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Dear Mr Parry

INVESTIGATION AND REPORT BY IPART ON REGULATED RETAIL TARIFFS TO APPLY BETWEEN 1 JULY 2002 AND 30 JUNE 2004

## **Introduction**

Macquarie Generation welcomes the opportunity to comment upon the Independent Pricing and Regulatory Tribunal (IPART) review of regulated retail tariffs. Our submission outlines two key issues that we believe need to be considered carefully in the review.

First, Macquarie Generation believes that the long-range marginal cost (LRMC) of the energy component of regulated tariffs has been underestimated.

Second, the low level at which the tariffs have been set generates significant cross-subsidisation between contestable and franchise customers and between different classes of franchise customers. The distortions created undermine the effective operation of the retail market in NSW.

These issues are expanded upon below.

### **LRMC of electricity supply has been underestimated**

The original modeling of LRMC carried out by Cap Gemini Ernst & Young (CGEY) was based on a forecast average load of 2,455MW and a peak load of 5,105MW. However, actual load profiles over 2001 have been significantly different, with an average load of 2,929MW and peak load of 6,026MW. In other words, the Electricity Tariff Equalisation Fund (ETEF) load has been considerably peakier than expected (see Appendix 1 for graphical representation of these facts).

A peakier load profile results in a higher LRMC of energy purchase costs. Using the actual load profiles above, the associated capacity factor of 48.6% and a discount rate of 10.5% Macquarie Generation calculates the franchise LRMC to be in the order of

\$58/MWh, which exceeds the range allowed for by IPART (\$36-\$56) even in the absence of an allowance for green purchases and National Electricity Market (NEM) fees (see Appendix 3 for assumptions underlying our analysis). The LRMC allowed for by IPART therefore underestimates the true LRMC of generation.

In this context the current ETEF strike price of \$45/MWh is clearly too low, which is further supported by the fact that a standard hedging product in the OTC market with similar load and profile characteristics to ETEF can be constructed through a combination of swaps and caps for about \$56/MWh (see Appendix 4 for details).

While it can be argued that the existence of a current ETEF fund surplus (reflecting that market prices are below estimated LRMC) challenges the view that the ETEF price level is too low, Macquarie Generation disagrees. We submit that short-term market prices do not reflect actual economic costs in a less than “perfectly competitive market” (the state of most markets in the world).

This is because in a workably competitive market, as reflected by the NEM, there are significant fixed costs and economies of scale and investment is lumpy, which means that it is quite conceivable for market prices to be either above marginal cost or even below marginal cost at any particular point in time, depending on the level of demand and competition (we have had a very mild summer for instance).

This arises because in an energy only market generators attempt to recover their fixed costs during high demand periods by pricing above marginal cost (as there is no capacity payment), while in low demand periods generators focus simply on being dispatched at whatever price is available (approaching the perfect competition benchmark). But the latter is unsustainable over any length of time because fixed cost would not be recovered.

Therefore any short-term surplus in the ETEF fund is also unsustainable and is likely to be rapidly run down when the supply/demand level tightens. Snapshots of market prices are uninformative about the actual costs that need to be recovered in the long run.

### **IPART tariffs result in cross-subsidisation**

The IPART methodology applies an overall system LRMC in its calculation of regulated retail tariffs. However, this implicitly assumes that the LRMC for franchise and contestable customers is equal, which is highly questionable given the substantially more volatile load shape of franchise customers (graphs can be viewed in Appendix 2). Moreover, given that franchise customers pay too little relative to what it costs to supply them, generators will attempt to recover their losses from contestable customers. Thus contestable customers may pay too much. Therefore, the application of a system LRMC implies an effective cross-subsidy between contestable and franchise customers.

In addition, there is also cross-subsidisation occurring between different classes of franchise customers, as the regulated tariffs allow for little differentiation between the various load profiles existing in the regulated customer base. Further, as a direct result

of the retailers' inability to price discriminate, full retail competition is likely to leave retailers with an increasingly peaky, and therefore more costly, franchise load over time.

This occurs; first, because regulated flatter load customers are less risky and therefore more attractive to competing retailers; and second, because a rational flat load customer will recognise that he or she is subsidising peak load customers and therefore will look to obtain a better price elsewhere. The same logic provides incentives for peak load customers to do the opposite (stay under the regulated tariff,).

Therefore, the implicit subsidisation existing within the current regulated retail tariff structure, and the concomitant inability to price discriminate, significantly distorts the efficient operation of the market.

In addition, to the extent that peaky customers face prices that are too low, and flat load customers face prices that are too high, this distorts investment in appropriate new generation (ie such as peaking plant) and demand side management.

### **Conclusion**

Macquarie Generation believes IPART's allocated allowance for energy purchase costs misrepresents the true level of generation costs.

Moreover, a retail tariff that is too low and does not reflect the costs of different customer classes results in cross-subsidisation. This has the effect of undermining the efficiency of the NEM, as customers are not exposed to the true costs of their energy use and appropriate investment in new generation and demand side management is distorted.

Macquarie Generation therefore recommends that the energy purchase cost component of retail tariffs be increased and that retailers be allowed to price discriminate to minimise cross-subsidisation.

It would be helpful if a meeting could be arrangement to discuss these complex issues. I can be contacted on the following number **02 4968 7441**

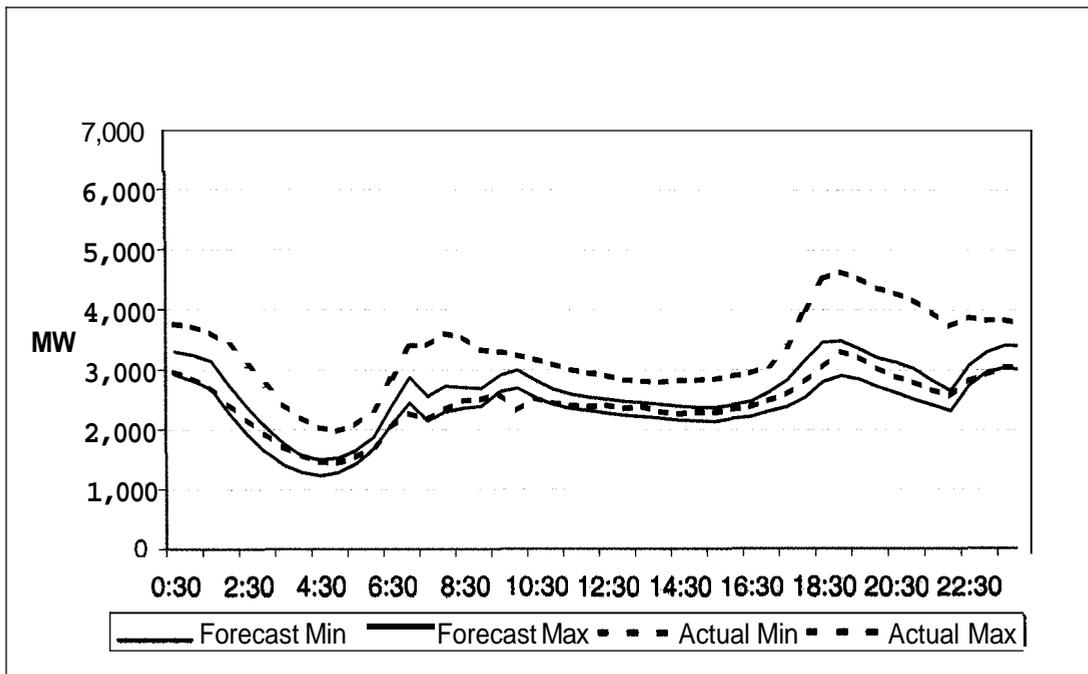
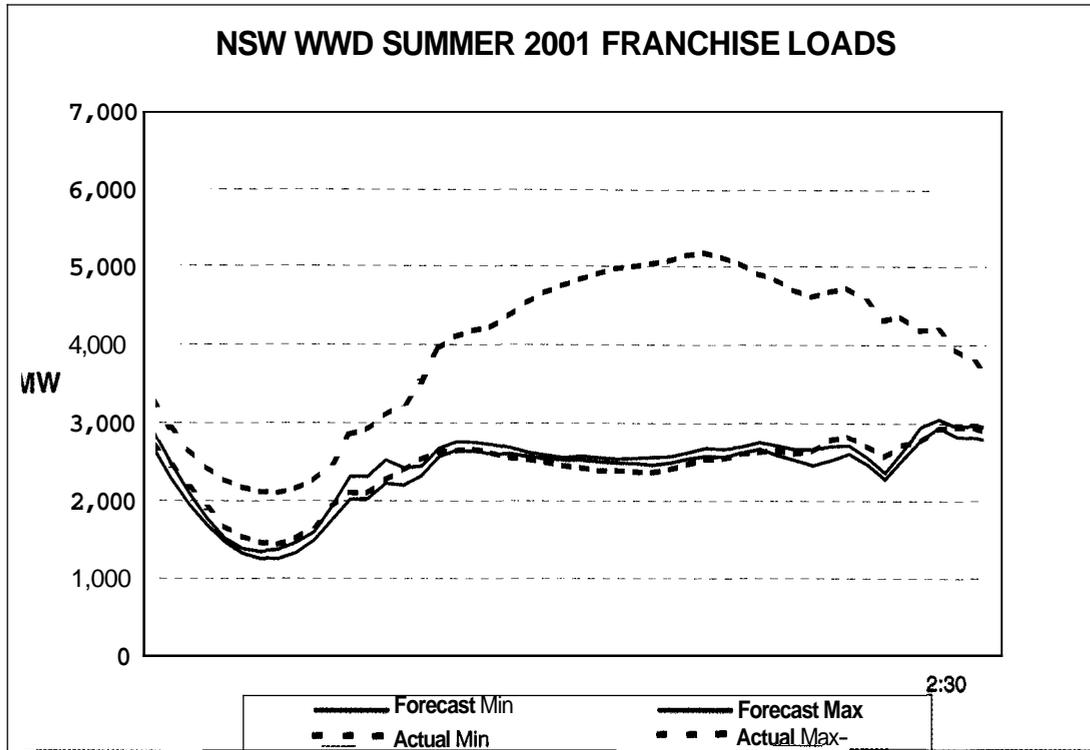
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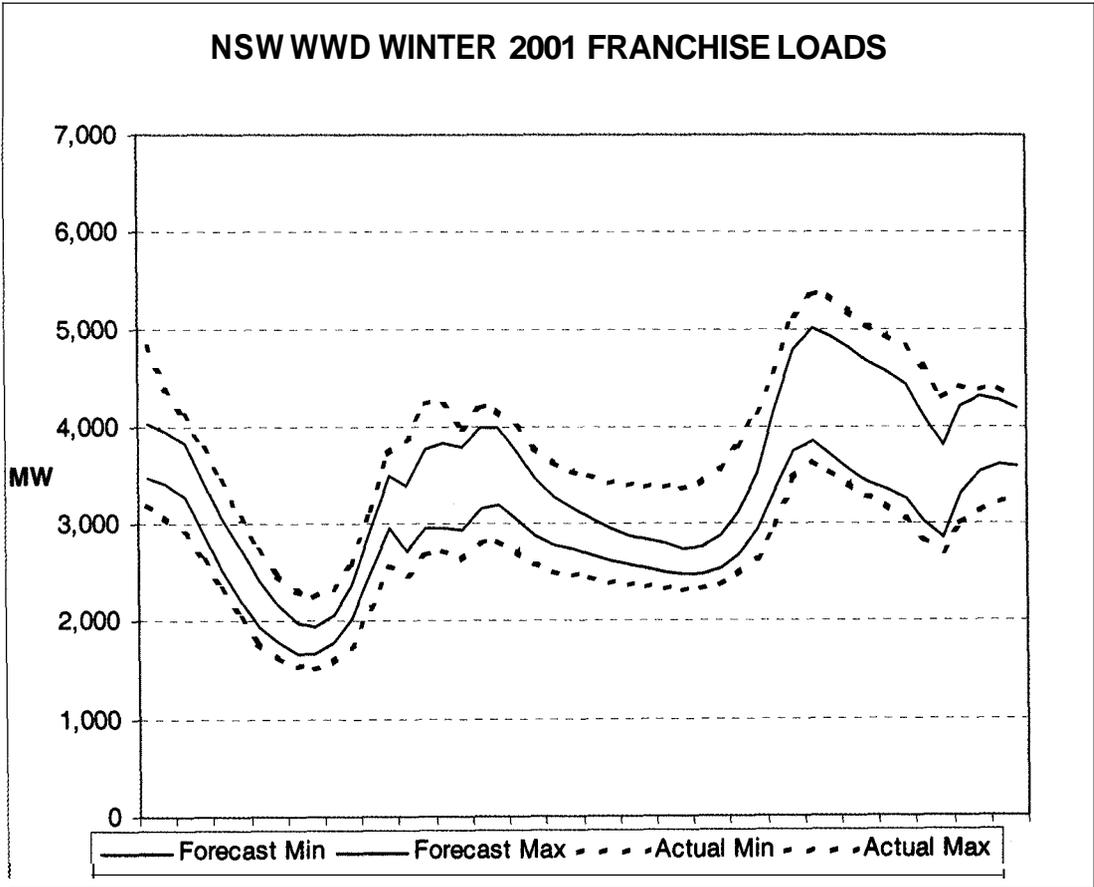


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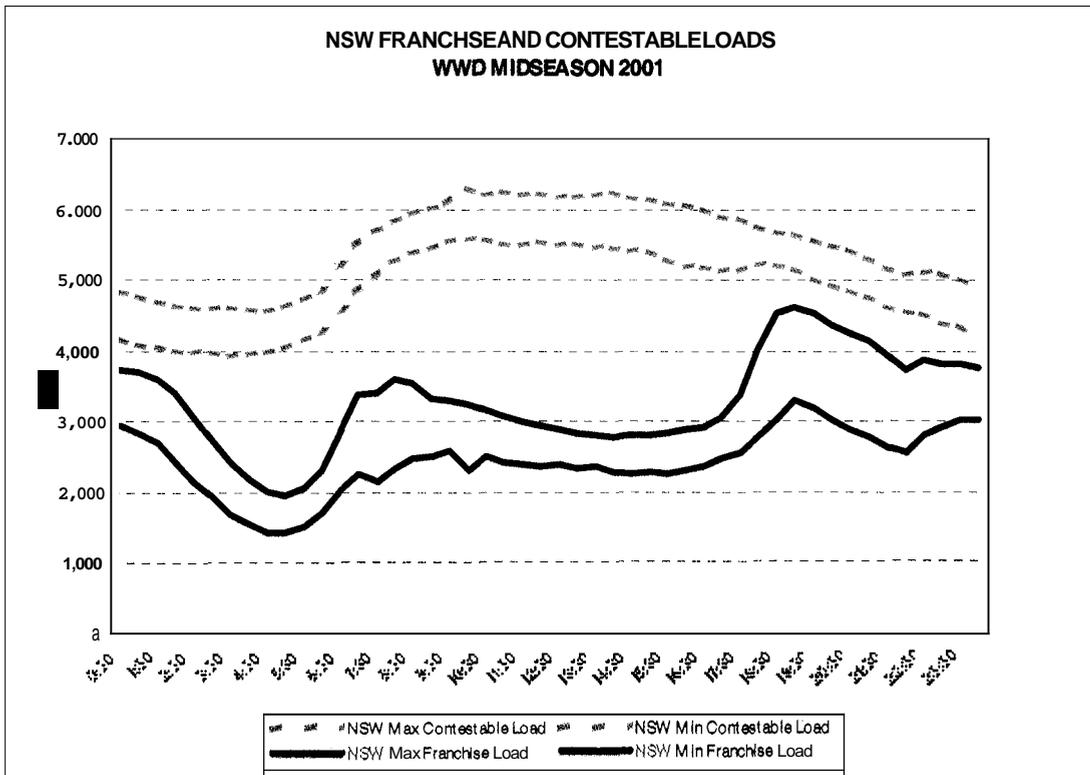
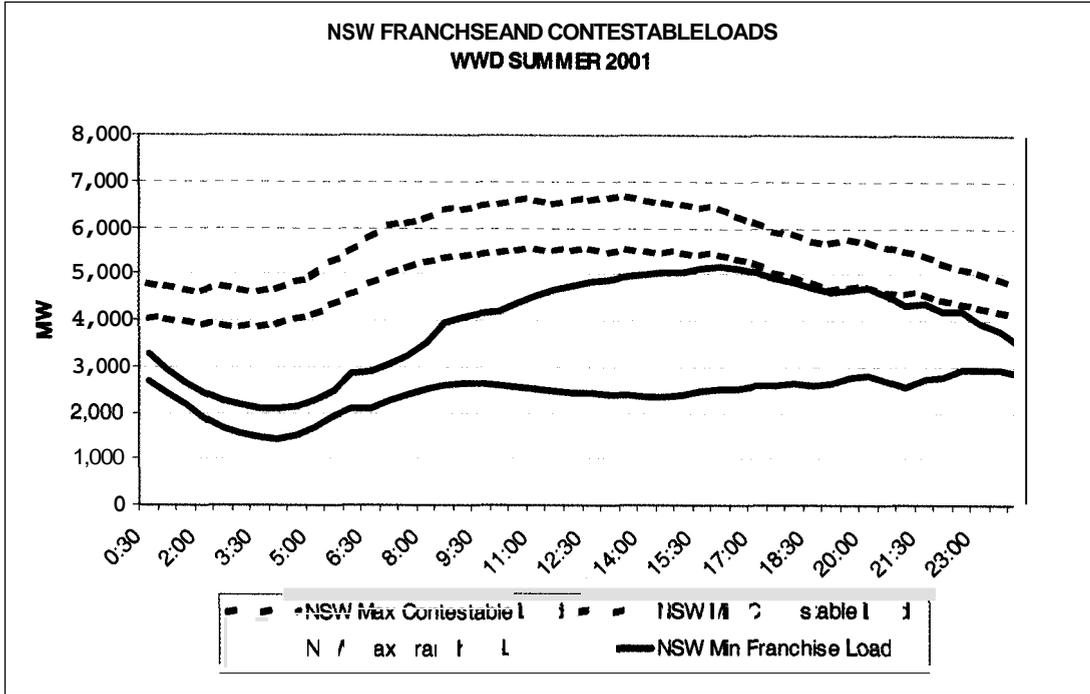
LUKE WELFARE  
REGULATIONS OFFICER

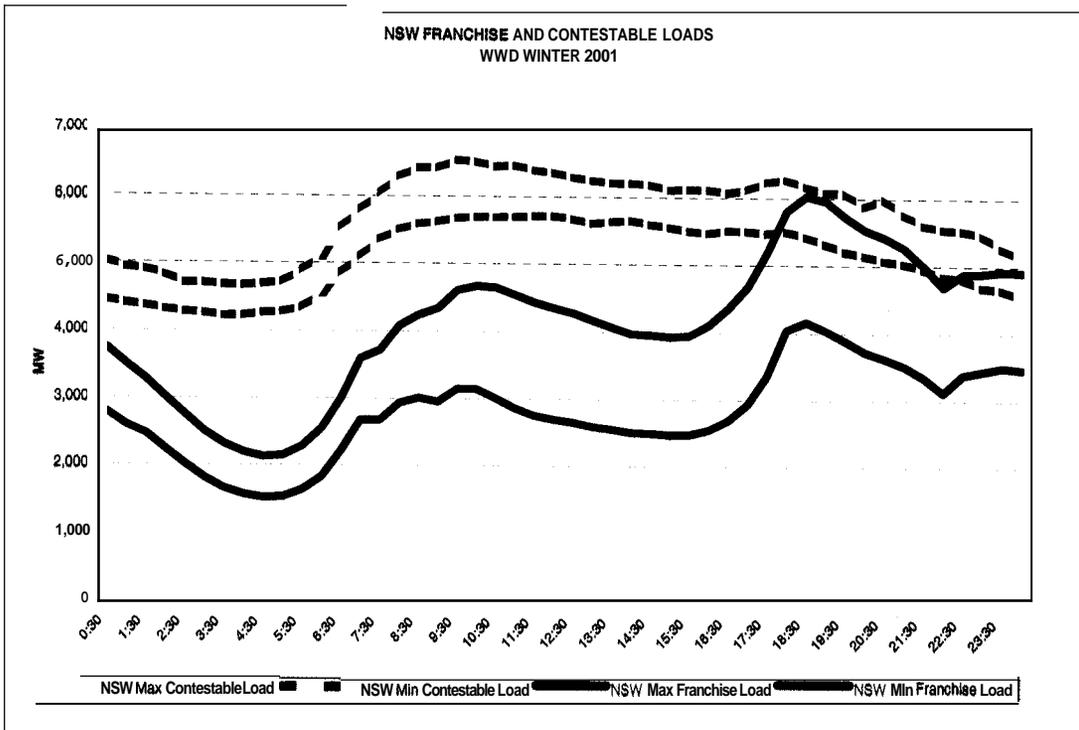
**Appendix 1: Graphs of current franchise load versus treasury forecast load**





**Appendix 2: Franchise load versus Contestable load**





**Appendix 3: LRMC assumptions**

		System	ETEF	Contestable
Load factor		68%	48.6%	74%
Average load (2001) (MW)			2292	5043
Maximum load (2001) (MW)			6,026	5,043
WACC	10.5			
Demand volatility			0.254	0.138
Demand %			36.7%	63.3%
Capital cost	\$1,470/kw			
O&M (fixed)	\$ 15/kw			
O&M (var)	\$ 2.00/MWh			
COAL	\$1.35/Gj			
LRMC		\$45.50	\$57.82	\$42.75

#### **Appendix 4: ETEF load equivalent hedge product for contestable market.**

Below is a spreadsheet detailing how an ETEF type load can be hedged, using standard hedging products currently available in the market. The basic assumptions have been the following: -

- The ETEF load is not flat
- Nor consistent
- It has large seasonal variations
- ETEF contains allowances for daylight saving
- There currently does not exist a simple single replacement hedge product in the market
- Existing hedges are either flat load or flat peak products
- Therefore to build a covering hedge for an ETEF load several standard products are required to be purchased, using these as the building blocks to replicate ETEF
- The example shown uses caps and swaps, including the pool payments when a cap has been used

<b>Retailers Hedge Payment - Average Load Component</b>			<b>Retailers Income</b>	
Portion			Margin on ETEF REC	109
1	FY02/03 Flat Swap - 210 MW @ \$33.50/MWHR	\$61,626,600	Jan	\$ 11,274,002.30
2	FY02/03 Peak Swap - 40 MW @ \$46.00/MWHR	\$ 6,982,800	Feb	\$ 10,683,048.20
3	Q1 Flat Swap - 60 MW @ 35.00/MWHR	\$ 4,536,000	Mar	\$ 10,733,506.85
4	Q1 Peak Swap - 20 MW @ \$60.00/MWHR	\$ 1,116,000	Apr	\$ 8,717,456.00
5	Q2 & Q3 Flat Swap - 120MW @ \$31.00/MWHR	\$ 16,338,240	May	\$ 12,931,112.70
6a	FY 02/03 Flat \$100 Cap - 150MW @ \$4.50/MWHR	\$ 5,913,000	Jun	\$ 14,053,301.35
6b	FY 02/03 Pool Payments capped at \$100@ Ave \$32.00/MWHR	\$ 2,048,000	Jul	\$ 15,828,300.40
7a	Q2 & Q3 Flat \$100 Cap - 100MW @ \$2.50/MWHR	\$ 480,000	Aug	\$ 14,283,285.50
7b	Q2 & Q3 Pool Payments capped at \$100 @ Ave \$29.00/MWHR	\$ 5,568,000	Sep	\$ 9,329,976.70
			Oct	\$ 8,448,671.00
		<b>\$144,608,640</b>	Nov	\$ 10,319,784.75
			Dec	\$ 10,750,977.60
				<b>\$137,353,423.35</b>
	<b>Retailers Hedge Payment - Load Flex Component</b>			
8a	FY 02/03 Flat \$100 Cap - 100MW @ \$4.50/MWHR	\$ 3,942,000		
8b	N 02/03 Pool Payments capped at \$100@ Ave \$32.00/MWHR	\$ 5,256,000		
		<b>\$ 9,198,000</b>		
		<b>\$153,806,640</b>		
	<b>Average Hedge Costs \$/MWHR</b>	<b>\$55.77</b>		
			<b>ETEF REC's FY 01/02</b>	
			Peak	\$ 66.90
			Offpeak	\$ 25.70