TOTAL ENVIRONMENT CENTRE INC.

NATURE CONSERVATION COUNCIL OF NSW Inc.

Friends of the Earth

Australian Conservation Foundation

WWF AUSTRALIA

Central West Environment Council

MUDGEE DISTRICT ENVIRONMENT GROUP

Mr Sebastian Roberts
General Manager
Electricity Group
Australian Competition and Consumer Commission
GPO Box 520J
Melbourne Vic, 3001

January 23, 2004

Re: TransGrid's Application for Revenue Reset

Dear Sebastian,

Please accept this submission from the peak environment groups of NSW to TransGrid's application for revenue reset for the regulatory period commencing 1 July 2004.

The peak environment groups of NSW strongly oppose TransGrid's application for revenue to build the Wollar-Wellington line due to the failure to give equal consideration to non-network alternatives and the economic inefficiency of this proposed reliability augmentation.

We look forward to a rigorous investigation by the ACCC of TransGrid's proposal.

Yours sincerely,

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Executive Director

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Submission

TransGrid's Application for Revenue Reset

The Wollar-Wellington Line

Introduction

The peak environment groups of NSW make this submission with specific reference to TransGrid's proposed Wollar-Wellington reliability augmentation. In developing its plan for augmentation, TransGrid has failed to consult appropriately or give equal consideration to non-network alternatives. Indeed, non-network alternatives have been inappropriately defined, assessed, and dismissed despite the extensive economic and technical potential that was identified in early studies for this project, and in contravention of Chapter 5.6.2 (f) of the National Electricity Code. Other network options such as a smaller 132 kV augmentation may have been inappropriately dismissed as well.

The result is a proposal that is economically inefficient and is well beyond what is required of a reliability augmentation. The proposed line has a capacity of between 1000MW and 2000MW, yet is being built to serve peak demand growth of less than 8MW per year. At a cost of $68 million[1], TransGrid's conclusion that non-network alternatives are not cost-effective is misleading. TransGrid's internal planning processes have been skewed to favour this development, as has the consultant's report commissioned by TransGrid to review the proposal.[2] Despite masquerading as a 'reliability augmentation', **this project is in fact a massive expansion of TransGrid's asset base.**

Under the National Electricity Code, the ACCC is obliged to seek efficiency and cost-effectiveness for transmission networks. In particular, it is responsible for achieving '…an environment which fosters efficient use of existing infrastructure.'[3] The potential for vast under-utilisation and economic inefficiency of the proposed Wollar-Wellington line makes this investment decision one that the ACCC should disallow.

Also under the Code, the ACCC must '…have regard to the need to … create an environment in which demand side and network augmentation options are given due and reasonable consideration.'[4] Instead, TransGrid's planning process has irresponsibly excluded cost-effective demand side options to the detriment of market equity, electricity consumers and the environment. If the Wollar-Wellington line is approved, future demand side and local generation options will be greatly disadvantaged by the pre-emptive subsidisation of transmission infrastructure for large-sale generation (in particular, the mooted Ulan Power Station). This perverse subsidy will effectively disadvantage local generation and demand management options which, in contrast, will have to pay full connection and infrastructure charges, and face a market flooded with artificially discounted coal-fired electricity.

If this augmentation is improperly approved for inclusion in TranGrid's regulated asset base, it will be at the expense of consumers and real competition. Higher than appropriate costs for the service delivered and market distortions will result, in turn substituting inefficient network service provision for more cost effective solutions to system constraints. The proposed assets, therefore, must not be included in the calculation of TransGrid's allowable revenue.

The above groups recommend that the ACCC closely investigate the planning process by which cost-effective demand management and local generation options have been inappropriately

[1] Transgrid and Country Energy, *Development of Electricity Supply in the Western Area of NSW – Final Report*, August 2003, p. 19. It is noted that TransGrid's figure is $2.7 million higher than the amount cited in the Network Management Plan.
[2] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003
[3] National Electricity Code, Chapter 6.2.2(a) and 6.2.2(f).
[4] NEC Chapter 6.2.3 (d) (2).

dismissed. We urge the Commission to direct TransGrid to revisit the planning, consultation and development processes for the Western Area of NSW in a transparent and truly consultative manner.

The peak environment groups of NSW strongly urge the following actions:

The ACCC should disallow revenue for the Wollar-Wellington line.

The ACCC should conduct an independent investigation into the decision-making process underlying TransGrid's elimination of non-network alternatives to this proposal.

The ACCC should require Transgrid to return to the consultation, evaluation and analysis stage (before the ACCC Regulatory Test) in order to properly investigate and develop these options.

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1 Economic Inefficiency of Over-Capacity Line

TransGrid's proposed Wollar-Wellington line is primarily a reliability augmentation. TransGrid's Forecast Maximum Demand for the whole Western area shows peak demand growth of less than 8MW per year, or 72MW over 9 years.[5] Yet the 330kV line may have a thermal capacity of 1000MW and up to 2000MW, well in excess of the needs for the area. Taking into account the weighted average cost of capital, depreciation and operating costs, the transmission costs per MWh for customers for this $68 million development would be excessive.

It is not surprising that TransGrid's economic analysis shows that **the proposed augmentation would likely have a net present value disbenefit of $24 million to $39 million**. By contrast, a 132 kV line would cost considerably less than the $68 million 330 kV line (perhaps by half), while providing ample capacity.

In this context, TransGrid's conclusion that non-network alternatives are not cost-effective is extremely inappropriate. It is clear that TransGrid's internal planning processes have been skewed to favour this traditional 'build' solution, as has the consultant's report commissioned by TransGrid to eliminate the alternatives.[6]

2 TransGrid Fails to Give Due Consideration to Non-network Solutions

2.1 Misleading Elimination of Non-network Solutions

Transgrid's planning process has progressively and misleadingly eliminated economically efficient non-network solutions from the Options Report[7] in 2001 to the Final Report in 2003.[8] In order to obtain a full understanding of this process, it is necessary to revisit the rigorous Options Report, in which at least 50MW of gas engine capacity, 70MW of gas turbine capacity and 50MW of demand management capacity per annum was found to be available. Table 1 below outlines some of these options and costs.

[5] Transgrid and Country Energy, *Development of Electricity Supply in the Western Area of NSW – Final Report*, August 2003, p. 9.
[6] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003.
[7] Colin Crawford-Smith, GreenPower Services P/L, Mark Ellis & Assoc. P/L, Martin Poole, *Development Options Involving Demand Side Management and Local Generation in the Advance Energy Area*, 2001, p.6.
[8] Transgrid and Country Energy, *Development of Electricity Supply in the Western Area of NSW – Final Report*, August 2003.

Table 1 Selection of Non-network Solutions from Options Report[9]

Technology	MW Capacity	Power Station Installed Capital Cost & Connection Cost ($ Million)	Cumulative Total Cost After 3 Years
LG - Gas Engine[10]	50	36	
LG - Gas Turbine[11]	70	54	
DM – High Efficiency Motors and Related Systems[12]	12.8[13]		2.8
DM - Gas Water Heaters	28.9[14]		4.2
DM - Off-peak Load Control[15]	17.1		.18

With growth in the region at around 8MW per annum, development of each of the Options outlined above, either in combination or separately, have the potential for significant savings through deferral of the need for capital expenditure on augmentation.

Despite the advantages, the planning process has weighted these cost-effective options to fail against any outcome other than a 330 kV network augmentation. For example, a package of local generation and DM was not considered, nor was local generation alone considered. Rather, local generation and DM were included as an option only if coupled with a 330 kV augmentation.[16] And, the economic analysis of this option inappropriately implied that there were no or minimal benefits subsequent to 2006/07, the date of the scheduled augmentation.

2.2 Selective Use of Reliability Standards

TransGrid's consultants state that no feasible options allow the reliability standard to be met until 2007 because of the development time required for network augmentation. Failure to meet the reliability standard is accepted when considering network augmentation.[17] However, when assessing DM and LG options, TransGrid has ruled out these non-network options on the grounds that they don't meet reliability standards. Instead, for DM and LG, **the reliability standard is set at 100MW of reduction in peak demand in 2003**, despite annual peak load growth of only 8MW per year and despite peak demand being unmet by the network augmentation option until 2007.[18] This selective application of wildly varying reliability standards illustrates the extreme bias against DM options.

In addition, the NERA Reports cites implementation timelines for DM and LG of around 1 - 1.5 years.[19] The DM option would provide reliability at least 2 years earlier than the network augmentation option. No justification for failing to use DM to increase reliability is cited in TransGrid's reports.

2.3 Misleading Costing of Local Generation Options

TransGrid has misleadingly costed the 'base case' assumption for local generation with the result of seriously inflating the cost of the LG option. In the NERA Report, the 60MW gas turbine generation option and the 75MW reciprocating gas engine option are assumed to operate for 12

[9] *Options Report*, pp. 19-23.
[10] *Options Report,* p. 19.
[11] *Options Report,* p. 20.
[12] *Options Report,* p. 56.
[13] Achievable potential reduction to system peak
[14] Total Estimated Reduction at Time of Peak Demand in Yr 3.
[15] *Options Report,* p. 41.
[16] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, p. 31.
[17] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, p. 7.
[18] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, pp. 29, 36.
[19] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, p. 36.

hours per day, rather than only for peak periods, consistent with economic benefits.[20] The 12 hour per day operating assumption inappropriately increases the costs attributed to local generation, making this option look far less attractive.

2.4 Misleading Comparison of Options

TransGrid has irresponsibly constructed a comparative situation whereby DM and LG options are bound to fail. The NERA Report's selection and presentation of Options 1 through 6 whereby these options are presented as *additions* to augmentation instead of stand-alone or bundled options, is clearly biased.[21] By comparing options to augment with options to augment *and* undertake DM or LG, NERA has created a distorted playing field, making it clearly cheaper for Transgrid to merely build the Wollar-Wellington line than to build the line *and* do DM.

2.5 Failure to Account for Efficiency Losses

Transgrid has failed to account for the efficiency losses incurred in augmenting transmission infrastructure, involving the transmission of electricity over long distances, as compared to local generation sited closer to users.

2.6 Coal-fired Electricity Inappropriate for Peak Load

Transgrid has failed to address the inappropriateness of coal-fired electricity to address peak load constraints, as compared to gas, stand-by generation or interruptible contracts as more appropriate responses to the peak load constraints facing the area.

2.7 TransGrid's Admission of Unequal Consideration of DM

A key section of TransGrid's NERA Report refers to uncertainty in the treatment of DM by the ACCC, with the implication being that this is behind TransGrid's failure to equally assess non-network solutions in this project.

> *'Any uncertainty as to the regulatory treatment of DSM-related expenditure by TNSPs has the potential to undermine the practical consideration of such alternatives.'*[22]

The implication that the regulatory situation is justification for disregarding DM in this project is highly inappropriate. In light of various sections of the National Electricity Code that specify equal consideration be given to non-network solutions, it is improper for TransGrid to imply this justification to disregard non-network solutions.

3. Inappropriate Reliance on 'The Market' to Deliver

Under the current NEM planning processes, extensive reliance is placed on proponents of demand management and local generation options to make proposals and argue on their behalf. However, given the lack of serious facilitation and take-up of such offerings by network service providers, it is unreasonable to expect that adequate representation would be achieved. Frankly, why would any commercial party bother to go to the effort of aggregating a bundle of dispersed but attractive DM opportunities when they can have no reasonable expectation that they will be given serious commercial consideration.

[20] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, p. 36.
[21] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, p. 31.
[22] NERA, *Augmentation of Supply to the Western Area: Preliminary Cost Effectiveness Analysis*, May 2003, p. 40.

Despite acknowledging this situation, TransGrid has failed to make any efforts to engage the market beyond posting a 'Consultation Paper' on its website. TransGrid has then used the lack of response to eliminate non-network options from consideration.[23] This does not justify TransGrid's failure to investigate non-network options itself considering the extensive economic and technical potential that has been identified through a variety of demonstration cases and in early studies for this project.

4. TransGrid's Flawed Consultation Process

Section 5.6.2 (f) of the National Electricity Code requires that NSPs consult with affected Code Participants and interested parties on possible options, including demand-side options. TransGrid's posting on its website of a 'Consultation Paper'[24] without any other efforts to reach the market does not constitute consultation in any sense of the word. Even the weakest form of consultation should constitute more than a single website posting, and should progress to other media forms, as well as seek responses from interested parties. The failure by Transgrid to encourage market players such as SEDA and other providers to tender for the supply of DM and LG, represents the abject failure of the consultation process.[25] TransGrid's failure to determine what they required in terms of MW/time and what they would pay for the provision of such capacity seems designed to discourage proponents to come forward. In failing to adequately consult, TransGrid has contravened the requirements of the Code.

5. Failure to Consider 132kV Line

The failure of TransGrid to examine an option for a smaller network augmentation using a 132 kV line is inappropriate. A 132 kV line could have a capacity of over 200 MW, or 25 years worth of load growth. It would appear that such a line is far more efficient, particularly if applied in combination with the development of various LG and DM options.

6. Explanations for Over-capacity Line Point to Abuse of Process

The peak environment groups note that the capacity of the proposed 330 kV augmentation appears to be more in keeping with the mooted "Project Waratah" mine mouth coal plant being pursued for Ulan, which lies between Wollar and Wellington. If this were in fact the intended purpose of the proposed network augmentation, this would represent an outrageous abuse of the approvals and consultation processes. The result would be a deliberate and substantial discounting of connection costs for future generators at the expense of DM and LG proponents. TransGrid has not mentioned any possibility of this as the intended purpose of the augmentation in any documentation or forums to date.

The ACCC should disallow revenue for the Wollar-Wellington line.

The ACCC should conduct an independent investigation into the decision-making process underlying TransGrid's elimination of non-network alternatives to this proposal.

The ACCC should require Transgrid to return to the consultation, evaluation and analysis stage (before the ACCC Regulatory Test) in order to properly investigate and develop these options.

[23] Transgrid and Country Energy, *Development of Electricity Supply in the Western Area of NSW – Final Report*, August 2003, p. 17.
[24] Transgrid, *Development of Electricity Supply in the Western Area of NSW – Consultation Paper,* May 2003.
[25] Transgrid and Country Energy, *Development of Electricity Supply in the Western Area of NSW – Final Report*, August 2003, p. 6.