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Submission

23 July 2018

Energy Queensland
General Manager Regulation and Pricing
GPO Box 1461
BRISBANE QLD 4006

Via email: tariffs@energyq.com.au

Dear Sir/Madam

Re: Energex and Ergon Energy Network Tariffs 2020-25

Further to QFF's submission to the Energex and Ergon Network Tariffs 2020-25 Customer Consultation Paper on 20 July 2018, please also include and consider the following information that was pending at the time of our submission.

Ergon's calculation of LRMC (pp. 5-7)

QFF clarifies our comments regarding 'the apportionment of capex to demand growth' to:

QFF looks forward to reviewing this information in the final 'Deep Dive' session.

QFF also requests that EQ provide historical data of actuals versus estimated LRMC over the previous regulatory periods before providing detailed comment on the proposed approaches to estimating LRMC for 2020-25. QFF provides specific comment on the two options outlined in the Customer Consultation Brief (June 2018) Titled: Long Run Marginal Cost below.

Annual Increment Cost

QFF understands that EQ use the annual incremental cost (AIC) to calculate the LRMC. The following table presents QFF's comments regarding the application of AIC.

EQ	Response
The AIC is intended to provide a long-term price signal but is based on 5-year to 10-year expenditure and demand forecasts	20-year capital plans are prepared by other utilities in Australia, including: • Melbourne Water, which is uses it's 20-year plan to calculate its LRMC • Water NSW, which is in the process of preparing a 20-year infrastructure plan • TasWater, which has prepared a 20-year Long Term Strategic Plan to inform its price and service plan 3 process • SunWater (QLD) is currently considering a new annuity approach to assets

EQ	Response
Low or negative demand growth and corresponding low expenditure leads to a volatile AIC	This could be addressed with the Turvey perturbation method.
Net demand growth includes demand from new and modified connections	Expenditure triggered by new and modified connections should be removed from the AIC calculation. This would balance removing demand growth from these categories. The expenditure due to increased demand from new and existing connections can be recovered through connection charges, rather than by the demand charge through the LRMC.

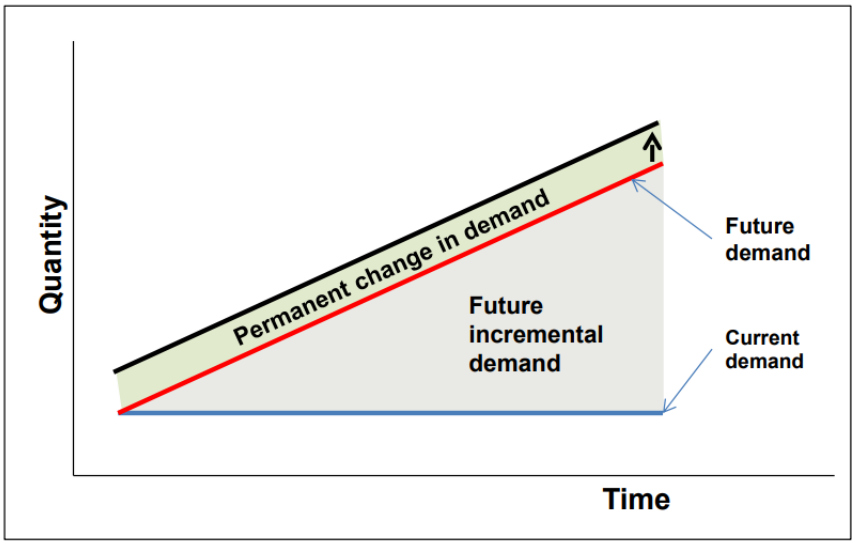
The Perturbation or "Turvey" approach

Energy Queensland identifies the perturbation method as an alternative to the AIC. The perturbation method is:

Present value of growth expenditure with a permanent increase to demand
Minus Present value of growth expenditure
All divided by
Present value of the permanent increase in demand.

EQ appear to dismiss the perturbation method due to the need to calculate a new expenditure profile. However, the Turvey perturbation method increases demand by an amount that brings forward expenditure one year. The Turvey perturbation uses the existing expenditure profile for both the existing and perturbed demand.

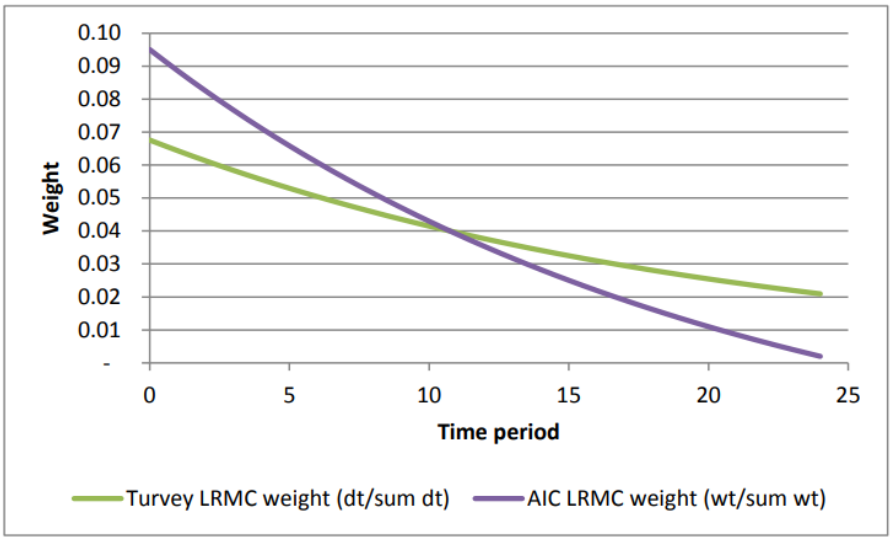
The change in demand using the perturbation method is shown in the following figure from Tooth[1].



Under certain conditions, the AIC and Turvey perturbation give the same LRMC. Tooth (2014), notes that with a constant growth rate, both methods are effectively weightings applied to annualised growth expenditure. The weighting applied to growth are the same if growth expenditure is held constant.

[1] Tooth (2014) Measuring long run marginal cost for pricing.

The following graph shows Tooth's (2014) annual weightings using a 5% discount rate.



The graph shows that the Turvey approach applies a lower weighting to earlier years than the AIC, which would address the concerns EQ has regarding volatility.

As such, QFF concludes that the Turvey perturbation method:

- Does not require an alternative estimate of growth expenditure
- Has a lower weighting applied to earlier years than the AIC, reducing volatility from small demand values in these years.

EQ Proposed Options

EQ has proposed two methods to address the issues of the AIC:

- Option 1: The 500 MW model
- Option 2: Long Run Incremental Demand approach.

The 500 MW model

Energy Australia have proposed developing a 500 MW model network to determine the LRMC. QFF questions if this method is appropriate given this appears to be a hypothetical model so there will be difficulty reflecting the aspect of the physical network, including the actual customer service standards.

The long run incremental cost

Energy Australia have also proposed using the long run incremental cost (LRIC). The LRIC is:

- The present value of the next system augmentation
  Divided by
- The present value of demand serviced by the next system augmentation.

QFF requests that EQ provide further information on this method to address the following concerns:

- The LRIC generally considers only the next system augmentation. The LRIC is problematic for a network with many augmentations.
- EQ have proposed using existing assets to overcome the limited nature of the LRIC.

However, this highlights other issues including:

- This means the LRMC, which is intended to be forward looking, will be backward looking.
- EQ has proposed optimising existing assets to take account of:
  - Optimised network planning

- Excess and changes to demand
- Advancements in equipment and supporting technology (including ICT).

This optimisation work is likely to require extensive analysis. This analysis may better be served preparing a 20-year expenditure and demand forecast.

QFF does not consider the 500 MW model or LRIC methods ideal for calculating the LRMC as they do not reflect the forward-looking cost of augmenting the existing network.

EQ have highlighted issues with the AIC. QFF understands that these can be addressed by:

- Forecasting growth expenditure and demand growth over 20 years to increase the period covered by the LRMC
- Using the Turvey perturbation method to reduce the volatility caused by low or negative demand growth in early years
- Robust consideration of exclusions from both growth expenditure and demand growth for the LRMC calculation.

Yours sincerely

Travis Tobin
Chief Executive Officer