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Dear Dr Tamblyn

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TransGrid Submission to AEMC on Review of the Snowy Regional Boundary by Snowy Hydro Ltd (Snowy Hydro)

TransGrid would like to thank you for the opportunity to comment on this important consultation. This letter addresses the following three aspects of the Rule change proposal from Snowy Hydro Ltd:

1. The prospects for transmission investment relieving the Murray – Tumut constraint.
2. Assertions that the boundary change proposal achieves the same benefits as the proposed 500kV transmission upgrade.
3. The possible impact of the proposal on the distribution of settlement residues to end consumers.

Transmission Investment Options to Relieve the Murray – Tumut Constraint

There may be some scope for economically upgrading the transmission lines linking Murray, Lower Tumut and Upper Tumut and this may have some impact on the associated transmission constraints. However, a full economic assessment of the options has not been carried out and there is no immediate prospect of a material increase in the capability of these lines. The full extent of this potential is currently being explored with the assistance of aerial laser survey assessments aimed at verifying the conductor clearances to ground and thereby identifying opportunities to improve conductor clearances and hence capacity.

TransGrid has noted in its Annual Planning Report for 2005 (page 38) that since acquiring these lines, it plans remedial work to bring them to acceptable standards. Provision has also been made for this work in TransGrid's capital works program which, when completed, may result in limited increases in equipment ratings during some seasons.

The Boundary Change Proposal Does Not Achieve the Same Benefits as a 500kV Upgrade

Reference is made to comments in the Rule change proposal that the current regional boundary *"may create a perverse incentive for a transmission service provider (in this case TransGrid) to try to increase supply from North NSW by proposing to upgrade the Liddell to Marulan 500kV ring to allow more power from Liddell/QNI to balance the Marulan/Dapto constraint"*. Snowy Hydro concludes:

> *"In summary, a potential 500kV ring upgrade will not change the supply into the Sydney area. With Tumut placed in the NSW region and without the 500kV upgrade, exactly the same benefits are achieved in balancing the Liddell/Newcastle and the Marulan/Dapto constraints."*

It is also claimed that inefficient generation investment would be encouraged in the Sydney area, as a result of such a generator gaining access to the benefits of deferring the 500kV upgrade.

The Rule change proposal appears to rely on these assertions to show that a regional boundary change achieves the National Market Objective by providing improved pricing signals for efficient generation and transmission investment[1].

Unfortunately, these claims do not appear to be substantiated by analysis.

Turning first to the matter of requiring 'better' price signals for efficient investment, it should be noted that the regulatory test process already provides a significant driver for efficient transmission investment decisions. Failure by a transmission business to carry out this process, in accordance with the requirements of the National Electricity Rules, creates a material risk that the investment will not be recognised by the AER as efficient and, therefore, not be eligible for inclusion in the calculation of transmission company revenue caps by the AER.

The regulatory test process is also designed to ensure that transmission providers assess the relative efficiency of various development options in a transparent and public way. The regulatory test process and associated Annual Planning Reports, together with the current NEMMCO constraint formulations, also provide market participants and potential generation investors with detailed and transparent information on current and future transmission 'pinch points'. This information is far richer to potential generation investors than any short term regional or 'nodal' price signal.

Specific suggestions in the Snowy Hydro proposal that changing the regional boundary provides exactly the same benefits as TransGrid's 500kV upgrade (which involves improvement to the power transfer capability to the Newcastle – Sydney – Wollongong load area) are also questionable. The primary driver of the supply reinforcement is the need to ensure that transmission reliability standards are maintained for the 'core' NSW transmission network servicing the critical Sydney-Newcastle-Wollongong load areas. Achieving these standards is at risk in the next 3 to 5 years because of a range of transmission system limits that are expected to emerge as the demand for electricity continues to grow in the Sydney, Newcastle and Wollongong areas.

Network solutions to this issue involve upgrading the power transfer capability of the network by addressing line loading and voltage control limitations. Non-network solutions include demand-side management and generation development within the Newcastle - Sydney - Wollongong load area. One network option is the upgrading of the western NSW system between Bayswater, Mt Piper and the south through upgrading the western system to 500 kV operation and increasing the rating of critical 330 kV transmission lines in southern NSW.

Snowy Hydro argues that additional generation capacity from Tumut will be made available as a result of the boundary change proposal and that this overcomes the need for the transmission system upgrade. However, in assessing the need for network reinforcement TransGrid considers the range of possible, rather than actual, generation patterns that may occur at the time of forecast maximum demand. In this regard significant levels of generation at Snowy are considered when carrying out these assessments. TransGrid is assessing, as part of the Regulatory Test process, the network option of reinforcing the transmission system between Snowy and Sydney to maximise the power transfer capability from the south to the Newcastle – Sydney – Wollongong load corridor. TransGrid, therefore, would be interested in the levels of generation at Snowy which would definitely be made available to meet peak demands in NSW over the planning horizon.

In addition, many of the benefits resulting from the 500kV upgrade proposal are not addressed in the Snowy Hydro proposal and cannot be delivered by a change in regional boundary. For example, the main transmission network servicing the Sydney-Newcastle-Wollongong areas is reaching voltage control limits as demand increases. To date voltage control issues have been managed by the progressive addition of reactive plant. However, the technical and economic limits of this option are rapidly approaching as demand increases. Adoption of a 500kV operating voltage improves the voltage control capability of the system.

The fault level in the Hunter valley 330 kV system is presently close to the capability of the 330 kV plant. One additional benefit of the 500kV upgrade is that the fault level on the 330 kV system in the Hunter Valley is marginally reduced which provides some scope for the connection of limited new generators in the Hunter Valley – Central Coast area, which may otherwise be precluded.

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[1] Section 3, dot point b.

In summary, existing arrangements involving the regulatory test process are creating appropriate drivers for efficient investment. Furthermore, the need for network reinforcement, possibly to 500kV operation, is driven by network reliability needs. However, the removal of the regional boundary does not appear to help in this regard because the additional generation that would be delivered as a result has largely been factored into the needs analysis already. In any event, removal of the regional boundary does not assist with voltage control or fault level management.

Impacts on the Distribution of Settlement Residues to End Consumers

The proposal to remove the Snowy region would change the pattern of inter-regional settlement residues on Victoria-Snowy-NSW energy transfers. While TransGrid has not attempted to model this, it is a reasonable assumption that the total residues accumulating will decrease, and therefore the proceeds of NEMMCO's settlement residue auctions will also decrease. This appears to be the case in the current CSC trial being conducted in relation to the Snowy region.

Because settlement residue auction proceeds are passed back to transmission customers (and ultimately end consumers) through reduced transmission charges, the net result of reduced settlement residues may be a substantial increase in transmission charges. While the overall outcome of Snowy's proposal may be reduced energy costs for customers, these savings may need to be offset to some degree by higher transmission charges.

I trust that this information is of assistance to the AEMC in the review of this Rule change proposal. Should you wish to discuss any of these matters further, please feel free to contact me on (02) 9284-3434 or via email: phil.gall@transgrid.com.au

Yours sincerely

27/3/06

Philip Gall
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