

**AGL response to  
Queensland Competition Authority  
on  
Draft Calculation of the 2008-09  
Benchmark Retail Cost Index**

**February 2008**



## Executive Summary

AGL welcomes the opportunity to comment on the QCA's Draft Decision on the Benchmark Retail Cost Index (**BRCI**). AGL is looking forward to working closely with the QCA and its consultants, Charles River Associates (**CRA**) in determining the final 2008/09 BRCI.

AGL supports the intent of the BRCI, which is to capture the rate of change in a Queensland retailer's cost structure year on year. As has been previously noted in AGL's submissions to the QCA, if these costs are not properly assessed and allowed for, there is likely to be a detrimental impact on the level of competition in the retail market and investment in the energy market in Queensland.

While the Draft Decision suggests a BRCI of 7.01%, 4.5% of that is attributable to increases in network costs. AGL has identified inconsistencies in the QCA's Draft Decision which actually mean that the network cost component should be 5.37%, and the total BRCI increases to 8.87%. This adjusted BRCI still only leaves an increase to retailers of 3.5%.

This means under the Draft Determination (prior to amendment), retailers would be permitted an increase significantly lower than CPI to cover their increased wholesale and operational costs. In a market where wholesale costs continue to be highly volatile (as most recently demonstrated by the activity in the Queensland wholesale market in the weekend of 23 and 24 February 2008), and where labour costs are increasing at a rate higher than CPI, this clearly represents a manifestly inadequate cost recovery for retailers. A BRCI which only allows retailers an increase of 2.65% does not meet the policy objectives clearly articulated in the Minister's letter accompanying the delegation and the delegation itself. In his letter to the QCA dated 16 March 2007, the Minister states:

*[t]he policy intent of the annual indexation of electricity tariffs by the Index is to ensure existing headroom remains relatively stable. Headroom refers to the difference between the cost of supply and the current tariff level.*

AGL is of the view that the BRCI as it is currently provided for the Electricity Act (**Legislation**) and the Energy Regulations (**Regulations**) is fundamentally unsuited to capturing the costs of retailers supplying regulated customers in Queensland. AGL encourages the QCA and Department of Mines and Energy (**DME**) to conduct an immediate and comprehensive review of the methodology used in the BRCI and to advocate amendment to Legislation and Regulations where appropriate. The amendments should include a provision whereby network costs are directly passed through, such that the BRCI controls changes to the retailer's energy costs and margins only, and does not require retailers to absorb costs associated with network increases. AGL reiterates its view that the interests of consumers and retailers are best served through the implementation of a multi-year price path.

However, notwithstanding the need to overhaul the Legislation and Regulation, AGL disputes the methodology used and the results obtained by CRA. AGL notes that at present stakeholders have not been provided sufficient information by the QCA's consultants, CRA to permit the appropriate level of consultation. AGL requires as a matter of urgency further information on the methodology adopted by CRA, the operation of CRA's proprietary models, the input assumptions feeding into those proprietary models and detailed results of the modelling exercise to permit a comprehensive submission on the Draft Decision. AGL is pleased to note that the

QCA is presently considering these issues. AGL reserves its right to make further submissions once that information has been provided.

Even in the absence of adequate information regarding the methodology adopted, there are clear issues with the results of CRA's analysis and modelling. AGL understands that the QCA has attempted to reconcile some of the tensions between BRCI structure and the delegation. However, CRA have adopted a number of assumptions and methodologies that further undermine the ability of the application of the BRCI to lead to cost recovery for retailers:

- The finding that LRMC is reducing by 3.6% is difficult to reconcile in a market where national inflation is 3%<sup>1</sup> (with Brisbane CPI being 3.9%). The costs of labour, fuel and capital have increased and the load factor of the total Queensland system has in fact degraded by 1.74%. This finding is counter-intuitive, and clearly suggests an immediate need to allow stakeholders greater transparency of both the input assumptions and the methodology employed.
- AGL is pleased to note that the QCA continues to take into account energy purchase costs as a relevant component to the BRCI. However, AGL believes it is inappropriate to ask stakeholders to accept as a precedent a methodology which relies on undisclosed assumptions, modelling processes and results. AGL advised the QCA and CRA that any attempt to quantify energy purchase costs by reference to a theoretical portfolio approach that relies on a number of subjective input assumptions would result in highly contestable outcomes. AGL again reiterates the need for a more transparent method of determining energy purchase costs with less reliance on contestable input assumptions.
- AGL is concerned by the arbitrary allocation of a 50:50 weighting applied to the LRMC and energy purchase costs. While AGL understands the QCA is concerned to give sufficient weight to the legislative requirements to use LRMC, AGL does not believe that current weighting takes adequate account of other policy objectives, namely that of ensuring the BRCI maintains retailer headroom. Given that (according to CRA) the LRMC is reducing by 3.6% while the energy purchase cost to retailers is increasing by 12.4%, AGL suggests the current weighting does not adequately recognise the impact of CRA's LRMC finding on a retailer's headroom. The use of the weighting mechanism should be reviewed with the aim of providing retailers with a more cost reflective wholesale cost component to the BRCI, with the weighting adequately reflecting the intent of the methodology employed and the duration of the price path.
- The 2007/08 BRCI was calculated with reference to assumptions as to network, TUOS costs, and churn rates, due to the actual figures being unavailable at the time the 2007/08 BRCI Final Decision was made. In order to ensure consistency and an equitable outcome, the QCA must use those same assumed costs in the 2007/08 base year for accurate comparison in determining the 2008/09 BRCI.
- Various rates of inflation used by CRA need to be updated in line with greater inflation forecasts.
- AGL reiterates its view that a 5% margin does not reflect commercial expectations of a retailer in the Australian market.

AGL notes the fundamental changes to the energy market that will be brought with the introduction of the increased Mandatory Renewable Energy Target (*MRET*), the

<sup>1</sup> December 2006 to December 2007 figures as per Australian Bureau of Statistics

Emissions Trading Scheme (**ETS**) and various other climate change initiatives. AGL will be discussing the implications of these initiatives with the QCA and the Department of Mines and Energy (**DME**) in the coming months. AGL is seeking specific recognition from the QCA that:

- the cost impacts of any scheme, other than those currently mandated, have not been considered;
- that retailers may start to incur such costs in the period between 2008/09; and
- that the QCA will seek to include any of these costs in the BRCI for 2009/10. AGL will be advocating a comprehensive analysis and approach to the impact on costs and tariffs will need to be undertaken as a separate exercise.

AGL looks forward to working with the QCA and its consultants to determine a more appropriate methodology and level of cost recovery prior to the release of the Final Decision.

## 1. Methodology and Approach

AGL understands that the legislative and regulatory framework provides a number of constraints on the QCA and its consultants which make full cost recovery by retailers, as envisaged in the drafting of these provisions and in the Delegation from the Minister to the QCA, difficult to achieve. AGL understands that the QCA has sought to address these tensions between the intent expressed in the Delegation and the provisions of the Legislation and Regulations.

However, AGL believes that, irrespective of these constraints, CRA has used a number of questionable assumptions in its analysis and a flawed modelling methodology, thereby failing to accurately capture retailers' costs even in the confines of the legislative and regulatory constraints. Contrary to the advice of retailers including AGL, CRA has adopted a completely non-transparent methodology to calculate both the LRMC and energy purchase cost component of the wholesale cost. Further, CRA has not provided stakeholders with key data used by CRA in their calculations of the LRMC and purchase cost. This effectively prevents AGL from understanding and commenting on the methodology used, and from commenting on the validity or otherwise of assumptions which clearly determine the result of the modelling work. This is in circumstances where the modelling work has produced results which are completely counter-intuitive and cannot be reconciled with observable facts.

AGL has made a number of comments in the body of the submission below as to specific concerns about the methodology and approach adopted by CRA. AGL invites the QCA and CRA to discuss these matters with stakeholders in further detail prior to the public workshop.

A complete list of the information and data required by AGL is at **Annexure 1**.

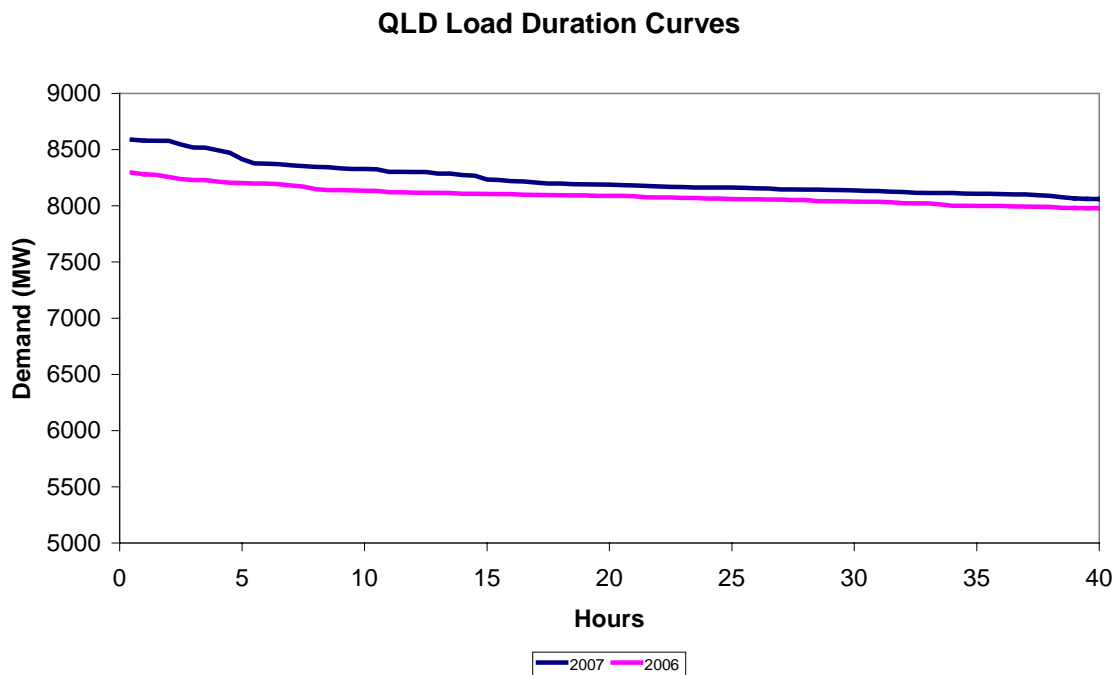
## 2. Cost of Energy

### 2.1 LRMC Calculation

Irrespective of any restrictions on the QCA, AGL does not accept that an LRMC calculated on load shapes derived from 2006 and 2007 Queensland load shapes that properly consider the escalating fixed and variable costs should result in a negative LRMC.

The 2007 total load for Queensland is peakier than the 2006 total load. This is evidence by the fact the 2007 load factor is 68.53%, and the 2006 load factor is 70.28%, which is a degradation of 1.74%%. The 'peakiness' of the 2007 load compared to the 2006 load is depicted in Figure 2.1(a) below which shows the highest 40 hours of demand in both 2006 and 2007, clearly demonstrating that 2007 has a higher maximum demand than that which occurred in 2006.

**Figure 2.1(a) Queensland Load Duration Curve – Top 40 Hours**



In the absence of any detailed information as to CRA's analysis and manipulation/scaling of these load shapes, AGL can only refer to its own assumptions and modelling based on its understanding of the different load shapes and input assumptions. AGL does not accept that the removal of direct connect transmission load would result in an improvement of the 2007 load factor – transmission loads typically have a constant load factor (ie are large and flat loads) which is not generally subject to degradation. As a result of this degraded load shape (ie, increased peakiness) AGL's analysis clearly suggests the LRMC must be trending upwards in the period 2008/09.

### 2.1.1 AGL's understanding of CRA methodology

As noted throughout this submission, CRA have not provided sufficient detail to allow stakeholders to understand and comment on their assumptions and methodology. However, AGL understands the general approach adopted by CRA is as follows:

- CRA has obtained from the QCA the 'NEM load', being the Queensland state load minus the direct connect transmission customer load, for calendar year 2006 and 2007. AGL understands that the QCA has been provided by NEMMCO with the calendar year 2006 and calendar year 2007 loads of all the transmission connection points, have removed those connection points that are direct connect customer loads and built a load profile for each year.
- CRA has then 'scaled' the 2006 load so as to calculate a projected load through to 2030 on the basis of the 2006 load shape. This **2006 shaped load** is the load used to determine the LRMC for 2007/08 period. This has been done through the following process:
  - The annual projected load for Queensland (extracted from the 20 year 2006 shaped load) is used to determine a load duration curve. CRA then divide this annual load duration curve into 40 time period blocks per year (see below regarding AGL's requirement for clarification of this). These 40 blocks are used instead of a half-hourly analysis of demand. CRA have then chosen a single data point to represent demand during this block of time. It is not clear what data point has been chosen – whether it is an 'average demand during the block' data point, or the 'maximum demand during the block' data point.
  - On the basis of a linear progression 'least cost' model (CEMOS), CRA has done the theoretical equivalent of 'building' the most efficient generation plant mix to meet the demand (on the basis of the single data point) on each block each year across the 20 year 2006 shaped load. CEMOS is an inter-regional modelling tool, which means that the assumed Queensland load could be met by installed generation in other states. The model does not appear to take account of transmission or inter-connector constraints, which suggests that the model assumes at times of peak demand in Queensland there can be perfect substitution from generation in other states.
  - CRA have used the ACIL Tasman 2007 Report as providing the input assumptions for the building and operation costs eg fuel price, capital costs, and generation marginal costs. The cost of building and operating this 2006 shaped generation plant is then used to derive the 2007/08 LRMC on a \$/MWh basis.
- CRA has then 'scaled' the 2007 load so as to calculate a projected load through to 2030 on the basis of the 2007-load shape (**2007 shaped load**). CRA has then done the theoretical equivalent of 'bulldozing' the generation built to meet the 2006 shaped load, and the 2007 shaped load is then used to determine the LRMC for 2008/09 period. In effect, the generation plant is then 'rebuilt' in accordance with the most efficient generation mix as determined by the 2007 load shape. AGL assumes this has been done by following the same process outlined above. The input assumptions used by CRA are not provided, and AGL cannot ascertain whether the ACIL Tasman 2007 Report has been updated by CRA to account for the change in those costs that would occur between 2007/08 and 2008/09.
- The cost of building and operating this 2007 shaped generation plant is then used to calculate the 2008/09 LRMC on a \$/MWh basis.

- CRA has concluded from this process that the LRMC for 2008/09 is 3.6% lower than the LRMC for 2007/08.

### **2.2.2 Insufficient information to provide comprehensive comment**

AGL is unable to properly understand the CRA methodology, assumptions or conclusions, nor provide any comprehensive comment on the same, in the absence of key items of information being provided.

AGL is formally requesting that the following information be provided to stakeholders as a matter of urgency to allow a properly informed discussion at the workshop.

- The NEM loads used in the calculation of the LRMC. AGL requires immediately:
  - the 2006 'NEM load' and 2007 'NEM load' used by the QCA and CRA in the calculations of the LRMC. The 'NEM load' is defined in s91F(2) of the Electricity Act (Qld) as "the pricing entity's view of the total of the loads for the State supplied at each transmission connection point to a supply network, as adjusted for any matter prescribed under a regulation." The NEM load therefore includes only the energy delivered from the transmission connection network that flows through the distribution system to customers, and excludes any end-user load that is directly connected to the transmission system. AGL notes in this respect that the QCA are considering the appropriate way to address this request.
  - the 'scaled' 20 year loads used in the calculation of LRMC for both 2007/08 and 2008/09. CRA have 'scaled' the 2006 NEM load and 2007 NEM load in a manner to produce a 20 year load trace based on the shapes of those years.
  - the scaling methodology applied by CRA to obtain these 20 year load traces. CRA has stated that it has scaled the load shape to a 50POE level (a decision which is commented on further below) but the actual method used is not specified – eg it is not clear what assumptions have governed the growth in direct connect transmission load nor how many sub-intervals have been used scaled to the 50 POE. AGL requires this detail, as there are methods of scaling that may produce flatter loads than would be produced if more appropriate methods of scaling were adopted.

The above information is essential to understanding and analysing the CRA's methodology and conclusions as to LRMC. AGL does not believe a fair and reasonable consultation process can be achieved without the provision of this information. This is particularly the case in circumstances where the CRA's methodology has produced a negative LRMC and CRA has attributed this to the change in the load shape. This is not only counter-intuitive, it is inexplicable in circumstances where the NEMMCO load shape for 2007 is in fact peakier than the 2006 load shape. Further, the capital costs of all plant types have escalated, as have the fuel costs, operation and maintenance costs and the weighted cost of capital have escalated significantly. This is detailed further below.

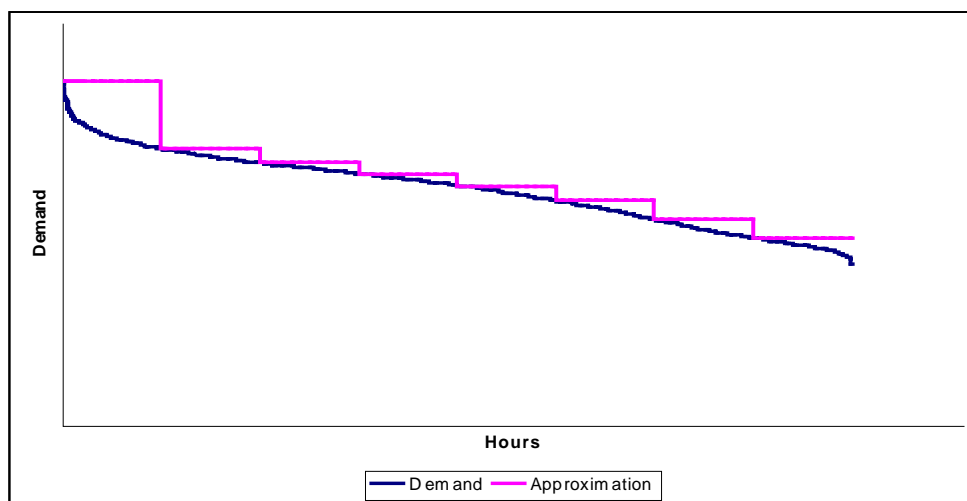
- The complete set of input assumptions used for the 2007/08 LRMC and 2008/09 LRMC.

Stakeholders have not been provided with any information as to how the input assumptions used in the 2007/08 LRMC calculation vary from the input assumptions used in the 2008/09 LRMC calculation.

- Detail as to the sensitivity of the LRMC model to assumptions as to long term demand growth and forecast capital costs for plant for the period from 2015 to 2030.
- Further detail as to the 40 demand blocks used for the annual load duration curve.

CRA have stated that the 'annual load duration curve' is divided into 40 time periods, which represent 40 blocks of demand. What is not clear is whether the Queensland region has been divided into 40 blocks of demand, or whether the 40 demand blocks cover demand in all 5 regions – ie each region has an annual load duration curve which is divided into 8 blocks of demand as depicted in Figure 2.2(a) below.

**Figure 2.2(a) AGL assumption as to 'demand block' method applied by CRA**



AGL also requires further information on the data point chosen for each demand block. By using such a coarse modelling process, rather than relying on half hourly data, CRA have effectively flattened out the demand curve used to determine the LRMC, thereby lowering the LRMC. It is not apparent whether CRA have adopted this methodology or not. Again, AGL appreciates that the absolute value of the LRMC is not relevant in the BRCI, and that the rate of change is what is important. However, it is not possible to assess whether the data points have any impact on the rate of change without this information.

### 2.1.3 Deficiencies in assumptions and methodology

Even in the absence of the key items of data and detail as to methodology outlined above, AGL has identified a number of issues with the methodology and assumptions used by CRA. The most significant issues are outlined below, and AGL seeks CRA's response to these matters prior the workshop in order to facilitate a sensible productive discussion.

- In assessing the change in LRMC from year on year, AGL would expect that any change would be largely driven by changes in plant capital costs, fuel costs, fixed and variable operation and maintenance costs and the weighted average cost of

capital. AGL has engaged ACIL Tasman to update its 2007 Report compiled for NEMMCO<sup>2</sup>. ACIL Tasman has commenced the work of updating its 2007 Report to determine the appropriate LRMC input assumptions for 2008/09. AGL will be happy to discuss this in detail with the QCA and its consultants once ACIL Tasman has completed this work. In the meantime, AGL notes the following matters which clearly suggest the LRMC if properly considered will be trending upwards:

- ERM Power, a merchant power company operating in Australia, have reported significant increases in the cost of constructing open cycle gas turbines in the period from March 2007 to February 2008. ERM's Uranquinty project was reported in March 2007 to have a capital cost of approximately \$833/kW, in stark contrast to their more recent Braemar project in Queensland having a reported cost of over \$1200/kW.<sup>3</sup>
- ABARE have specifically recognised the increased project costs resulting from wage increases alone in a recent report, noting:

*The supply of sufficient skilled labour for industrial projects is also a global problem for the broader resource sector. A current tight supply-demand situation, resulting in wage increases that are flowing into higher project costs<sup>4</sup>.*

- The modelling tool used by CRA, CEMOS, is one that seeks to model an interconnected system in determining the generation plant necessary to meet the 2006 shaped load (used for the 2007/08 LRMC) and the 2007 shaped load (used for the 2008/09 LRMC). In both NEMMCO's Statement of Opportunities (**SOO**) and the Medium Term PASA, it is a requirement that all Queensland load (plus reserves) be met by Queensland generation only. AGL notes that in other pricing reviews (namely those conducted in NSW and South Australia) the 'stand alone' LRMC is typically used. AGL also notes that while the 'NEM load' as defined in the Electricity Act (ie less the direct connect load) has been used for the Queensland load, the entire load (including direct connect) is used for the other states.
- CRA have referenced a 50 POE standard in their scaling methodology used to determine the relevant loads (ie 2007/08 and 2008/09) to be met over 20 year period. Modelling to a 50 POE ignores reserve requirements. In the case of Queensland, NEMMCO's 2007 SOO specifies that the minimum reserve level is 560MW above the 10 POE demand level<sup>5</sup>. As noted above, this is a local requirement – ie it must be met by Queensland generation, and not installed capacity in other states. In the South Australian pricing review, there was an acceptance by ESCOSA that the reserve requirement was a necessary component in the calculation of the LRMC.

AGL is seeking clarification from CRA as to whether the cost of this additional capacity beyond 50 POE is included in the LRMC calculations. AGL is concerned that in using this relatively low level of demand over the 20 year period, CRA are

<sup>2</sup> ACIL Tasman, "Fuel Resource, new entry and generation costs in the NEM - Report 2 – Data and Documentation"

<sup>3</sup> [http://www.ermpower.com.au/Latest\\_news\\_2008.html](http://www.ermpower.com.au/Latest_news_2008.html)

<sup>4</sup> ABARE, "Australian Commodities, March Quarter, Volume 15, Number 1", 4 March 2008.

<sup>5</sup> NEMMCO's 2007 SOO at page 5-3

effectively understating the costs of generation plant, and thereby understating the LRMC. AGL understands that it is not the absolute cost of the LRMC that is relevant to the BRCI, but rather the rate at which it changes. However, AGL has no way of assessing the difference using this appropriate level of demand would effect the difference in LRMC year on year.

- CRA's modelling fails to take into account any inter-regional or intra-regional transmission constraints. While generator outages appear to have been modelled, neither interconnector nor transmission scheduled and non-scheduled outages have been included. In a press release dated 20 November 2007, the AER estimated that in 2006/2007 transmission congestion costs the market \$107million<sup>6</sup>. Further, it is clear that transmission constraints are becoming more frequent across the NEM. The AER also stated in the same press release that transmission constraints in the NEM over the past four years have demonstrated an upward trend, with a market impact \$107 million in 2006/07, up from \$66 million in 2004/05, \$45 million in 2004/05 and \$36 million in 2003/04<sup>7</sup>. Non-scheduled outages of the interconnect and transmission constraints are particularly relevant in Queensland:
  - *Intra-regional constraints:* Transmission outages contribute significantly to the cost and volatility of supplying energy to a region, and should unquestionably form part of the model. More specifically, they are becoming more frequent in Queensland, and therefore contributing increasingly more to the costs of supplying energy in that state. In the 2007 Congestion Report<sup>8</sup>:

*For the second consecutive year, considerable congestion occurred between generation in central Queensland and the load centre around Brisbane. The duration of congestion increased from 170 hours in 2005-06 to 600 hours in 2006-07. The majority of this arose from a relatively small number of long term outages from July to November 2006 and March to June 2007. The inherent limits caused congestion for 80 hours, similar to the previous year.*
  - *Inter-regional constraints:* Similarly, it appears CRA's Peppy LRMC model does not address interconnector losses. Interconnector losses can be quite high, particularly across the Queensland-NSW interconnect, and cause a substantial increase in the cost of energy. The QNI and Terronora interconnectors have losses of approximately 8% and 13% at maximum flow (see **Annexure 2**) and should be included in the modelling, along with other interconnector losses in the NEM.
- AGL has outlined its information requirements in respect of the manner in which the annual load duration curves have been divided into demand blocks. AGL notes that irrespective of the number of load blocks used, the method is a coarse one, and is not capable of capturing what actually occurs in times of high demand in Queensland. If 'average' data points are used, what results is a gross approximation of the actual demand experienced under peaking conditions. This is due to the steepness of the load duration curve at its upper limit. While this coarseness of this approach does have a significant impact in a single region

<sup>6</sup> <http://www.aer.gov.au/content/index.phtml/itemId/716146/fromItemId/656050>

<sup>7</sup> <http://www.aer.gov.au/content/index.phtml/itemId/716146/fromItemId/656050>

<sup>8</sup> AER, Indicators of the market impact of transmission congestion. Report for 2006–07 (November 2007).

model, the impact is exacerbated in a multi-regional model. This is because coincident peaks in demand across regions will not be recognised and captured. This will inevitably lower the LRMC.

## **2.2 Calculation of Energy Purchasing Cost**

The QCA's Draft Determination finds that the energy purchasing cost for retailers in Queensland has increased by 12.4%.

Irrespective of the actual level of the increase in the Draft Determination AGL cannot accept as a precedent a methodology which provides no transparency of inputs or conclusions, thereby restricting any real ability to analyse and comment on the resulting BRCI component. AGL is very firmly of the view that it is not appropriate for the QCA to rely on an opaque, proprietary model, particularly in circumstances where the input assumptions and the details of the results are not provided to stakeholders.

### **2.2.1 AGL's understanding of CRA methodology**

AGL has no clear understanding of the CRA methodology used to determine the 'cost of energy factor'. AGL's ability to understand and comment on this methodology, and therefore the results of the modelling, is severely impeded by the lack of information provided by CRA. Notwithstanding this lack of information, AGL has noted several issues in the CRA workings which raise serious questions about the methodology used.

AGL has interpreted the CRA report to suggest that the methodology used is as follows:

- CRA have sought to calculate the cost a prudent retailer would incur in hedging and supplying its 2007/08 load, and its 2008/09 load. In order to do this, CRA have sought to calculate:
  - The customer demand the theoretical retailer would be supplying in each of these years;
  - The cost a retailer has incurred in procuring its hedges to cover this demand in these years;
  - The cost a retailer would have paid to the pool in supplying the customer demand;
  - The payments / receipts a retailer would have made / received from its hedging contracts.

CRA have then determined the costs incurred by a retailer in each year on a \$/MWh basis.

- In order to determine the customer demand profile the retailer would be supplying in 2007/08 and 2008/09, CRA has used:
  - the shape of a 'historic' 50 POE year, both in the peak and off peak load. What is not clear is which year has been chosen and why. AGL assumes that the shape is that of the entire Queensland load;
  - the volume of the entire Queensland load, scaled upwards to account for projected increases in load growth up to 30 June 2008 for the 2007/08 load,

and then the projected increase in load growth from 1 July 2008 to 30 June 2009. AGL assumes CRA has used the load growth figures provided in the SOO, although it is not made clear whether the low, medium or high load growth has been used and whether this has been consistent across the years;

- then scaled the increased volume to the 50 POE load shape to account for the growth in both years, both in the peak load and the off peak load; and
  - then divided these loads (peak and off peak) into 4 quarters – Q1, Q2, Q3 and Q4.
- In order to determine the cost a retailer would incur in hedging these loads in these years, CRA have assumed a 'prudent' retailer's hedging strategy, whereby a retailer would seek to hedge its peak and off peak retail load over the preceding two year period. CRA have assumed a prudent retailer would embrace a strategy whereby the retailer would be hedged to 105% of the expected peak maximum demand and 80% of expected off peak maximum demand. The cost of procuring this volume of hedges over these time period have been determined by reference to:
    - the historical d-Cypha Trade data showing historical prices for flat swap, peak swap and \$300 flat caps, up to and including 23 January 2008;
    - a forecasted price for those contracts in the period from 23 January 2008 to 30 June 2008. This forecasted price is the average d-Cypha price in the period between 1 December 2007 to 23 January 2008.
  - CRA has noted that it will be updating the actual results observed in the market prior to the release of the final report. AGL does not believe that the d-Cypha data provides a particularly robust assessment of actual costs, as retailers contracting for large volumes of hedge cover are rarely able to source cover at the prices indicated by the d-Cypha. The divergence between d-Cypha and actual contract prices tends to increase as the market becomes more volatile, as the supply of significant volumes of cover from generators becomes tighter. AGL accepts however that there is a need for a transparent data point
  - The pool payments made by the retailer have been determined by reference to the actual pool prices over the period from 1 July 2007 to 23 January 2008, and then the pool prices from 24 January to 30 June 2009 have been forecast by reference to CRA's proprietary model. CRA has not provided any significant detail about the input assumptions or the operation of the model. Further, CRA has not provided the results of this modelling exercise, and has only provided load weighted and time weighted average prices for the quarters. CRA has noted that it will be updating the actual results observed in the market prior the release of the final report. AGL's understanding of this process has been depicted in the graph at **Annexure 3**. AGL is concerned that the use of actual pool prices to calculate the prior period BRCI and then estimate a rate of change to the forward period BRCI adds inconsistency between the two periods. This adds further argument to the need to refrain from utilising subjective input assumptions.
  - The payments or receipts the theoretical retailer would receive from its hedge contracts has been determined by a notional 'settling' against the pool price outcomes. As noted above, AGL has not been provided with the pool price data, nor any detail that allows AGL to determine the peak and greater than \$300 pool price outcomes. These are necessary to understand the modelled settlement process.

- CRA have then added up the costs, subtracted the revenues, and arrived at notional cost on a \$/MWh basis.

### 2.2.2 Insufficient information to provide comprehensive comment

AGL is unable to properly understand the CRA methodology, assumptions or conclusions on the actual purchase cost scenario, nor provide any comprehensive comment on the same, in the absence of key items of information being provided.

AGL is formally requesting that the following information be provided to stakeholders as a matter of urgency to allow a properly informed discussion at the workshop.

- The pool price data produced by the modelling exercise undertaken by CRA.  
The pool price data produced by CRA is absolutely essential for AGL to properly understand the conclusions reached by CRA – any attempt to reconstruct the calculation is completely dependent on the pool price data. For example, AGL has noted that the time-weighted average pool price results for the Q108 and Q109 appear to be extraordinarily high (in fact higher than any historical quarter price average seen in any state in the history of the NEM). In combination with a highly hedged portfolio, this would have the effect of producing a high return on the CFDs thereby lowering the cost to a retailer. AGL would need to examine this in more detail.
- The half hourly data produced by the modelling exercise undertaken by CRA.
- Further detail as to the operation of the model used to produce the pool price data.

### 2.2.3 Deficiencies in assumptions and modelling methodology

AGL's primary issue with the methodology is the use of a completely opaque, proprietary model that relies on highly contestable input assumptions, and which offers no transparency to key stakeholders. Notwithstanding almost complete absence of information about the assumptions, model and results, AGL has identified the following issues as requiring a response from CRA prior the workshop:

- AGL is very concerned by the process adopted by CRA in determining the appropriate shape of the load used to determine the load supplied and hedged by retailers:
  - In determining the appropriate shape of the load supplied and hedged by retailers, CRA have not used the Net System Load Profile (**NSLP**). The NSLP is clearly most relevant in seeking to determine the costs faced by a retailer in supplying the regulated customer base in Queensland, and as CRA have noted, they are in no way constrained by the Legislation or Regulations in this respect. Instead, CRA appear to have chosen to use the entire Queensland system load for a non-specified 'historic' year as providing the relevant shape.
  - CRA have based the volume of the load on the entire system load, rather than on the NSLP or the 'NEM load'.
  - CRA have not provided any detail of the methodology they have used in scaling the volume to meet projected growth for each year, nor the process they have used to fit this volume into the chosen shape. CRA appear to have used a 50 POE load to determine the load and therefore the hedging strategy.

This assumes a retailer would not adopt a hedge position which accounts for extreme demand conditions (10 POE).

AGL is concerned that the combined effect of these methods will be to flatten out the supplied and hedged load for 2008/09. This may have the effect of distorting the cost distribution that a retailer would most likely incur in operating in Queensland. AGL requires visibility of the effect these decisions as to shaping and scaling has had on the modelling.

- The modelling conducted by CRA does not appear to take into account costs associated with the theoretical retailer securing bank guarantees to satisfy NEMMCO prudential requirements. These prudential requirements have escalated over the previous 12 months, and AGL suggests CRA should include these in its BRCI calculations.
- AGL does not necessarily agree that a 'prudent retailer' would over-hedge on peak periods and under-hedge on off peak periods. The mix of hedging instruments used (ie the proportion of flat swaps, peak swaps and caps) to cover the load profile may materially affect the cost outcome. Again, AGL requires greater visibility of the pool price outcomes and the modelled settlement process to make an accurate assessment of the effect of this chosen hedge strategy.
- The pool prices modelled by CRA appear, on the information provided, to bear no correlation to the demand profile the theoretical retailer is hedging. This lack of correlation in modelled pool prices may result in highly volatile pool prices at times of low demand. Given the hedging strategy adopted by CRA in its modelling, this may well result in significant 'windfall gains' where the retailer is a recipient of substantial difference payments under hedge contracts without correlating pool payments needing to be made. If such effect is occurring within the CRA modelling, this will understate the theoretical retailer's costs as such a lack of correlation between pool prices and demand is rarely observed.

As the QCA are aware, the relationship between the load, pool and hedging strategy are inter-dependent, and cost/profit distribution is highly sensitive to this inter-dependency. Without a half-hourly resolution on the data, AGL is not able to determine whether the model is producing notional 'windfall gains', and resulting in lower retailer costs than retailers operating in Queensland would reasonably observe.

## 2.3 Other energy costs

### 2.3.1 Costs associated with new Climate Change initiatives

As the QCA is aware, the Federal Government has announced that the Mandatory Renewable Energy Target (*MRET*) will increase (with likely targets of 45 000 GWh by 2020) and an Emissions Trading Scheme will commence in 2010. Further, it is possible that other climate change related initiatives will be introduced, including solar PV buy back schemes and energy efficiency schemes.

The impact of these initiatives on retail prices will need to be the subject of comprehensive industry wide analysis. At this stage, AGL requests that the QCA specifically recognise that:

- the 2008/09 BRCI does not take into account the impact of any of these initiatives; and

- any costs retailers incur in 2008/09 as a result of the introduction of such mandatory schemes will be accounted for and included in determining the BRCI for 2009/10.

### 2.3.2 Calculation of costs

AGL is generally supportive of the methods used by CRA to determine the other energy costs. However, AGL makes the following points in relation to the Renewable Energy Certificate and Gas Electricity Certificates.

- Calculation of REC prices

It would appear the CRA have adopted the following method to calculate the REC prices:

- For 2007/08 REC costs, the average REC cost on the AFMA curve for 1 January 2007 to 31 December 2007 has been used to determine the '2007 base REC price'. AGL has calculated the 2007 base REC price to be \$32.97. This 2007 base REC price has then been multiplied by the Renewable Power Percentage (**RPP**) for 2008, which is 3.28%. This has given the 2007/08 REC price of \$1.08/MWh.
- For 2008/09, CRA appear to have used the 2007 base REC price, and multiplied that by the 2009 RPP. This has given the CRA 2008/09 REC price of \$1.29.

This does not adequately represent the difference between the cost of purchasing renewable energy from one year to the next. AGL believes this is a flawed approach.

Given the BRCI represents an index, the change in the renewable energy charge needs to be determined with a consistent methodology, with reference to the actual requirements of the scheme. To this end, AGL proposes that this charge should be calculated as the REC Price multiplied by the renewable power percentage (RPP), where:

- **REC Price** = average AFMA REC price for 12 months prior to commencement of price period,

Whilst AGL advocates the use of long run marginal cost of renewable generation as a proxy for REC prices, AGL also understands the need for transparency of input assumptions to the calculation of all components of the BRCI. Thus, AGL proposes using the average Financial Year AFMA REC price for 12 months prior to commencement of price period, as this assumes the theoretical retailer contracts for RECs 1 year prior to the commencement of the price period. Where the data set ceases, current market prices should be used for the remaining months of the 12 month period, ie: AFMA prices will be available for 2008/09 from July through February, however, prices as at the end of February will need to be used as a substitute from March to June.

- **RPP** = the average of the RPP for the period of the price period.

For 2007/08 this would be the average of the RPP for 2007 and the RPP for 2008, for 2008/09, the average of the RPP for 2008 and the RPP for 2009. This is necessary given the RPP is based on calendar years, whereas the pricing period is for financial years.

- Calculation of GEC prices

The CRA has looked at the penalty rate for GECs and assumed the same rate of inflation as the penalty rate, which is the Brisbane specific. AGL notes that the Australian Bureau of Statistics has indicated the Brisbane CPI to be 3.9% from December 2006 to December 2007. AGL believes this is the appropriate rate and expects the QCA will use this rate (or indeed any updated rate) in its Final Decision.

## 2.4 Weighting of LRMC and energy purchase costs

The QCA and its consultants have suggested an approach of determining the 'wholesale cost of energy' through combining LRMC and energy purchase costs (including the other costs eg REC and GECs) in a 50:50 ratio. The weighting given to each respective element is completely arbitrary and the only rationale provided for choosing this weighting are reasons of 'policy'. AGL appreciates that QCA has sought to address the obvious tensions between the intent of the legislation as outlined and the Delegation and accompanying letter from the Minister to the QCA, and the effect of certain legislative and regulatory provisions governing the determination of the BRCI. However, AGL is not persuaded that such a decision does in fact meet the policy objectives clearly articulated by the Minister, namely:

*The QCA must consider the following policy objective of the Queensland Government when exercising the delegated powers and functions:*

*(a) the annual indexation of electricity tariffs by the index should ensure that existing retail headroom in the tariffs at the date of this delegation...remains relatively stable.*

AGL believes there are in fact solid arguments for the weighting to be amended to favour the energy purchase costs in the 2008/09 BRCI:

- In circumstances where CRA have found the LRMC to be decreasing (a finding which AGL contests), have stated that this is solely due the requirement to use particular load shapes year on year, and have found the actual cost to retailer to be increasing by 12.4%, it could be argued that the decision to weight these costs in such a way as to effectively produce an increase of only 5.9% does not accord with the stated policy objectives.
- The rationale to using LRMC only holds true if there is consideration being given to LRMC over a period of time. As the QCA noted:

*Over a sufficiently long period of time, average energy purchase costs should broadly equal the LRMC of generation, as period of surplus and deficit capacity are balanced<sup>9</sup>.*

In adopting a single year price path, there is little justification for weighting LRMC in the same proportion as the energy purchase costs.

<sup>9</sup> QCA Draft Decision, at page 11

- The policy basis for using LRMC as an indicator of long term prices is eroded in circumstances where the methodology used by CRA is such as to produce volatile year on year changes in LRMC. This could be addressed through changes to the methodology and/or legislative and regulatory provisions to ensure a more stable year on year change to LRMC.

## **3. Network Costs**

### **3.1 Impact of Legislative Provisions**

As articulated in previous submissions to the QCA, AGL has significant concerns with the manner in which the legislative mechanism requires the network costs to be incorporated in the BRCI. The current mechanism is such that the year on year increase in distribution revenues of Energex and Ergon are averaged, and that average, together with assumptions as to the TUOS increases that will be passed through in distribution tariffs, forms the basis of the increase in the BRCI. This establishes a serious revenue risk for retailers operating in the competitive market. The impact of this legislative mechanism on retailer risk is exacerbated by:

- the lack of transparency in establishing the Powerlink tariffs. As AGL understands it, neither distributors, retailers nor the QCA are able to determine what portion of Powerlink's AARR will be attributable to the Queensland distributors. This means that in the absence of Powerlink's actual tariffs, neither the QCA, nor retailers, can assess the impact of increases in Powerlink's AARR on the BRCI;
- the uncertainty surrounding the status and application of the various pass-through applications currently before the QCA, namely Ergon's application for funding following Cyclone Larry, and Energex's FRC cost passthrough application; and
- the ability of the distributors to rebalance their tariffs, so that increases in the revenue from retailer's regulated customer base will exceed that of the distributor's overall revenue increase.

AGL advocates the removal of network costs from the BRCI, so that network costs are passed through directly to customers. In this way there would be complete transparency as to the increase to retailers and distributors under the regulated pricing mechanisms. However, in the interim, AGL would ask that the QCA:

- finalise all cap-ex pass through applications (eg Energex's FRC cost pass through application and Ergon's Cyclone Larry pass through application) where possible, and ensure that any necessary adjustments made to the final BRCI.
- where the Final BRCI determination is based on assumed network and TUOS costs due to the actual costs not being available at the time of the Final Determination, the QCA must ensure that it uses the same assumed figures in the calculation of the BRCI for the following year.

### **3.2 Issues with calculation**

There appear to be some issues with the manner in which the QCA have calculated the network component of the BRCI. On AGL's calculations, the network component of the BRCI should increase to 5.11% on the basis that the following matters require amendment:

- The 2007/08 Energex capex cost pass through should be \$22.4 million as set out in the QCA's Final Determination on the Energex capital expenditure cost pass

through application<sup>10</sup>. AGL does not understand why this amount has been increased in the Draft Determination.

- The 2008/09 Energex capex cost pass through should be \$32.5 million, as stated in the QCA's Final Decision on the Energex capital expenditure cost pass through application<sup>11</sup>. The \$8.5 million cited takes into account the Energex over-recovery, which the QCA has determined should not be included. AGL supports the exclusion of the over recovery, for the reasons cited by the QCA in its Draft Decision<sup>12</sup>.
- The 2007/08 TUOS cost pass through for Energex and Ergon should be \$412.2 million, as this was the amount used in the 2007/08 BRCI Final Decision. The QCA assumed that the TUOS costs would be \$412.2 million because the actual costs were not available at the time the Final Decision was made. Even though the actual TUOS costs are \$417.1 million in 2007/08, the assumed amount must be used to permit retailers the full cost recovery in the BRCI. The distribution tariffs paid by retailers since 1 July 2007 have reflected this full TUOS cost pass through of \$417.1 million, while retailers have thus far only recovered on the basis of an increase in cost to the level of \$412.2 million. The manner in which the QCA have currently calculated the 2007/08 TUOS costs for the 2008/09 BRCI effectively eliminates the difference between the assumed amount and the actual costs without making the appropriate adjustment to the year on year change.

AGL has noted on numerous occasions that the timing of the BRCI does not allow for actual TUOS costs to be used, and has encouraged the amendment of the timeframes provided for in the Legislation and Regulation to allow the BRCI to take account of actual TUOS and DUOS costs.

The detail of the effect these corrections will have on the calculation of the network component for the BRCI is set out below:

<sup>10</sup> QCA Final Decision, Energex Application for Capital Expenditure Cost Pass Through, March 2007, page 15.

<sup>11</sup> Ibid

<sup>12</sup> QCA Draft Decision at page 21

**Figure 3.2**

**Adjustments to Network Component of BRCI**

<b>Energex</b>	<b>2007/08</b>	<b>2008/09</b>	<b>% change</b>
Original AARRs	786.4	879.6	
Minor AARR Adjustments	(6.5)	(9.6)	
Capex cost pass-through	22.4	32.5	
FRC cost pass-through	15.0	15.0	
Revenue from non-use of system services	(16.2)	(17.1)	
<b>Adjusted Revenue</b>	<b>801.1</b>	<b>900.4</b>	<b>12.39</b>

<b>Ergon Energy</b>	<b>2007/08</b>	<b>2008/09</b>	<b>% change</b>
Original AARR	767.2	812.5	5.9
Minor AARR adjustment	1.1	1.5	
Re-smooth of AARRs	(1.1)	56.2	
Revenue from non-use of system services	(6.1)	(6.6)	
Mt Isa costs	(9.2)	(10.4)	
<b>Adjusted Revenue</b>	<b>751.9</b>	<b>853.1</b>	<b>13.5</b>

<b>Powerlink</b>			
Maximum Allowable Revenue	536.8	595.8	
<b>TUOS Cost Pass-throughs from Energex and Ergon</b>	<b>412.2</b>	<b>462.3</b>	

<b>Total Revenue/Network costs</b>	<b>1965.2</b>	<b>2215.8</b>	<b>12.75</b>
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## 4. Retail Costs

### 4.1 Benchmark Retail Costs

AGL is pleased to note that the QCA have agreed that a benchmarking approach is appropriate for the reasons articulated by AGL and other stakeholders in the responses to the Issues Paper.

As noted in its previous submissions, AGL is prepared to accept the benchmarked retail costs suggested by the QCA for the purposes of establishing the BRCI only, due to the fact the BRCI is focussed on a rate of change rather than absolute figures. AGL again reiterates it is not accepting that the level of costs identified by CRA accurately reflect the costs incurred by AGL in servicing its customers.

AGL accepts CRA's methodology of determining the appropriate escalation by weighting the wage inflation rate and the national CPI. CRA have arrived a draft escalation rate of 3.65% on the basis that:

- Wages comprise 60% of total retail operating costs and these have escalated at 4.5%; and
- All other costs have escalated at CPI, namely 3%. AGL does note in this respect that the Brisbane specific CPI does sit higher than the national CPI, at 3.9%

AGL expects that the QCA/CRA will update these inflation figures in the final BRCI in line with revised inflation figures.

### 4.2 Acquisition costs

AGL is also supportive of the QCA's amended methodology in respect of calculating acquisition costs, and is pleased to note the change to methodology. However, AGL makes the following comments in respect of the calculation of the acquisition costs for the 2008/09 BRCI:

- For the purposes of the Queensland 2008/09 BRCI, AGL is prepared to accept the IPART decision that acquisition costs are \$30, as opposed to \$35. Again, this is due to the fact the BRCI focuses on a rate of change. This should not be taken to be acceptance of this cost in any other context;
- AGL questions the assumptions CRA has made as to the level of churn likely to be experienced in the Queensland market in 2008/09. On the assumption that the Final Determination will ensure the 2008/09 BRCI is such as to maintain retailer headroom, a churn rate considerably higher than 10% must be reasonably anticipated. AGL expects the CRA and QCA to review these assumptions at the workshop and prior to the Final Determination.
- CRA has made an error similar to that made in respect of the 2007/TUOS costs – CRA has used the actual 2007/08 churn figure of 17% in calculating the 2008/09 BRCI, rather than use the assumed churn figure of 5% that it used in calculating the 2007/08 BRCI. This effectively eliminates the rate of change that retailers should receive, as there has been no adjustment to the rate of change on the basis of the move from the assumed levels of 5% to the actual level of 17%. The correct calculation should be done on the basis that churn moved from 5% to 10%, not from 17% to 10%.

## 5. Amended BRCI

Set out below is AGL's suggested recalculation of the BRCI, not taking into account any changes to the wholesale cost of energy or amendments to the retailer margin. As indicated above, AGL anticipates there will need to be significant changes to the wholesale energy cost component prior to finalisation of the 2008/09 BRCI.

**Figure 5(a): Adjustments to BRCI (not taking into account changes to wholesale cost)**

Cost Item	2007/08	2008/09	%
Cost of Energy	52.16	55.23	
NEM Load	36 263 205	36 732 500	
<b>Total cost of energy</b>	<b>1 891 581 078</b>	<b>2 028 836 114</b>	
Retail Costs	86.31	98.57	
Customer numbers	1 885 727	1 909 176	
<b>Total Retail Costs</b>	<b>162 759 926</b>	<b>188 191 395</b>	
<b>Total Network Costs</b>	<b>1 965 200 000</b>	<b>2 215 800 000</b>	
Total BRCI excluding margin	4 019 541 004	4 432 827 509	
Margin on Revenue	211 554,790	233 306 711	
Total BRCI including margin	4 231 095,794	4 666 134 220	
<b>BRCI \$/MWh</b>	<b>116.68</b>	<b>127.03</b>	
<b>BRCI c/KWh</b>	<b>11.668</b>	<b>12.703</b>	

**Figure 5(b)**

	2007/08 c/KWh	2008/09 c/KWh	Change (%)	Share of total costs	Change in BRCI (%)
Cost of Energy	5.216	5.523	5.9	43.5	2.559
Network costs	5.419	6.032	11.3	47.5	5.371
Retail Costs	1.032	1.147	11.2	9.0	1.009
<b>Total</b>	<b>11.668</b>	<b>12.703</b>		<b>100.0</b>	<b>8.873</b>

## **Annexure 1**

### **Complete List of Data/Information Requested**

#### **Long Run Marginal Cost**

- The NEM loads used in the calculation of the LRMC:
  - the 2006 'NEM load' and 2007 'NEM' load used by the QCA and CRA in the calculations of the LRMC.
  - the 'scaled' 20 year loads used in the calculation of LRMC for both 2007/08 and 2008/09. CRA have 'scaled' the 2006 NEM load and 2007 NEM load in a manner to produce a 20 year load trace based on the shapes of those years.
  - the scaling methodology applied by CRA to obtain these 20 year load traces.
- The complete set of input assumptions used for the 2007/08 LRMC and 2008/09 LRMC
- Detail as to the sensitivity of the CRA LRMC model to the assumptions about long term demand growth and forecast capital costs for plant for the period 2015 to 2030.
- Further detail as to the demand blocks (assumed to be 40 per region) used for the annual load duration curve, and the data points chosen in each demand block.

#### **Actual purchase cost**

- The pool price data produced by the modelling exercise undertaken by CRA.
- The half hourly data produced by the modelling exercise undertaken by CRA.
- Further detail as to the operation of the model used to produce the pool price data

Annexure 2

Queensland Interconnector Constraints

Figure 2.1: QNI flow Vs Losses (2007 dispatch data)

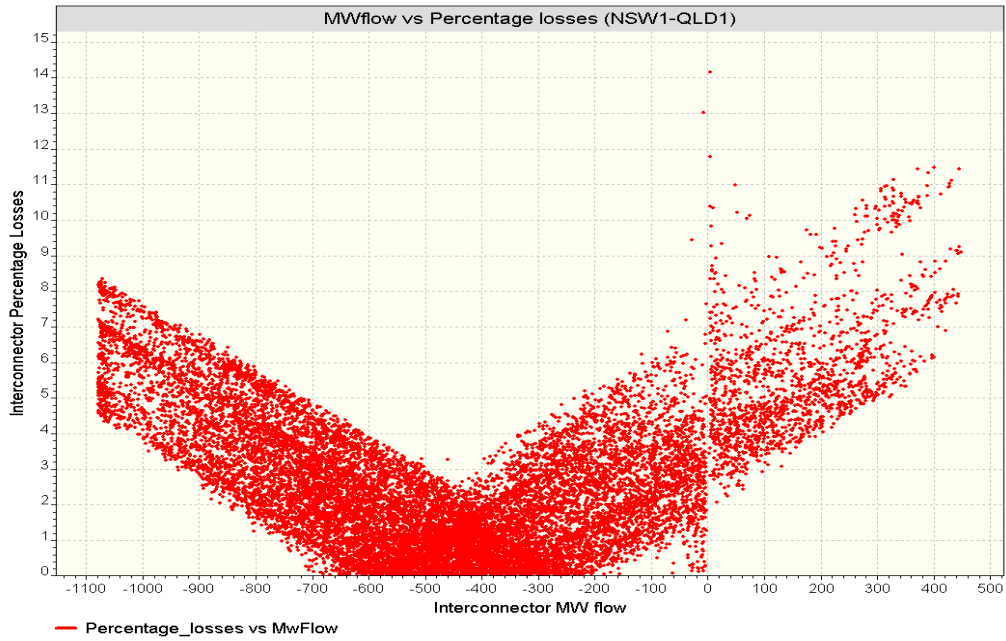
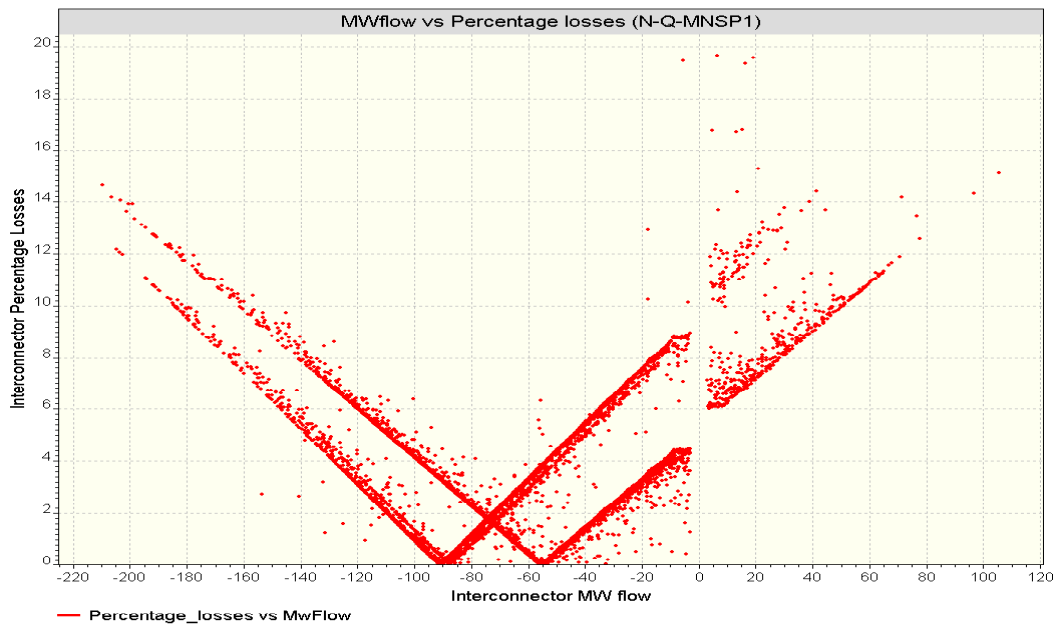


Figure 2.2 Figure 1: Terronnora flow Vs. Losses (2007 dispatch data)



### Annexure 3

## Depiction of pool price forecasting methodology employed by CRA

Illustration of pool prices. "Actuals-07/08" = Actual QLD1 pool price until 23 Jan 200; "CRA Balance2008" = CRA's Prediction for period 24 Jan 2008 to 30 Jun 2008 (assumed for illustration); "CRA-08/09" = CRA's Prediction for Financial Year 2008/2009 (assumed for illustration)

