Queensland Competition Authority
GPO Box 2257
Brisbane Q 4001
electricity@qca.org.au

28 February 2014

Submission to Draft Determination of regulated retail electricity prices for 2014-15.

I am a Senior Research Fellow in the Science and Engineering Faculty at Queensland University of Technology. My specific area of research is on energy efficiency, renewable energy and the built environment, with specific reference to the residential sector.

I support the overall 'cost reflectivity' approach of the QCA however I wish to express my very strong concerns about the proposals outlined in the Draft Determination. In particular, my concerns relate to the manner in which network costs are determined and apportioned, and the assumptions made about residential customers. Much of the content of the Draft Determination document lies at odds with research data in the area of residential energy use, making it inconsistent with 'best practice' and 'evidence based policy'.

- How is cost-reflective pricing determined? Network costs, in my understanding, are strongly impacted on by overall energy demand (total MWh) and energy load (MW): these two issues collectively contributing to investment in infrastructure (amongst other things).
    - I could not find any data which adequately explained how N (network cost) is determined (what are the actual costs of supplying the service) and then apportioned to different classes of customers (e.g. between residential and non-residential customers).
    - It appears as if the QCA is assuming that all residential customers have the same impact on network costs, and therefore should pay the same 'service charge'. This is despite numerous industry presentations in recent history where the networks state that air conditioners, for instance, impact significantly on the network. Indeed, a large % of network infrastructure expenses in the past decade have been attributed by the industry to the need to meet peak demand due to residential air conditioners.
    - Residential usage profiles vary dramatically depending on the energy efficiency of their house (i.e. the ability to provide comfort without the use of air conditioners); on the use of large energy consuming appliances (e.g. air conditioners, pool pumps); on the use of other energy sources for some services (e.g. gas for cooking; solar or gas for water heating) and on occupant behaviour. There is ample evidence showing that all residential customers do not have the same impact on the electricity network, and therefore should not be charged the same fees for connection to that network.
    - The proposed TOU tariff is possibly a way to take this into account, however for it to be effective, I believe that the evidence shows that
        - The service charge cost should be incorporated into the consumption charge (or, at a minimum, there is an inclining block tariff); and
        - The TOU needs to be variable, to reflect the different impacts of TOU on specific parts of the network at specific times.
- The 'costs' of the Solar Bonus Scheme are stated to be the 2nd reason for rises in network costs, however I could find no data which clearly and accurately evaluated both the costs and the

benefits of the scheme to the networks. Even standard RIS processes require a cost benefit analysis, yet the Draft report only reports a cost (not in detail). There is no mention of evidence which elucidates the benefits that the Solar Bonus Scheme has provided, e.g. in terms of deferred infrastructure investment, network support, and reduced purchase of wholesale power on the national market during heat waves (refer to recent data from Victoria).

- The QCA appears to accept, as 'fair', that residential customers with low demand should carry a much higher % price rise than those customers with a high demand. There is no evidence provided to support this surprising stance. It would appear that such a strategy would send a message to the voting public that those households who have implemented previous and current government policies promoting energy efficient homes, energy efficient appliances and renewable energy technologies should now be punished for their endeavours.
- These residential customers could possibly argue that such allocation of fees and charges is against standard consumer protection requirements as articulated by the ACC. This conundrum can be avoided by clearly identifying the network costs (N) and how the costs are apportioned, taking into account the impact that various residential types have on the network. Again, there is much evidence that the QCA could access regarding this.
- Some of the current dilemma appears to stem from the QCA's inexplicable table of customer types (Table 20). It appears that the writers of this report have no idea of the extent to which government policies in energy efficiency HAVE WORKED, with a modern family able to function very well on electricity consumption far less than the median 4100kWh quoted. Indeed, it is an insult to many families that the QCA considers that their energy efficient life styles mean the government assumes they are living in 'mostly vacant holiday homes' or are 'a frugal single person'. Has the QCA so little confidence in government policy actually working?
- From our quite considerable experience in applied (field) research in Queensland houses and their impact on the electricity network, we have found that there are many assumptions and very little measured data on actual energy use. For example, total household energy consumption figures are not kept (reflecting both gas and electricity consumption), and the net metering arrangement of the Solar Bonus Scheme means that there is no accurate data on total electricity consumption and total solar generation.

In general, I express my concern that the QCA Draft Determination is at odds with government intent for best practice and evidence based policy, is at odds with residential customers who have implemented government policies for energy efficiency, is at odds with government policies on energy efficiency and carbon reduction, and is far removed from existing published evidence.

This report, in its approach and in its proposals, is extremely disappointing. It does not meet my expectations for students in QUT's post-graduate Energy Systems Fundamentals unit, let alone a document on which to make policy decisions that impact on every Queenslander in their daily lives.

Dr Wendy Miller, Senior Research Fellow
Science and Engineering Faculty, Queensland University of Technology
[redacted]