

11 January 2013

Mr Philip Weickhardt  
Presiding Commissioner – Electricity Network Regulation Inquiry  
Productivity Commission  
Level 2, 15 Moore Street  
Canberra 2600

Email to: [electricity@pc.gov.au](mailto:electricity@pc.gov.au)

Dear Mr Weickhardt and Dr Craik

**Re: Draft Report - Inquiry into Energy Network Regulation  
National Transmission Planning Arrangements and TNSP Incentives**

I wish to thank the Commission for the opportunity to discuss reform to NEM transmission structural arrangements at the Commission's public hearing in Melbourne on 27 November 2012. This has been a difficult subject in many reviews since the commencement of the NEM 14 years ago. As the Commission observes in its Draft Report, *'all arrangements have their pros and cons — there is not any perfect solution'* (15.7, p 517). Nevertheless, to work toward achieving a consistent approach is important for an effective 'national grid'.

At the conclusion of our evidence before the Commission you invited me to supplement SP AusNet's submission of 23 November with suggestions on preferable structural arrangements having regard to a national planning function, and incentives to invest in transmission services, and considering the risks of both under-investment and over-investment. The intention, in the words of the Commission, was "to come back to us with a description of what they think might make our proposal workable"<sup>1</sup>.

In responding to your invitation with this further submission, I want to firstly restate that SP AusNet is not advocating change to the arrangements as they apply in Victoria. SP AusNet has operated within the Victorian framework for 18 years and has found the arrangements to operate reasonably well.

Having said that, we have taken the opportunities provided by the Commission's review and the Australian Energy Market Commission's Transmission Frameworks Review, to inform stakeholders of the deficiencies we think need to be recognised and taken into account when weighing up the model and variants of it against alternatives, for a national regime.

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<sup>1</sup> Productivity Commission, Transcript of Proceedings at Melbourne on 27 November 2012, page 101

An important consideration is the alignment of responsibility for transmission functions with the parties who can most effectively and efficiently manage the various risks. We commented on this in our earlier submission, as follows:

“Actual experience however is that it is extremely difficult to assign risk to the parties in rigorous contracts consistent with the intended allocation of responsibilities. This is because the separation effectively makes two separate entities responsible for the provision of transmission services, which is generally viewed as heavily integrated.

It is difficult to assign liability meaningfully to AEMO since it is not a commercial organisation, and can only pass-on its liabilities to consumers. The interdependence between functions is such that it is difficult to see how blame for any network service impact to consumers involving outage of plant would not be levelled at the operator (who’s network caused the issue), regardless of the adequacy of network provided by the planner”.

A conclusion to be drawn therefore is that the incentives within the regulatory regime will be the most effective where there can be no question about accountability. Building a single point of accountability for the performance of transmission services into the transmission framework streamlines the end to end service delivery chain and should provide for arrangements which are robust (clear accountabilities) and responsive to the investment needs (the buck stops here).

Our submission builds on this conclusion and explains how this can work effectively in practice for the benefit of consumers. Conversely, the Commission’s preferred approach includes an independent central planner making investment decisions which network operators would implement. This separates accountabilities, and in a number of reviews over time SP AusNet has noted that weaknesses would need to be addressed for this (i.e. the Victorian arrangements) to be extended to national application. In responding to the Commission’s invitation we have considered what amendments might be made to address some of the weaknesses. This assessment is contained in the Appendix.

A national planning function is nevertheless critical to the effectiveness of the NEM’s transmission arrangements, and in fact provides the cohesion required for a ‘national’ grid. As the Commission has identified in its draft report and discussions subsequently, exploiting ‘network effects’ which are not bound by state boundaries requires an objective network wide view to be applied in assessing investment needs and options to maximise the long run benefits for consumers overall. At the same time it must be recognised that many, and possibly the majority of, investment decisions will relate to entirely localised factors. The important thing is for transparency in both local and national flow path planning, and for each to inform the other, so that coordinated, mutually supporting plans are developed.

In its role as National Transmission Planner AEMO is required to publish a National Transmission Network Development Plan (NTNDP) each year. The NTNDP has an outlook period of 20 years. AEMO’s website overview statement for the 2011 NTNDP makes the following statement concerning the purpose and scope of this aspect of the national planning function:

*‘The National Transmission Network Development Plan (NTNDP) aims to provide to provide the energy industry with a comprehensive information source to enable dialogue and support the development of nationally efficient transmission planning.*

*The 2011 NTNDP provides an independent strategic plan for the National Electricity Market transmission network.*

*Building upon the conclusions from the 2010 NTNDP, the 2011 NTNDP explores the benefits of a strong national transmission backbone (referred to as NEMLink), as well as examining the integration of large amounts of renewable energy and the role of gas powered generation as Australia moves towards a low carbon future.*

*The 2011 NTNDP report also looks at the introduction of new technologies that will impact on demand, while also providing information about generation and interconnector development for a range of sensitivities to a series of scenarios developed for the 2010 NTNDP’.*

These are important national perspectives, which must be taken into account in the development of detailed transmission service plans. In the first instance this would be through the annual planning reports prepared by TNSPs. The planning horizon for this purpose is 5 years. This timeframe for investment planning integrates well with projections for national flow path adequacy and longer term outlook provided by the NTNDP. The two planning processes are complementary, and each informs the other. The parties (AEMO and TNSP) may also participate in the development of each other’s plan, to facilitate NEM wide co-ordination. Co-ordination between individual TNSP plans is also facilitated by the NTNDP, and the increased transparency of inter-regional factors that this brings.

AEMO also has the ability to pass judgement on TNSP planning in several ways: through participation in the TNSP implementation of the Investment Test, and through provision of independent advice to the AER in respect of TNSP investment plans. It is important that the development of such a role for AEMO is transparent.

Whilst the fundamental components of a robust transmission service framework exist, it is clear that the national oversight function could be strengthened, making TNSP planning more accountable. This would include the following features:

1. AEMO top-down demand forecasting providing a cross-check for TNSP bottom up forecasting.

AEMO carries out energy and demand forecasting for its market operations functions, and also requires this information for its national transmission planner functions. However, forecasts built on a top down basis may not provide the granularity required to assess the economic benefits of investment options to relieve more localised network reliability risks. Importantly however, it would be incumbent on the TNSP’s forecasting to be so inherently robust that stakeholders, including the AER, have confidence in its outputs, in respect of correlation with AEMO’s top down forecasts.

2. Independence in setting of transmission reliability standards.

Independence (from the investment decision maker and investor) in setting reliability standards is an important principle to mitigate against potential conflict of interest. For structural arrangements where AEMO has such independence, there are advantages in AEMO being responsible for this function. It facilitates the skills required for AEMO’s national planning functions and information for those functions, and strengthens AEMO’s ability to monitor TNSP response to the standards. An alternative that has been proposed through the December COAG meeting is for the AER to implement planning standards (perhaps principally for distribution networks but potentially this would also apply to transmission). This alternative also involves the reliability standards framework being closely defined by the AEMC, a process which is now ramping up.

### 3. Monitoring and reporting on TNSP capital expenditure efficiency.

The AER is required to conduct an annual assessment of TNSP capital expenditure efficiency. This mechanism, established under new Rules released in November 2012 places further scrutiny on the planning and investment decisions of TNSPs. It provides a clear mechanism whereby the AER can express judgement on the investment performance of the TNSP, including treatment of individual network limitations. This new discipline placed on TNSPs provides information for the subsequent regulatory period revenue review and has reputational implications for the TNSP.

It can be expected that AER assessment of efficiency would have regard to, amongst other things, alignment between TNSP plans and with the NTNDP, the conduct of the regulatory investment test, actual investment decisions and outturn costs. The AER may also consult with AEMO in conducting its assessment (as noted earlier such reliance should be transparent).

This process will increase the national perspective of TNSP planning, as it will include scrutiny of network wide effects of the TNSPs transmission investment, and efficiency in this broader context. The AER's assessment of efficiency would be facilitated if a full cost-benefit test was conducted at the time of an investment commitment decision and as the basis for making that decision.

In our view, the disciplines imposed by the mechanisms available to the AER in regulating TNSPs provide the most transparent and superior solution to ensuring efficient network investment.

The second aspect of transmission arrangements you have invited SP AusNet to offer its views on are the incentive mechanisms that can be applied to TNSPs to encourage efficient levels of investment.

For electricity distribution, SP AusNet's experience is that well designed ex-ante incentives, combined with strong governance arrangements (as apply to Victoria's private network sector) are extremely effective, and that ex-post options are a very poor, administratively burdensome and unnecessary addition.

Many commentators have suggested that it is more difficult to apply financial incentives to transmission space, due to the inherent reliability of transmission systems that attenuates the linkage between investment and observed reliability performance (output measures and leading indicators). SP AusNet considers that ex ante incentives can be designed to be effective for transmission as well, however ex post disciplines can effectively supplement these. The capital expenditure efficiency assessment discussed above is an example.

Some incentive mechanisms that can be applied effectively to transmission service provision are discussed below.

#### 1. Contingency projects scheme

For those projects which are uncertain, for instance they may be particularly sensitive to network user decisions, the projects can be classified as contingent projects (either nominated by the TNSP or at the discretion of the AER) and excluded from the revenue path. This would apply for projects above a materiality such that the majority of network service response to increasing demand for services remained within the revenue cap and subject to the ex-ante expenditure efficiency incentives. When the nominated trigger events for the project are confirmed the AER conducts a capital expenditure allowance assessment for the project and the revenue path is adjusted

accordingly. The provision places greater control on the initial revenue provision and places the projects within the scope of the capital expenditure incentives. We note that the classification of contingent projects protects against over-investment specifically.

## 2. 'Demand for service' adjusted revenue mechanism

A scheme could be applied whereby revenue is adjusted at the end of the regulatory period to better reflect or balance for the change in demand for services. For example, in the United Kingdom generators pay network usage charges, and the regulator, Ofgem, has applied an incentive that adjusts revenue by a \$/GW amount based on the variation in new capacity connected to the network.<sup>2</sup> The example is not directly applicable in the NEM but demonstrates that strong ex-ante incentives together with true-up mechanisms can be applied to drive efficient service provision. In its decision document Ofgem observed "*We believe that our final proposals for revenue drivers, reliability incentives and innovation incentives address these issues effectively and proportionately*"<sup>3</sup>.

## 3. Capital expenditure benefits sharing scheme

The AEMC has introduced this incentive in the incentives 'toolkit' in its November 29 determination on the AER Rules Change Request. With the inclusion of a contingent projects regime this incentive is a much more effective tool for driving efficient levels of investment. For contingent projects the incentive would serve to reward the business for outperforming the capital expenditure allowance determined for the project. The incentive is expected to be effective in protecting against under-investment.

## 4. Network element availability incentives

Availability schemes have been developed and are applied to TNSPs by the AER to encourage good practice asset management behaviour. They are based on reward / penalty centred about benchmark plant availability. Because transmission networks are inherently reliable, this form of incentive substitutes for customer experienced service reliability. The design of schemes can be quite sophisticated, accounting for the importance of individual network elements to service reliability, the most critical periods, the potential impact on generation cost etc.

## 5. Transmission access rights

SP AusNet considers that a closer integration of the transmission sector with the wholesale energy market would lead to enhanced market efficiency and supports the progress being made through the Transmission Frameworks Review in assessing practical solutions.

Whilst the network availability incentive schemes, and regulated network augmentation plans, tend to focus on reliability for consumers, incentives for TNSPs to provide the level of service demanded by generators can be achieved through transmission access rights (the AEMCs optional firm access proposal is an example). Transmission access rights compensate the generator (with rights) for constraints limiting its ability to be dispatched. As the TNSP may be responsible for the constraints (other generators are the alternative causer) the TNSP is incentivised to manage network capability, availability and condition to support the generator's contracted access levels.

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<sup>2</sup> Ofgem, 4 December 2006, Transmission Price Control Review: Final Proposals, page 64.

<sup>3</sup> Ibid, page 61

Our conclusion is that there are a variety of incentive mechanisms to target aspects of transmission service provision that can be applied to encourage behaviour by TNSPs that will deliver the most efficient and reliable services to consumers. The AER has the opportunity to apply proven techniques and develop new innovative approaches.

We trust that this submission addresses the matters on which the Commission was seeking our further consideration. We would be pleased to discuss these and any other aspects of transmission arrangements further with the Commission if that would be helpful. Please contact Alistair Parker, SP AusNet's Director Regulatory and Network Strategy, phone (03) 9695 6090 for any inquiries.

Yours Sincerely,

Charles Popple  
**Group General Manager, Network Strategy and Development Division**

## APPENDIX

### SUGGESTED AMENDMENTS TO PRODUCTIVITY COMMISSION'S PREFERRED TRANSMISSION ARRANGEMENTS FOR THE NEM

The Commission's preferred approach is based around an independent central planner making investment decisions which network operators would proceed to implement. Our comments on the workability of the proposal, and how this could be improved are contained in this appendix. We have not reflected further on the relative effectiveness of the approach compared to the AEMC Hybrid Approach or other approaches.

Feature	Comments / Suggested Improvements
All augmentation investment decision making is the responsibility of the NEM-wide planner	<p>There would be no incentive on the TNSP to seek out incremental network capacity improvement, as this category would not be subject to ex-ante incentives. This is the case in Victoria presently.</p> <p>An improvement would be for a level of augmentation to be determined by the TNSP. An option would be for this to be funded through a specifically designed incentive mechanism, via which augmentations would be initially TNSP funded, and driven by prospective reward for service improvement.</p>
NEM-wide planner not a procurer of services	<p>In Victoria AEMO procures all shared network services and on-sells them to network customers, whether or not they are contestable services. It is assumed that the PC model does not include a service provider function for the NEM-wide planner at all, however this should be clarified.</p> <p>An issue in Victoria is the significant time taken in negotiating new works between the parties, including as a result of AEMO's inability to bear risk. This issue will be exacerbated under the Commission's model, as the NEM-wide planner will not even be a party to the connection agreements. An option may be for the TNSP to be made responsible for the full negotiation with the applicant, and to interface with AEMO. However the incentives on the planner to make timely and pragmatic decisions, and for the TNSP, remain muted.</p>
In the event that the NEM-wide planner is the procurer of services	<p>As noted above, AEMO is the transmission service provider in Victoria. If the connection complexity issues experienced in Victoria were to be experienced in all NEM states this would be a retrograde step for the transmission arrangements. An option would be to clarify that the NEM-wide planner is not intended to be a service provider.</p>
The AER would be responsible for ensuring AEMOs planning and auditing processes were transparent and consistent with the NEO	<p>The alternative AEMC Hybrid model provides a greater tension between the national planner and the TNSP planners in relation to cross-checking throughout the planning process, due to strong interdependencies. The accountability on AEMO needs to be strengthened. An option may be to give TNSPs a formal shadow planning function.</p> <p>SP AusNet has noted that it considers planning risk is borne by the network operator, and that it has made</p>

	<p>interventions in the planning process in some cases. However resourcing cannot be provided for a more formal role.</p> <p>Another option would be for AEMO to be required to consult with TNSPs in developing network planning reports.</p>
The Commission supports optional firm access	TNSPs would contract for firm access but not have control over the levers necessary to make this an effective regime. There are no obvious suggestions to help mitigate this problem
Ambiguity about responsibilities, and liability	<p>The difficulty in assigning responsibility and liability robustly in contract cannot be under-estimated. A number of attempts have been made, without reaching agreement, in Victoria.</p> <p>Under the Commission's preferred model, AEMOs responsibilities would be contained in legislation and this is even less likely to achieve a commercial assignment of liability. In relation to this concern, an option would be for AEMO to be designated the service provider and for a contractual arrangement to continue.</p> <p>In conjunction with such a decision it would be necessary for an expert review of the ability of the contracts to commercially assign liability.</p>