

6 October 2006

Mr J Cox
Chief Executive
Independent Pricing and Regulatory Tribunal of NSW
PO Box Q290
QVB Post Office NSW 1230

Dear Mr Cox,

REVIEW OF REGULATED RETAIL TARIFFS AND CHARGES FOR ELECTRICITY 2007-2010

Delta Electricity ("Delta") welcomes the opportunity to make the following submission in relation to this Review.

Delta agrees with the view expressed in the Terms of Reference that if the regulated tariffs are set too low competition will be impeded as retailers will be unable to source hedges that are competitive with regulated tariffs. Further, it is Delta's view that electricity supply in NSW is tightening to the point that new load growth will need to be met with new capacity and that for that capacity to be built, wholesale hedge prices will need to cover new entrant costs.

Delta considers that a fundamental issue to be addressed in the review is the methodology to be used for estimating the Long Run Marginal Cost ("LRMC") of supply to the franchise load.

Delta's detailed considerations in relation to this Review are set out in the Attachment. In summary, Delta submits that:

1. Weather-dependant volatility is a hallmark of the franchise load which should be explicitly addressed through a 'standard weather' load model.
2. A standard-weather load model will provide a most likely ("50% POE") maximum demand over which a 15% Reserve Plant Margin should be applied to determine the total portfolio capacity required to supply the franchise load profile.
3. The LRMC of an optimised portfolio of new entrant generation represents a reasonable benchmark for the cost of energy under regulated tariffs.
4. The Tribunal, in building a cost model for the generation portfolio, should consider the distribution of estimates for each cost element to derive the likely statistical distribution of total costs. This will enable more confidence to be given to the most likely value.

Delta would be pleased to provide any clarification of the above or any further assistance. If you would like to discuss these matters further please contact Phil Colebourn (02 9285 2751).

Yours sincerely,



Tim Baker
GENERAL MANAGER MARKETING
Attach

ATTACHMENT

Delta Electricity Submission to IPART Review of Regulated Retail Tariffs 6 October, 2006

General

Delta considers that the key issue to be addressed in the review should be the methodology to be used for estimating the Long Run Marginal Cost ("LRMC") of new entrant generation to supply the franchise load.

The key matters that Delta will address in detail in this submission relate to this methodology and are as follows:

1. Specifying the 'correct' franchise load
2. Determining the 'correct' allocation of reserve plant to the franchise load
3. The cost of new entrant generation, and

Each of these matters can have a significant bearing on the derived LRMC to the franchise load.

Background

Delta considers that NSW is approaching a balance of generation Capacity and Demand and that existing capacity in NSW (from generation and available imports from interconnectors) is fully utilised. Accordingly, an increment of load will need to be met by new capacity and the LRMC calculation should simplify to a calculation of the costs of an optimised portfolio of new entrant generation.

Further, ongoing sustainability of the electricity market requires that efficient new entrant costs should, over the longer term, be covered by wholesale hedging costs otherwise new capacity in NSW will fail to eventuate.

It is Delta's view that the cost of energy in the regulated Tariffs should be set to reflect the average level of the estimated LRMC. Regulated energy costs at this level would avoid the disruption of large step changes in costs to franchise customers having to move to competitive arrangements.

In our submission to the Tribunal's 2004 review, Delta cautioned that if the regulated tariffs are set too low (ie below the LRMC) then competition will be impeded. The ability of 'non-host' retailers (ie other than the franchise area standard retailer) to offer competitive alternative offerings to the franchise customers will be limited to niche market segments targeted on the basis of size or appliance profile. The majority of customers may not see competitive offerings.

It was Delta's view that in 2004 the LRMC of generation that the Tribunal settled on was at the low end of the range of estimated costs. Accordingly it is anticipated that to the extent that the 2004 LRMC was set too low, a step up in (real) regulated costs may now be required.

Movements in the costs of hedging the regulated load support this view. Whereas the energy rates in franchise tariffs have increased about 8% since 2004, the market prices for flat electricity swap contracts (average over the following three financial years) have risen since February 2004 from an average \$35.40 to a present \$40.00/MWh - a 13% increase. A retailer attempting to win customers from a regulated tariff therefore has a 5% lower margin over energy costs than it might have had in 2004 which makes such programmes less likely to be commercially viable.

Estimating the LRMC for the regulated load is not a simple process. It requires understanding the characteristics of the supplied load as well as the costs of the optimal 'mix' of supply technologies. These matters will now be addressed in the following sections.

The 'Correct' Franchise Load.

The current review takes place in a richer data environment than the 2004 review. There are two sources of public data that appear as likely candidates to reflect the aggregate load of the Franchise customers, Electricity Tariff Equalisation Fund ("ETEF") data as published by the ETEF Ministerial Corporation, and Net System Load Profile ("NSLP") data published by the National Electricity Market Management Company ("NEMMCO"). These two data sources are discussed below and compared for suitability for use to describe the franchise load.

ETEF profile

The ETEF load data has an advantage in it is actually defined in relation to the NSW franchise load. There are however two adjustments that need to be made before the data can be used in a LRMC model viz;

- Embedded generation: embedded generation has already been netted off the published ETEF profile and needs to be restored to obtain the actual franchise load. Some adjustments, such as generation from the Sique power plant, may be made from published data but other adjustments may need to be estimated.
- Customer "Peel-off": The published ETEF load has shrunk (12months moving average totals) from 24 TWh in 2001 to around 18.7TWh at present. This "Peel-Off" is occurring on a customer segment that also has some underlying growth. An adjustment for "Peel-Off" needs to be made in order to estimate the underlying aggregate franchise load shape. If 'Peel-Off' is not compensated a systemic bias towards under-estimating December compared with January will be introduced. . Published data on "Small Customers exercising choice" is available from the NSW Department of Energy, Utilities and Sustainability ("DEUS") however that data includes both electricity and gas customers.

NSLP profile

The NSLP profile, effectively intended to reflect those customers who do not have interval meters installed, will substantially overlap customers included in the ETEF profile. Notwithstanding, there are two adjustments that require to be made to the NSLP profile before it can be used as an estimate of the franchise load, viz;

- Kurri Kurri Smelter: In Energy Australia's submission to this review, it is noted that prior to 13 August 2006 the published NSLP for EnergyAustralia included the Kurri Kurri smelter load. An adjustment to remove the smelter load is necessary.
- Controlled Load profiles: NEMMCO publish the aggregate of a sample of meters as "CLOAD" which needs to be scaled up to estimate the total controlled load profile for a particular period. The sum of the estimated aggregate CLOAD and the published NSLP profile may then be calculated and used as an estimate of the franchise load.

Prior to EnergyAustralia's publication of their submission to this Review, Delta had encountered difficulty in reconciling the ETEF profile to the NSLP profile after making various adjustments. After adjusting for the Kurri Kurri smelter load it now appears that the major differences are reconciled. On balance, the adjustments required to be made to the NSLP data appear less likely to materially affect a LRMC estimate accordingly Delta's analysis is based on adjusted NSLP data.

The NSLP profile is also subject to underlying growth and, as customers are equipped with interval meters, it can also shrink. These two effects seem to have largely offset each other so the overall profile size has remained relatively constant since 2001.

Characteristics of the regulated load

In NSW, the ETEF arrangement manages, at the wholesale level, a number of properties of the regulated load:

- **Load Shape:** The loadshape is very peaky with only 45% annual Load Factor, ie each 100MW of capacity serving this profile generates at only 45% of its capability. The ETEF loadshape is highly sculpted with its peaks having a high correlation with higher price-risk periods.
- **Load Volume flex:** The scheme is “whole of meter”; upwards flex in volume, due typically to extreme weather in summer and winter, has a high correlation with higher price-risk periods and mild weather often correlates lower demand with lower spot prices
- **Load Growth or decline:** The ETEF scheme accommodates without penalty any load growth or shrinkage over time.
- **‘right of return’ to the ETEF scheme,** provides the right for customers to switch to a competitive arrangement when the market price is low and revert back to the scheme when market prices are likely to be higher.

The overall size of the regulated load (ETEF adjusted for embedded generation) remains significant in NSW at 21.8TWhpa (18.7TWh unadjusted) with a maximum demand of 4985MW (12months to August 2006).

The Maximum Demand that the profile may reach under extreme weather conditions, however, may be much higher than that actually achieved in a particular period. It is this **potential** Maximum Demand that determines the quantum of physical generation capacity required to service the load and that is the subject of the next section in this submission.

The ‘Correct’ Allocation of Reserve Plant

Without completely replicating NEMMCO’s planning criteria in relation to the franchise load, Delta suggests that a simpler approach, based on Table 2.6 of the 2005 issue of NEMMCO’s Statement of Opportunities (“**SOO**”) may yield similar reserve criteria to those applied to the broader electricity market.

To implement this approach, it is necessary to estimate the 50% Probability of Exceedance (“**POE**”) Maximum Demand for the franchise load. This is an estimate of the Maximum Demand that is likely to be exceeded five years in ten. This is considered a conservative approach as NEMMCO use a 10% POE criteria.

In order to construct this estimate, it will be necessary to develop a ‘standard weather’ model of the load similar to TransGrid’s forecasting methodology as described in their “NSW Planning report 2006”. The TransGrid methodology involves analysis of the correlation of temperature and daily maximum demand.

Accordingly, while the NSLP (adjusted for Kurri Kurri and the controlled Load profiles) has a maximum demand and total energy of 6,661MW and 27.8TWh (12 months to end April, 2006) respectively. Delta’s current estimate of the 50% POE Maximum demand is 6,594MW.

Table 2.6 in NEMMCO's 2005 SOO indicates that the current reliability criteria yield approximately 15% Reserve Plant Margin over the 50% POE Maximum Demand for the NEM as a whole. Applying this level of reserve to our 50% PO Maximum Demand for the franchise profile of 6,594MW delivers 7,583MW as a benchmark for the total capacity required to service this profile.

The Cost of New Entrant Generation

Delta notes that the LRMC may be expressed as the Net Present Value ("NPV") of costs to supply the franchise profile divided by the NPV of energy over the evaluation period, provided all constraints such as reserve adequacy are satisfied.

If a non-growing profile is adopted to represent the franchise load (eg the NSLP adjusted for Kurri Kurri and the controlled Load profiles), the LRMC calculation should simplify to a static cost of supply analysis requiring an optimised (least cost) mix of alternate supply technologies.

The LRMC will be dependant on the specific profile being considered. Profile shape is also a key input into hedging costs, accordingly it is recommended that a LRMC be derived for each retail franchise area to provide a level competitive environment.

New Entrant Base Load Plant

Delta notes that forward prices for electricity contracts have exceeded \$35.00/MWh (average of the following three financial years) since September 2003 and there has been no 'gold rush' to build base-load plant in NSW over the last three years. Projects currently under active consideration in NSW are niche peaking plant such as Delta's Munmorah GT project or CCGT plant such as Tallawarra which benefit from the NSW Greenhouse Gas Abatement Scheme.

This suggests that new entrant base load costs are in excess of \$35.00/MWh.

Delta is sceptical of estimates of base load new entrant costs of \$32.00 (\$/MWh in 2003/2004 prices - ACIL Tasman 'Report on NEM generator costs) and note that other independent estimates exist at \$38.87/MWh (Rohan Zauner of SKM: presentation to the EUAA, June 2006).

Even if one project can be delivered cheaply, the general level of new entrant costs for the same technology may be significantly higher.

Uncertainty in Cost Estimates

Delta recommends that the Tribunal apply sensitivities to all cost assumptions so that the distribution of likely overall costs may be understood .

Each cost element considered by the Tribunal will be an estimate and will have uncertainty associated with it. To illustrate, the Weighted Average Cost of Capital ("WACC") for a base load new entrant may be assumed to be normally distributed with mean 10.75% and standard deviation 1%.

Once the cost model for the portfolio of new entrant generation has been established then it will be possible to apply the individual cost element distributions to determine the statistical distribution of overall portfolio costs. Delta recommends that the mean overall portfolio cost be adopted as the LRMC.

Delta is progressing some modelling work to provide further quantitative information to the tribunal, but that will be the subject of a later supplementary submission.

3. Summary

Delta's submission relates to the methodology of estimating Long Run Marginal Costs of supply to the franchise load with the following specific recommendations;

1. Weather-dependant volatility is a hallmark of the franchise load which Delta recommends be explicitly addressed through determining a 'standard weather' load model.
2. A standard-weather model will provide a most likely ("50% POE") maximum demand over which Delta recommends a 15% Reserve Plant Margin be applied to determine the total portfolio capacity required to supply the franchise load profile.
3. Delta supports the use of LRMC of an optimised portfolio of new entrant generation as a reasonable benchmark for the cost of energy in regulated tariffs.
4. Delta further recommends that in building a cost model for the generation portfolio, the tribunal consider the distribution of estimates for each cost element to derive the likely statistical distribution of total costs and therefore to more confidently identify the most likely value.

Delta would be pleased to provide any clarification of the above or any further assistance required. If you would like to discuss these matters further please contact Phil Colebourn (02 9285 2751).