## Electricity Networks Association response to consultation paper on Transmission Pricing Review

***7 December 2009***

Q 1. To what extent do you agree that nodal prices can provide efficient signals for the use of the transmission network? 20

While we agree that nodal pricing is a useful tool for efficient transmission and grid-connected generation dispatch, we consider that it provides weak and even inappropriate investment signals. We also consider that nodal pricing discriminates against distributed generation in networks, and against demand-side options that would otherwise be capable of delivering more efficient outcomes.

Because nodal pricing provides energy price signals at GXPs that reflect the cost of getting the most expensive electron to each GXP in each pricing period, just a very small reduction in load downstream if a GXP resulting from embedded generation or from a demand-side initiative (including loss reductions in a network) caused a nodal price collapse. This is clearly a perverse pricing outcome as it largely eliminates the incentive to respond to high energy losses and constraints in the grid through local investments. No effective contractual mechanism for overcoming this outcome has emerged.

In addition, because grid-connected generators remote from markets can capture a nodal price loading at GXPs that compensates them for energy losses in the transmission system, there is a signal provided to invest at a considerable distance from markets, requiring additional transmission investment and potentially undervaluing energy resources closer to markets. This is demonstrated by the drive to invest in remote South Island wind resources rather than in options closer to the key Auckland market.

Arguably all of these negative effects of nodal pricing are at variance with the objectives identified in GPS clause 99.

Q 2. To what extent do you agree that nodal prices can provide efficient signals for investment in generation and load projects? 20

See answer to Q1.

Q 3. Do you consider that the nodal prices in New Zealand may be inappropriately suppressed due to the transmission system being augmented ahead of demand? 20

No. We can see no economic reason why suppression of nodal prices would be inappropriate. As noted above, we do not consider that nodal pricing provides appropriate transmission or other investment signals.

Q 4. Can you provide examples where a transmission alternative could have been undertaken instead of an investment in the grid? 20

Recent investment and investment approvals for the grid have reflected the pressures to catch up with rising demand by linking regions such as the upper North

& South Islands with existing remote generation sources. As such it would be hard to argue that alternatives would have been more efficient. However, we consider that continuing along that path rather than building new generation and taking demand-side measures that do not require (or delay the need for) further grid augmentation would be inefficient.

Q 5. Do you agree that if locational transmission pricing signals are required to promote efficient participant investment decisions, both generators and loads ought to face these signals? 20

Yes, provided that the requirement for generators and loads to "face" such signals means that the relative benefits that the transmission system provides to the various parties involved (remote, generators, embedded generators, end-users and DSM investors) are fairly reflected in transmission costs.

Q 6. Are there any other jurisdictions whose electricity market arrangements should be examined to assist in the development of high-level transmission pricing options for New Zealand? 21

Unsure. We do not feel that New Zealand has been particularly well-served by importing electricity market arrangements from other jurisdictions.

Q 7. Do you agree that the summarised issues Frontier identified from the Strata report are correct and relevant? 22

In general no. We disagree that full nodal pricing provides efficient generation signals, as explained in our answer to Q1.

Q 8. Are there other issues with the current transmission pricing that you think should be considered at this high–level options stage? 22

Q 9. Do you think it is appropriate to focus on locational cost allocation issues – as opposed to pricing structure issues – at this high-level stage of the review? 22

Yes. Where transmission costs are simply treated as a cost pass-through to consumers there is little to be gained from refinements in the methodology for applying them.

Q 10. Are there any particular Pricing Principles that ought to be given precedence over others? 23

We would support the provision of strong locational signals being given precedence other most other pricing principles.

Q 11. Do you agree that it is not appropriate to review the Pricing Principles at this time? If not, why not? 24

Yes. We think such a review is long overdue.

Q 12. Do you think existing TPM, combined with the GIT and nodal pricing provide appropriate operational and investment signals to existing and prospective participants? Please give examples or reasons for your answer. 25

See our comments on nodal pricing in Q1.

Q 13. If not, are there relatively minor modifications that could be made to the existing regime to enable it to provide appropriate locational signals? 25

Possibly but we are not aware of them. This is an issue where consultation with the wider industry (including consumers and DG investors) would be beneficial.

Q 14. Even if the existing approach does not provide efficient signals to participants, to what extent are participants' investment decisions likely to be distorted as a result? 25

The wind farm investments referred to in our answer to Q4 are indicative of the scale of the inefficiencies occurring in investment signals. We consider that an orderly transition to a more efficient regime for signalling locational costs would be of very considerable economic benefit.

Q 15. Assuming there is a need for a locational element to transmission pricing, does the tilted postage stamp option provide a reasonable trade-off between signalling objectives and simplicity? 25

Conceptually the creation of regional pricing loads (similar to the old South Island differential) implies an undesirable rigidity that will lead to investment distortions. Possibly the simplest effective solution would be provided by a requirement for grid-connected generators to face the bulk of all transmission costs, with transitional contractual arrangements that avoid major price shocks to such generators.

Q 16. What are submitters' initial views on the economic merits of the augmented nodal pricing approach and are these likely to be outweighed by practical implementation considerations? 27

This approach appears to us to be too heavily weighted against supposedly 'premature' transmission investments. It creates incentives for Transpower to promote demand growth rather than encourage DSM and energy efficiency. It also looks rather like a 'patch on a patch' approach to avoid addressing the fundamental issue of providing effective locational signals.

Q 17. Assuming there is a need for a locational element to transmission pricing, is load-flow modelling a reasonable basis for cost allocation? 28

This question would be best addressed after the locational mechanism has been defined.

Q 18. If so, do you have a view on whether the CRNP, ICRP or an alternative methodology is preferable? 28

We would prefer an alternative, as indicated in our answers to Q1, Q4 and Q15.

Q 19. Are there any other high-level options that the Commission should consider? 28

Q 20. Is there merit in pursuing a PJM-style 'deep' connection option in the New Zealand market? 29

If no better approach is accepted by the commission then the PJM-style one would be more promising than the existing, generator-centric approach. We support the analysis of the strengths and problems of PJM-style deep connection provided by the Commission. Ideally, this would be used as a counterfactual or benchmark for evaluating other, more fundamental approaches to locational pricing.

Q 21. Are there aspects of connection charging that should be reviewed? If so, please give arguments why. 30

We are fairly sure that there are. However, this is a question best answered by connected parties handling those charges.

Q 22. Is it necessary or worthwhile to alter or clarify the existing treatment of transmission alternatives? 31

As noted in our answers above, alternatives such as DG and DSM are treated very badly by the existing nodal pricing system and by the pricing counterparty arrangements that effectively give remote generators subsidised access to markets where they compete with those alternatives. It seems to us to be very important to alter this, especially given the focus with Government policy, and in networks, on greater downstream and demand-side empowerment in delivering efficient electricity supply outcomes.

Q 23. Should either a USG or a voluntary insurance scheme be considered within the Commission's Review? 32

This is quite a complex issue that might best be considered slightly behind the review. While exposing Transpower to some level of risk or prudency test could lead to more efficient investment pressures, it could also imply a risk transfer to other parties. It could also prove ineffective if any additional costs to Transpower resulting from a USG were recovered anyway through other elements of transmission pricing.

Q 24. Are there other options for linking service quality and pricing that you think the Commission should consider? If so, please give details. 32

Q 25. Do you agree that the Commission should consider a methodology for allocating the costs of existing and new static reactive power assets as part of the review? 34

We are very concerned at the Commission's approach to allocating the costs of achieving a power factor of 1 at GXPs to distributors via Transpower, and would like this aspect of cost allocation to be considered ahead of the review. It implies very large additional investment costs and the closing off of alternative DSM-focussed

investments by distributors, and is effectively a wealthy transfer from the grid-dependant generators, who were responsible for maintaining power factor, to end users via distributors.

Q 26. If locational hedging instruments were introduced that had the effect of muting nodal price signals, do you consider that locational signals should be enhanced through transmission pricing? 35

We would prefer to see the nodal pricing signals supported by, or replaced by, signals that lock in locational investment messages.

Q 27. Do you consider that the criteria outlined in this paper are appropriate criteria for filtering high-level options? Please outline your reasoning. 37

Q 28. Are there other criteria that you consider might be appropriate? 37