A.C.C.C.

PUBLIC FORUM PRESENTATION

18TH MARCH 2005

OBJECTION TO PROPOSED WOLLAR – WELLINGTON

330KV POWER LINE

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REFER TRANSGRID'S PROPOSAL TO CONSTRUCT A NEW 330KVA TRANSMISSION LINE BETWEEN WOLLAR AND WELLINGTON AS JUSTIFIED IN THEIR "DEVEOPMENT OF ELECTRICITY SUPPLY IN THE WESTERN AREA OF NSW" - FINAL REPORT AUGUST 2003.

TransGrid states in the above report as follows:

a) 3.1 - para 2 - page 13 of 46. "This network is capable of adequately supplying the electrical demand in the area at all times with all elements in service and will continue to do so over a planning horizon of at least ten years for reasonable load forecast scenarios".

b) Best estimate Summer and Winter Maximum Demand Forecast (Table A3.1 – page 32) year 2003 gives a total of 617MW demand.

c) Actual peak hour maximum demand for year 2003was approximately 520 MW. Taken from TransGrid's graph in letter to Needham of 7/4/04. Transgrid was asked to confirm or deny this interpretation from their graph. They have declined to do either.

d) The variation between the "Best Estimate" (b) and actual (c) is 97MW. Their estimated growth per year of 1.8% i.e. 9MW/year (page 26 Nera report – May 2003) means that their forecast load of 617 MW will not be reached for 10.7 years later than estimated in year 2003 it therefore necessarily follows that the Network is now capable of adequately supplying the demand in (a) above plus additional extra 10.7 years (d) above giving a total of 20.7 years from year 2003 until year 2023.7.

(e) TransGrid have confirmed in their letter of 25/6/04 that the 330KV line 72 has been in service since 1985 (20 years) and outage statistics dating from 1992 to the present indicate that it has been forced out of service on only 5 occasions and in each case, only momentarily, with no loss of supply.

CONCLUSION

Based on the above history it is reasonable to assume that the 72 line will not fail for any appreciable time over the next period ending 2023.7 in which case the customers will be faced with a loss of $70M, plus interest at 12% as established in NPV studies (page 50 Nera report May 2003) totalling $599.5M over the next 18.7 years. As a matter of interest, TransGrid states in it's letter of 7/4/04 to Needham, as follows:

"Using a N-1 criterion, the Wollar/Wellington (or an equivalent project) would have been required to be constructed by the mid to late 1990's". If this line had been constructed in the mid 1990's, then it would have been idle for the last 10 years and would remain idle for the next 18.7 years and cost at the above interest rate of 12%, a staggering $1.25Billion over that period.

It is inconceivable that such a gigantic waste of money would have been

contemplated to improve a situation which has a proven record of excellence when Country Energy's 22KV lines, which have been serviced by the 132KV and 330KV are riddled with down time and no visible money has been, or is being, spent on them. On my property in the Mudgee/Gulgong area, which is typical of the country areas being serviced by the 22KV lines, the records show that we have never once been without power at any time as a result of the kine 72 being out if service but we have suffered loss of supply on 13 occasions in year 2004 with a loss of supply for 2,369 minutes i.e.. an outage on an average of one every 4 weeks with average downtime of 199 minutes.

Why are the customers being forced to spend $560M over the next 18.7 years to fix a system with no problems whilst a problem with probable down time of 41,900 minutes is being ignored.?

I have recently been supplied with a copy of Legislative Council Questions and Answers No. 60 dated Tuesday 22nd June 2004 in which Mr Cohen MLC asked the Minister for Rural Affairs representing the Minister for Energy and Utilities etc., a question in relation to the proposed new 330KV line between Wollar and Wellington which was as follows:

Refer page 1458 question 1067 (1) "What is the current total capacity of the line to the area now?" The answer to this question in part was provided on page 1439 (4) and was as follows:

"With all lines in service the capacity of the combined network is adequate to supply peak forecast loads for 10 years. However, for a single contingency of the 330KV line being out of service , the capacity of the 132KV network is reduced to approximately 350MW or 70% of the current peak load for the area resulting in a high probability of supply interruptions to people living in the area."

In view of their statement that the reduced capacity of the 132KV network is reduced to 350MW representing 70% of peak load, then on 22nd 2004 June, the maximum demand forecast must be 500MW i.e., $\frac{350\ MW.}{75\%}$

The information supplied to us in the August 2003final report shows that there are 5 lines supplying the 132KV network. TransGrid has supplied the capacity of 4 of these lines in their letter to Needham on 25/6/04 but despite numerous requests, they have refused to give the capacity of the 5th line 94K. However, in order to meet N-1 requirements it must have a capacity in the order of 134MW – refer Cowra , Forbes, Parkes and North Parkes – year 2003/4 load forecasts Table A3.1.
The Winter emergency rating for these five lines is as follows:

94M	= 126KVA	MW at .95 power factor			=	120MW
94X-94B	= 129KVA	"	"	"	=	122MW
944	= 93KVA	"	"	"	=	88MW
94	= 126KVA	"	"	"	=	120MW
94K	= 134MW				=	134MW
				TOTAL		584MW

This would appear to mean that there is an available capacity from the 5 lines after allowing 5% line losses of 554MW, some 54MW surplus to demand and not a deficit of 150MW giving an anomaly of a gigantic 191.5MW or an over estimate of the risk of some 150%. It would appear from these figures that the Minister may have been misled by his informant.

As part of the series of 10 questions Mr Cohen MLC asked of the Minister:

"What studies has TransGrid undertaken to show that 330KV is the best option over a 132KV line?"

The Minister's reply was in part, as follows: "TransGrid's studies indicate that at least 5 x 132KV circuits would be required between Wollar and Wellington by 2006 to ensure capacity to the area to supply the expected peak load. Thereafter an additional 132KV circuit may be required every 5-7 years depending on load growth".

This is an amazing response as 5 x 126KV lines with an emergency rating of 125 MVA (average Winter capacity of the existing lines)will have a total capacity of 630MVA or with a .95 power factor of 598MW which means that with line 70 out of service, the total capacity available to service their nominated load of 500MW would be the existing capacity of 540MW plus 598MW equal 1138MW i.e., an amazing 227% over capacity

Even more astonishing is the fact that when the Line 72 returns in service, which will be 99.999% of the time, the total power available to service the 500MW will be a staggering 1708MW or 341% of the actual peak load.

To make this set of numbers even more amazing the Minister stated in his response "Thereafter an additional 132KV circuit may be required every 5-7 years depending on load growth".
To put this statement into perspective, if this were to happen and the annual growth of 1.8% as stated by TransGrid occurs, then after 7 years the peak load will reach 570MW with a supply capacity of 1828MW to cope with it. To use the expression that TransGrid is using, "a $600M sledge hammer to crack a Peanut", is an absolute understatement.

CONCLUSION

TransGrid's Final Report August 2001 is riddled with contradictions – for example:

(a) on page 33 table A32, the best estimate for Summer and Winter demand totalled 617MW for year 2003 (even though the actual of520MW was already available (an error of 87MW or 17%)
b) On page 9 of this report, their forecast for 2003 was 575MW (an error of 55MW or 10.6%)
c) On the Nera report, a base case of .570MW was shown (an error of 50MW or 9.6% overestimated).

d) On page 15 Table 3.1 of the August Final Report, the maximum load for the Far Western Area year 2003 was given as 288MW whilst at that time the known load was 235MW (an error of 53MW or a massive 22.1% overstatement)

In justifying the $70M expenditure there are two values required, the first is the load and the second is the capacity of the existing network to supply that load. In their report, TransGrid have given 4 different versions of the 2003 load even though the actual was known.

In my examination of the report, I can find no definitive figure on the capacity to supply the load. TransGrid has refused to supply these figures. However, using the limited information available it is reasonable to assess the capacity at approximately 554MW. As the information provided to the Minister stated that the available capacity was 350MW, there appears to be an understatement of approximately 204MW or a massive 57% in the capacity of the network to provide the necessary energy.

With so many obvious errors or misstatements in the August Final Report which was prepared to justify the construction of a new 330KV line, it would be impossible for any competent organization to approve the expenditure of approximately $600M over the next 18.8 years.

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