidence in published planning documentation facilitates understanding in advance of the RIT-T, which facilitates that process in due course.

8. Are compliance costs associated with applying the test commensurate with benefits consistent with the guidelines? If not, how could a better balance be achieved?

- RIT-Ts in Victoria are conducted by AEMO, and accordingly we do not have the experience to respond to this question

9. What has been your experience of the RIT-Ts carried out to date?

- Do you consider that they have delivered timely and effective investment outcomes?**
- Do you consider the process has particular issues, problems or limitations?**

- Our experience is that projects are not always timely. The recent Heywood interconnector augmentation is an example. Project timing meant that outages were happening at the time the extra capacity was required. Exacerbating this impact, during Heywood outages AEMO introduced a new market constraint which cost SA customers \$30m but this was not modelled for the RIT as it was a new operating practice. Forecasting these constraints and costs is problematic.

10. Should the RIT-T process be streamlined for certain types of investment? If yes, by whom and on what grounds should those investment types be determined?

- This would not appear warranted, to ensure proper transparent economic analysis.

Design features

11. Do transmission investment decisions made using the RIT-T take into account the full value of the options considered to those who produce, consume and transport electricity in the NEM?

- In the current environment this is challenging, in particular, incorporating robust consideration of system security factors such as the impact of reducing system inertia with increased penetration of wind and solar generation. Impacts from these system limitations have not previously been evident as they have been a byproduct of conventional generation. Operational approaches, including markets and generator performance standards, to ensure greater controllability are yet to be established. The implications are that it is necessary to have an integrated power system market and operations perspective in assessment of the test, and until operational mechanisms are established, demonstrated and can be quantified in the benefits of a RIT-T, uncertainty surrounds these options. In addition, scenarios will need to include projections for inertia in the NEM as a whole, and the response mechanisms that might accompany these projections.

12. Is the current range of allowed costs and benefits appropriate? If not, what other costs or benefits should be captured in the test?

- The current range of costs and benefits is appropriate (refer to response to question 5). Clarification could be provided however, including in examples in the guideline, on how environmental factors such as carbon abatement policy should be incorporated. This was also discussed in response to question 3.

13. Is greater clarity required in the NER or guidelines on how implemented government policies should be accounted for in assessing investment options? Are there other aspects of the NER or guidelines, such as option value assessments, which could be clarified or improved?

- Yes, as noted in response to earlier questions.
- We agree that option value assessment is an important consideration, particularly in the current environment where new technologies may mature and have implications for investments. Guidance on incorporation of option value considerations in the assessment of alternatives would be beneficial.

Conduct and oversight arrangements

14. Are the transmission businesses best placed to undertake the assessment of interconnection investments in the changing energy market? If not, who should be involved and who should be the final decision maker?

- TNSPs have planning and service obligations and incentives that make them best placed to undertake the RIT-T, including for interconnectors. However, as noted in response to question 1, there is also a role for AEMO in the assessment of interconnector investments.
- The additional services arising from the RIT-T outcome should be provided via a competitive process, whether the outcome is a non-network or network solution. A key benefit of competitive service provision is that it encourages innovative, cost-effective solutions. Competition has the potential for significant benefit on interconnectors, where the projects may be very high cost. An approach that could be applied for contestability for network services is discussed in the opening portion of this submission.

15. Is the level of oversight afforded to the test sufficient to ensure rigorous consideration of all credible options?

- Yes. The Rules provide for consideration of the range of options to alleviate power system constraints that could be alleviated by network augmentation, and which provide a rigorous and transparent consultation process, including dispute process.