Review of Regulated Retail Electricity Tariffs and Prices – Draft Methodology Paper

AGL submission to the Queensland Competition Authority

Date: 12 December 2011

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Executive Summary

AGL welcomes the opportunity to provide feedback on the Review of Regulated Retail Electricity Tariffs and Prices – Draft Methodology Paper (***Draft Methodology Paper***). AGL looks forward to continuing to work closely with the QCA through the next stages on the process to set the 2012-13 notified prices.

Energy Cost Component

AGL understands that the QCA has decided to move to a methodology using actual market data for the relevant year as the basis. AGL has consistently maintained that an 'LRMC as a floor' approach is the most robust and desirable for a number of reasons. However, due to the lack of robust market data necessary to apply a market-based approach, the QCA have adopted the 'Annual Price Distribution' (APD) as the preferred approach for 2012-13. The QCA and ACIL have dismissed using LRMC for a number of reasons which are discussed further below.

As discussed at some length in the QCA Workshop held on 25 November 2011 (***QCA Workshop***), the APD methodology has significant flaws. AGL, and indeed other retailers do not believe that the methodology is capable of assessing the costs a retailer would incur in supplying electricity in a particular year. Further, this methodology is extremely reliant on a very large set of assumptions, including 'behavioural' assumptions as to the bidding strategies of generators in the NEM. The APD approach is acknowledged by ACIL and the QCA to be reliant on 'black box' modelling, which will inevitably create concerns in respect of transparency and veracity of results.

The issues in respect of the availability of market-data are a product of the transition to a 'carbon priced' economy – these issues will abate and the QCA will have available to it robust market data for use in a market-based methodology. In these circumstances, it must be considered sensible to adopt an LRMC methodology for this year, rather than seek to develop another contentious methodology, which is not appear suited to the stated purpose, and suffers from the transparency and assumption issues outlined above.

AGL addresses the concerns raised by ACIL and the QCA in respect of LRMC in the body of the submission, but in short, AGL is firmly of the view that none of these criticisms can be considered to place LRMC at any disadvantage relative to the APD. The LRMC approach has been used in the past by the QCA, is used by other jurisdictional regulators, and is understood and widely accepted by industry participants. While LRMC is also a modelled approach, there is a public and robust set of assumptions underpinning LRMC that are the product of industry consensus, which have also been used in the past by the QCA and other jurisdictional regulators. Further, LRMC models used by various economists are considered to be relatively 'vanilla' and their results do not diverge to any great degree. Similarly, since the objective of price regulation within a contestable retail market is to set a default tariff or 'safety net', AGL does not believe that there is anything in economic theory that would suggest the use of LRMC for this purpose is inappropriate.

AGL does not resile from its view that LRMC as a floor is the most appropriate, but acknowledges that the QCA has not accepted these arguments in the past. However, in the circumstances articulated above, AGL is firmly of the view that LRMC should be used as the methodology for this transitional year.

In the event the QCA seek to persist with the APD approach, notwithstanding the significant flaws identified in the QCA Workshop, AGL reiterates the views expressed by retailers that:

- In determining a 'representative retailer's' costs the mean of an historical price distribution (adjusted for weather and outages) has no relevance, and if there is a point on the curve that is considered 'appropriate' it must be significantly higher along the curve in order to account for the manner in which retailers view and manage risk. AGL agrees that the appropriate point on the distribution curve is likely to represent a cost within the 90-95th percentile; and
- In seeking to account for the costs of carbon a 'representative retailer' will incur, ACIL and the QCA should adopt the AFMA pass-through clause formulation of 'Average Carbon Intensity x Carbon Reference Price'. It is inappropriate to use a 'modelled pool price' outcome to seek to identify the cost retailers incur, and only serves to exacerbate the flaws that exist in the APD model.

Due to the large amount of data used in the APD approach and the uncertainty of the range of outcomes that could be generated by this approach AGL strongly suggest that if this approach is taken forward that the QCA engage with retailers on the application of the approach prior to the release of the Draft Determination. If it is possible to release the data (i.e. load traces, generator outage matrices, price distributions etc) prior to the Draft Determination then this would provide retailers with a chance to discuss with the QCA as to whether the outcomes of the approach are reasonable.

Further discussion of the steps involved with this approach is provided in Section 2.

Representative Retailer

AGL is of the view that in order to establish an appropriate framework for developing regulated retail tariffs the representative retailer should be set on a new entrant basis. Assuming that a representative retailer is an incumbent retailer with economies of scale could restrict the ability of retailers to compete if allowances are based on the largest retailers with greater efficiencies due to their large customer base.

Conversely, if the representative retailer is to be deemed an incumbent supplier with economies of scale, then the real-world constraints of maintaining an investment-grade credit rating should also form an important part of the analysis, especially as it relates to market risk tolerances and the consequential working capital requirements of the retailer.

Pass-through mechanism

AGL note that the Delegation to the QCA to determine 2012-13 notified prices does not appear to provide any allowance for a cost pass-through mechanism (price adjustments within the 2012-13 tariff year) or a catch-up mechanism (cost impacts from a previous year in the subsequent tariff year). AGL is concerned that this leaves retailers with an asymmetric and increased level of risk which should be acknowledged within notified prices.

1. General Comments

AGL Energy Ltd (AGL) welcomes the opportunity to provide comments to the Queensland Competition Authority (QCA) on the *Regulated Retail Electricity Prices 2012-13 – Draft Methodology Paper November 2011* (***Draft Methodology Paper***) and the supporting report by ACIL Tasman (ACIL) *Draft methodology for estimating energy purchase costs, Draft methodology for estimating the energy purchase costs for each retail electricity tariff for Queensland in 2012/13, November 2011* (***ACIL Report***).

Queensland retail electricity market competition

AGL noted in it's submission to the QCA's *Review of Regulated Retail Electricity Tariffs and Prices – Issues Paper, June 2011* (***Issues Paper***) that the review of electricity prices in Queensland should be framed with respect to the policy objectives of full retail contestability, and in the interests of the market as a whole.

The QCA appear to acknowledge the impact of setting notified prices on the level of retail competition in Queensland. In Section 2.2 of the *Draft Methodology Paper*, the QCA state that it "does not appear…that the level of competition is deficient'[1], and while no suggestion was made that the level of customer switching is excessive this seems to infer that the current level of competition is appropriate. AGL note that in the public workshop conducted by the QCA on 25 November 2011 representatives of the QCA appeared to confirm this view by noting that current levels of discounting in market contracts by retailers were appropriate.

On this basis, AGL wish to highlight to the QCA that if 2012-13 tariffs are set at a level that reduces retailers ability to offer competitive market contracts then levels of competition will almost certainly drop and any benefits experienced by customers in the short and long term will likely reduce. AGL note that at the public workshop it was highlighted by at least one '2nd tier' retailer that if 2012-13 tariffs were set at a level that reduced current margins available to retailers then they would be required to consider whether they would compete in the Queensland retail electricity market. AGL believe that a significant drop in tariffs would result in this type of reaction in the market and in turn further reduce the activity of other retailers to offer discounts and innovative products from the notified prices.

Over recent years Queensland retail electricity competition levels have been amongst the highest in the world. In 2010 the Queensland residential electricity market was identified as the fourth most competitive in the world[2]. Figure 1 highlights the impact on competition that regulated pricing processes can have on the market.

[1] Queensland Competition Authority, *Draft Methodology Paper, Regulated Retail Electricity Prices 2012-13 (November 2011)*, page 11.

[2] VaasaETT, *World Energy Retail Market Rankings Report 2010*, 2010, p.12

Figure 1 –National vs. Queensland Electricity Customer Churn

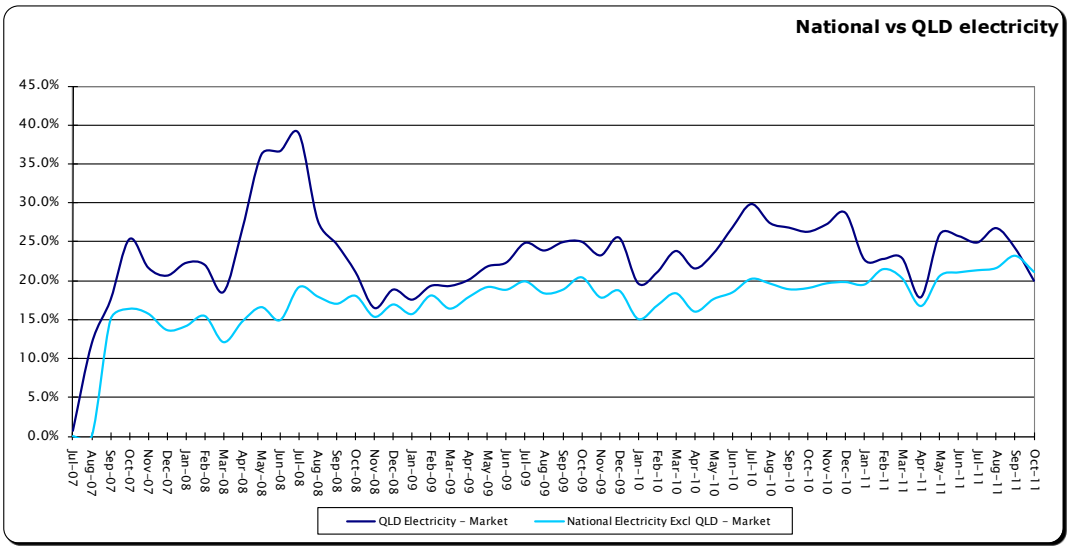

Figure 1 represents the latest data on customer churn in the Queensland market compared with the National average. Since AGL's submission in August 2011 to the QCA *Issues Paper* customer churn rates in the Queensland retail market have dropped significantly, and this has in turn affected the National average. AGL believe this reduction in customer churn is due to retailers cutting down on marketing activity in Queensland following the release of the QCA's *Issues Paper* and the uncertainty over forward margins that it has created. AGL have not identified any other significant events during this period that would have affected retailer sentiment other than the release of the QCA's document on calculating notified prices. This highlights the dynamic nature of retail electricity markets that operate in conjunction with a regulated electricity pricing regime.

Minister's Delegation

Under the Electricity Act 1994 Section 90AA(1) the Minister for Energy and Water Utilities (the Minister) has provided the QCA with a Delegation to determine regulated retail electricity tariffs (notified prices) to apply from 1 July 2012 to 30 June 2013. The Delegation includes a Terms of Reference which sets out a range of matters to be considered by the QCA, consultation requirements and timing of publishing. The Minister also provided a cover letter to the Delegation which sets out the Government's view in relation to the Delegation itself.

AGL acknowledges that the QCA is bound by the requirements of the Delegation and the Electricity Act 1994. However, it appears that in information published by the QCA to date that items within the Delegation are not being considered in the manner which they were possibly intended.

Actual costs of supplying electricity

The Terms of Reference (TOR) (within the Delegation) lists a number of 'matters' that the 'Authority should ensure its price determination has regard to' including 'the actual costs of supplying electricity'. AGL is concerned that there is a risk that the QCA and it consultants, ACIL Tasman (ACIL) have focussed on this requirement to have regard to the 'actual costs of supplying electricity' to the exclusion of other matters required by the TOR (i.e. discussion of competition below) and the intent of the Minister's cover letter e.g. the cover letter notes that in making their Determination, the QCA should consider that 'the cost of energy component should seek to balance the long term need for maintaining

pricing stability with ensuring customers are not subjected to unnecessary price volatility in the short term'.

AGL would also note that where the TOR requires the QCA to consider the costs of a 'representative retailer', the 'actual costs' must actually be a 'benchmark cost'. If the QCA attempt to set 'cost reflective' tariffs, as described by ACIL, this runs the risk of not meeting the other requirements of the Delegation which reflect that it is a 'benchmark cost' being derived, not the actual costs of one particular retailer.

Effect of the determination on competition in the Queensland retail electricity market

The Terms of Reference require the QCA to have regard to the impact of the determination on competition in the Queensland electricity retail market and to ensure that where possible 'consumers have the opportunity to benefit from competition and efficiency in the marketplace'. AGL is firmly of the view that the best way to promote efficiency in the market is to ensure that notified prices support competition in the retail market. Any attempt by any regulator to determine 'the efficient' or 'the actual' cost carries a significant risk that this will underestimate the costs incurred by retailers in the market, and have the effect of precluding competition. Therefore, the establishment of the 'efficient' price is best facilitated by setting the notified priced price using a 'safety net' approach so that retailers compete to set this 'efficient' price. AGL understand the price setting approach is complicated by the Maximum Uniform Tariff (MUT) policy applied to the Ergon region, however attempting to set the 'actual' costs will not make this complicating factor any less manageable.

Retail costs

The Delegation notes:

> *The Authority is also required to determine an appropriate retail margin giving consideration to any risks not compensated for elsewhere*

The QCA has expressed a desire to deal with risks appropriately through the relevant components of the cost stack. AGL agree with this approach, in particular we believe that risks associated with the WEC must be accounted for adequately in the approach taken by the QCA. AGL note that where this is not able to be accounted for in these components the QCA should consider these risks within the retail margin. AGL provides a more detailed discussion of retail margin in Section 3.

Lack of forward wholesale electricity contract data for 2012-13

As discussed in AGL's previous submissions to the QCA and in the QCA Workshop, AGL remains of the view that there is not a set of robust public data on which the QCA or ACIL can base a 'market-based' methodology on for the 2012/13 year. AGL would be pleased to discuss this with the QCA in the event other retailers present the QCA with options that AGL has not previously considered.

AGL notes that in the QCA Workshop two different 'data sources' were suggested by other retailers:

- Use of AFMA data. AGL is of the view that the AFMA data prior to 1 July 2011 could not be used as it is not a 'carbon exclusive' price. That is to say, prior to 1 July 2011, the AFMA price is a mixture of with and without carbon prices. AGL also notes that the AFMA data is not 'traded' data in the same way d-cypha data is;

- Use of internal retailer hedge book data. AGL does not believe that this data is capable of providing the QCA or ACIL with useful data, nor that it is appropriate to use such data:
    - Retailers, particularly large retailers, use a combination of strategies and products to manage their risk. These will involve vertical integration (through ownership or master-hedge arrangements), inter-regional hedging, shaped products and weather derivatives to name a few. It would be difficult in the extreme to analyse this information for the purpose of identifying the retailer's cost in supplying a sub-set of its load, let alone providing the QCA or ACIL with a 'representative retailer cost'
    - The QCA and ACIL cannot focus on the costs incurred by an individual retailer – they must seek to identify a cost incurred by a representative retailer.

2. Energy cost component of retail tariffs

Estimating wholesale energy costs

AGL understands that the QCA has decided to move to a market-based methodology, using actual market data for the relevant year as the basis. AGL has consistently maintained that an 'LRMC as a floor' approach is the most robust and desirable for a number of reasons. Due to the lack of robust market data necessary to apply a market-based approach, the QCA have adopted as the preferred approach for 2012-13 an 'Annual Price Distribution' (APD).

As discussed at some length in the QCA Workshop held on 25 November 2011, the APD methodology has significant flaws. AGL, and indeed other retailers do not believe that the methodology is capable of assessing the costs a retailer would incur in supplying electricity in a particular year.

The issues in respect of the availability of market-data are a product of the transition to a 'carbon priced' economy – these issues will abate and the QCA will have available to it robust market data for use in a market-based methodology. In these circumstances, it must be considered sensible to adopt an LRMC methodology for this year, rather than seek to develop another contentious methodology, which is not appear suited to the stated purpose, and suffers from the transparency and assumption issues outlined above.

In this Section, AGL address the following:

- Discussion of the reasons used by the QCA and ACIL to dismiss LRMC compared to the Annual Price Distribution approach;
- The practical advantages of using an LRMC approach to set 2012-13 prices;
- The significant limitations of the APD approach and the unsuitability of other proposed approaches for setting 2012-13 notified prices; and
- Not withstanding AGL's strong preference for using LRMC, the additional steps that would need to be taken to amend the approach to ensure that it appropriately values a 'representative retailer's' costs.

Comparison of LRMC critique with Annual Price Distribution approach

In the *Draft Methodology Paper* a range of issues were noted regarding the incompatibility of using an LRMC approach with setting a regulated retail electricity tariff. AGL believes that these criticisms are often overstated, and in-fact the same criticisms can be applied to the preferred APD approach. AGL has addressed issues raised in the *Draft Methodology Paper* by stakeholders[3] and the QCA itself[4] and the discussed their relevance to the APD approach:

1) *LRMC of generation is a theoretical concept and may not reflect the actual costs faced by retailers*

- All of the proposed approaches for estimating the WEC involve theoretical concepts. It is not possible that a regulator can set the actual WEC for a period when retailers are operating in the uncertain environment of a deregulated energy-only wholesale market with a high market price cap. While it can be argued that the LRMC of a 'greenfields' generation mix is a theoretical concept, the LRMC of the technologies which make up the generation mix is not a purely theoretical concept. The modelling approach, including assumptions and data inputs, that is used to model LRMC are widely used by industry to assess the costs needed to be recovered by new-build generation plant over the life of the asset. Since the market model is based on a Uniform 1st Price Auction clearing mechanism, LRMC represents the price that is sufficient to encourage timely investment.
- The APD approach is premised on an entirely theoretical basis i.e. that a distribution of spot price outcomes represents what a retailer might be willing to pay for energy over a year, and that the mean of this distribution is the level at which a retailer would pay, which in turn suggests that retailers approach their risk with a view to the 'maximum spend' rather than a view to the level of risk they can or will incur. This is not how retailers approach risk, a fact that all retailers at the QCA Workshop noted. Retailers hedge for 'low probability-high impact' events in the wholesale market, and as this methodology has no reference to contract prices that will be paid, this methodology will not reflect the costs that retailers will pay in the relevant year.
- In attempting to set 'cost reflective tariffs by splitting out load traces within the LRMC the APD approach ignores retailers settlement of non-interval metered customers on the NSLP load. If this approach is used by the QCA it could result in cross-subsidisation of tariffs within the NSLP as some customers will pay higher rates than others while the retailer costs related to the load shape premium will remain the same. Even if the QCA provided detailed data on how the split of costs within the NSLP has been carried out, using the NSLP for all relevant customers would deliver a more appropriate result.

2) *Calculating the LRMC of generation is opaque as it requires the Authority to rely on a consultant's 'black-box' model*

- Calculating the LRMC of generation is not opaque. While it does require the use of a specialist model to determine the mix of generation to meet the required load at the least-cost, the modelling approach is widely used by industry and well-understood. The LRMC models are relatively 'vanilla' in their application, and the assumptions that are fed into the model are well-understood. The QCA (along

[3] Queensland Competition Authority, *Draft Methodology Paper, Regulated Retail Electricity Prices 2012-13 (November 2011)*, page 22.

[4] Ibid. page 23.

with the NSW and South Australian jurisdictional regulators) has used LRMC in the past, it has consulted on the methodology, inputs and assumptions and consequently AGL believes that there is a broad range of stakeholder support for this approach.

- Calculating a retailer's WEC using the APD approach completely opaque. The reliance on a proprietary pool price model and the assumption of how a retailer might account for risk from a spot price distribution entirely relies on the view of a single consultant. AGL would strongly argue that the APD approach is the least transparent and most 'black-box' approach suggested. AGL notes that the assumptions underpinning such a model would include bidding behaviour, short-run marginal costs and levels of hedging for generators, as well as transmission assumptions including interconnector limits and intra-regional constraints. All of these would need to be consulted and agreed upon.

3) LRMC is an estimate of generation costs rather than the cost to a retailer of purchasing wholesale electricity

- As noted above, AGL is very firmly of the view that the APD does not represent the costs to a retailer of purchasing wholesale electricity, and again notes that the APD methodology is largely the same as that used to develop a NPV of a generator over a long term horizon (e.g. 30 years). No evidence has been presented by the QCA or ACIL to prove that the APD approach represents the cost to a retailer to purchase wholesale electricity. In the QCA Workshop retailers were unanimous in their view that the APD is not a methodology that could replicate a retailer's cost. The assumptions which underpin the APD approach are so far removed from the risk management approach of retailers that retailers did not support this approach. Further discussion of the inadequacies of this approach are discussed later in this Section.
- In contrast, LRMC is capable of providing a proxy for the contract price, most particularly for long-term PPAs. As noted in the QCA Workshop, a significant limitation of the proposed 'market-based' methodology options is their inability to reflect the cost of bilateral contracts that retailers enter into with generators. LRMC provides a useful approach for setting a benchmark cost that a representative retailer would theoretically enter into to meet its load requirements.

Practical Advantages of using LRMC for 2012-13 prices

<u>LRMC modelling assumptions and inputs</u>

The methodology for calculating the LRMC of a particular load requires a range of inputs and assumptions to be set at the outset of the modelling exercise. The QCA has largely completed this exercise over recent years from consulting with stakeholder about the LRMC approach used in the BRCI. The QCA also know that ACIL will be able to complete the modelling in a timely and efficient manner. In AGL's view only a minimal amount of additional work would be required to amend the existing model so that it could be used in 2012-13, for example:

- A suitable set capital and O&M cost data was established as part of the 2011-12 BRCI. This data is developed by the QCA's consultants ACIL for the purposes of AEMO's National Transmission Network Development Plan (NTNDP) and has been widely consulted upon. Fuel costs were also consulted through this process and largely accepted by stakeholders;
- Other assumptions underlying the calculation of LRMC are well understood and were generally accepted for the purpose of modelling LRMC in the BRCI. These assumptions include using a 'greenfields' approach, modelling LRMC for a single NEM region, using an established mix of generation technologies and the inclusion of marginal reserve requirements.

If the QCA were to proceed with this approach, AGL suggest that the QCA could seek comments on the assumptions and inputs as part of the Draft Determination. If stakeholders have particular views on the assumptions or inputs used they can make this known and the QCA can consider whether to amend their modelling in developing the Final Determination.

AGL has taken the opportunity to provide its views on relevant key assumptions and inputs in Annexure 1. of this submission. If the QCA, or it's consultants, have any queries or questions on this information AGL would be pleased to provide any additional clarification.

Limitations of the Annual Price Distribution and other approaches

AGL has significant concerns with the proposed annual price distribution (APD) approach as it is proposed by the QCA and ACIL.

Basis for approach

AGL is of the view that the basis for the APD approach does not appropriately account for a retailer's short-term risk exposure in the wholesale electricity market and therefore will underestimate the amount at which a retailer would be willing to purchase energy.

The APD approach uses individual tariff load traces for a base year, adjusts these loads for weather and outage scenarios then develops pool prices for each data year (based on the current supply mix) and a corresponding annual average pool price distribution. The mean of this distribution is used to represent the level at which retailers are willing to purchase energy accounting for weather and outage risk. An additional 1.15% premium is added to the mean to represent the time value of contracts and other risks not included.

On this basis, the approach appears to make no assumption on the level of actual contract prices, but on the other hand it assumes that because retailers are only willing to purchase energy at a single point on a distribution, then if resulting contract prices are higher than this point on the distribution then a retailer would take the risk of not purchasing additional contract cover.

This approach does not reflect the way in which retailer's manage their risk exposure. It would appear to more closely align with the way a generator might seek to forecast their long term revenue i.e. forecast pool prices based on a range of weather and outage scenarios to determine the average revenue the generator will receive over the life of the asset. This aligns with AGL's understanding that the APD approach assumes that retailers and generators will accept the same risk profile when it is well understood that their risk profiles are entirely different, and not least countercyclical. This assumption fundamentally misrepresents the manner in which retailers must manage their wholesale electricity risk exposure i.e. the approach implies that retailers are willing to go into the market unhedged load above a certain cost, whereas in reality retailers do not have an unlimited amount of working capital on hand to meet these exposures.

Retailers purchase energy at the mean of weighted pool price distribution

In a volatile wholesale electricity market, such as the NEM, retailers with large loads attempt to minimise their exposure more like an insurance company's treatment of risk than a simple 'value-at-risk' day-trader. That is, the risk focus is on significant or catastrophic risk events to a level determined by Board mandated risk policies. The risk policies for retailers seek to insure against 'high impact-low probability' events which have the potential of exposing a retailer without sufficient cover to high costs if left to source electricity from the pool. This approach was further highlighted in the QCA Workshop by other retailers that described how they hedge their electricity costs to cover up to 1 in 20 year events.

AGL does not understand the basis on which ACIL has recommended to the QCA that retailers would be willing to purchase energy at the mean of the price distribution generated from the 820 load traces. This assumption does not appear to have any basis in finance theory or actual retailer practice.

Pool price modelling - Assumptions

The APD approach relies on ACIL's *Powermark* pool price model to forecast the movement of pool prices in responses to changes in forecast demand. It is the reaction of the model to these different load traces that provides the distribution of annual average load weighted prices. AGL do not believe this process is appropriate for several reasons:

- The difference between the median of the distribution and the mean is meant to reflect the premium for weather and outage risk. AGL does not believe there is any basis for this assumption;
- AGL also does not believe the constructed distribution is likely to be reflective of the true range of pool outcomes facing retailers. In particular all loads are chosen ultimately derived from a single year of (scaled) loads, and 'high impact low probability' effects have been excluded, as discussed later;
- AGL seeks to understand in detail the outage scenarios that form the extreme end of the distribution. AGL would be concerned if 'outlier' events have been removed from the distribution, as these are the very events that a retailer is concerned by in considering and managing risk; and
- AGL is concerned that using this approach the premium for weather and outage risk that a retailer is exposed to heavily relies upon a proprietary model, and in fact does not reflect how a retailer manages its risk.

Using a proprietary model such as *Powermark* can be appropriate in some regulated pricing contexts i.e. forecasting a pool price to settle out actual contract prices in a market-based approach. However, it should be acknowledged that the assumptions which underpin the model will influence the outcome of the modelling. If these assumptions are not transparent and therefore cannot be tested then stakeholders will be unsure as to whether this represents a reasonable approach. For clarity, this is not intended to be a criticism of ACIL's model per se, but of the use of proprietary models in general, particularly in circumstances where LRMC has been dismissed as a viable methodology on the basis it is a 'theoretical concept' and reliant on a modelled result.

Modelling future pool prices requires the model to predict behaviour of generators in the market under new conditions. AGL is concerned that with changes resulting from the consolidation of Queensland Government generators in 2011 and the introduction of the carbon pricing mechanism from 1 July 2012 that generator bidding incentives may have changed, and therefore bidding behaviour under these new conditions will not match historic bidding behaviour set in the model. Under these new conditions a number of assumptions in the model based upon historical generator behaviour will need to be reassessed i.e. impacts on regional inter-connectors with changes in generators short run marginal costs. The uncertainty associated with this type of modelling exercise in a notified price setting process would necessitate detailed consultation with stakeholders to explain how the model has generated particular outcomes.

AGL also note that the level of generator contract cover assumed in the model will affect the bidding behaviour of generators, a conclusion that ACIL had recently demonstrated in their work for the esaa in 2011[5]. AGL suggest that in developing these assumptions ACIL

[5] ACIL Tasman, *National Electricity Market Modelling, projecting changes to prices with changes to electricity contracting levels, Report prepared for the Energy Supply Association of Australia*, August 2011.

should not consider historical levels as representative of the way that generators might seek to maximise their revenue in this period of uncertainty.

Pool price modelling - Carbon

It appears that the allowance to reflect a retailer's exposure to the costs of the carbon pricing mechanism is based on the additional cost in the average pool price assumed by ACIL's pool price model in seeking to model the impact of the scheme from 1 July 2012. AGL notes in this respect that there have been a large number of attempts to model the impact of the carbon price on the NEM pool price, and an extremely wide range of results. This issue has been the subject of intense debate, and ACIL's view is one in a very broad range of views.

The electricity industry arrived at a consensus on an appropriate 'pass through' provision for standard contracts. The AFMA pass-through clause has been used by market participants to hedge against carbon risk so that forward contracts can continue to be traded. This clause includes an allowance for carbon to be passed through based on the AEMO carbon dioxide equivalent intensity index, otherwise known as the average carbon intensity (ACI) in the AFMA clause, calculated over a specified time period, multiplied by the carbon reference price for the period. The ACI effectively represents the NEM intensity. This was considered by the industry to be reflective of the likely impact of the carbon price on the pool price. More importantly, however, this is the benchmark cost additional to 'black' contract prices that will be passed through to retailers entering into bilateral or OTC contracts.

As demonstrated above retailers are currently exposed to carbon costs based on the AFMA contract pass-through clause. By estimating an allowance within the WEC for the cost of carbon using pool price modelling the QCA run the risk of underestimating the cost of carbon to retailers. This, in turn, could exacerbate one of the fundamental shortcomings of the APD approach, that is, assuming an amount from the price distribution at which retailers will risk having unhedged load exposed to pool prices. By underestimating a retailer's costs for carbon, this would lower the amount on the price distribution at which a retailer would be willing to accept the risk of having unhedged load, further exposing that retailer's load to the pool price. AGL suggest that an outcome where a retailer is assumed to be taking on more risk exposure in a period which there could be greater price volatility is not justified.

Even if the APD methodology is used to determine the 'black price', the ACI x carbon reference price should be used to determine the carbon pass through.

Level of uncertainty of outcome

In using the APD approach to set notified prices for a future period one of AGL's major concerns is the lack of certainty around the WEC amount that will be calculated from the methodology set out by ACIL. As this approach is not used by retailers to assess their average revenue and the inputs and assumptions are not transparent it is very difficult for retailers to even estimate the WEC amount that might be generated. This poses significant problems for a company attempting to forecast future revenues and plan their business activities.

Additional risks not addressed in APD approach

In Step 7 of the APD approach ACIL describe the process for determining a premium to account for other costs and risks associated with energy purchase. On page 19 of the ACIL Report four factors are identified that 'are likely to influence energy purchase costs', however each of the factors are considered to have no additional impact on the contract cost that the APD approach is seeking to quantify.

AGL suggest that this step highlights a critical deficiency with the APD approach, that is, it is does not appropriately reflect a retailers cost associated with managing their risk exposure for a particular load. As noted above, the APD methodology actually makes no

assumption as to contract prices, but rather simply assumes that if the contract prices are more expensive than suggested by the pool price forecast, then retailers will simply take more risk and take a greater proportion of their load to the pool. AGL notes in this respect that it does not agree there is the relationship between the forward contract prices and the distribution of pool price outcomes that this model assumes.

In the ACIL Report (page 19), three additional risks are noted for consideration, however each are dismissed as having no impact on contract costs for a retailer in 2012/13. AGL does not believe the following assumptions are valid:

1) *Different risk profiles of counter-parties will not add to retailer costs*

ACIL assume that counterparties to hedge contracts with retailers have the same risk appetite as retailers. This assumption implies that all participants in the market have the same risk profile/appetite and therefore there is a single price that participants would be willing to buy/sell at over the period.

This is clearly not the case in the NEM given the asymmetric distribution of NEM wholesale prices. The nature of the short-term markets means that at any one time there is only one price at which a retailer can buy or sell regardless of its risk appetite. For example, Retailer A might be less risk averse than Retailer B, as a result Retailer A may pay a higher price for a contract than Retailer B would because they want to remove their risk and are willing to give up margin to do so. All other things being equal the seller of that contract will always prefer to sell at the higher price, so regardless Retailer B will still have to pay the market price set by Retailer A. This is very much the case in Queensland. While at times the regional supply/demand balance might result in prices lower than the historical average, periods of volatility either factors such as changed bidding behaviour or network events are common.

2) *Reactionary component of contracts will not add to retailers costs*

The assumption that this reactionary component will not impact a retailer's costs implies that a retailer has perfect foresight in the contract market and that they would not purchase any contracts with a reactionary component. As retailers are generally required by Board risk policies to incrementally update their hedge cover for future periods in order to spread their risk exposure there is limited discretion over whether a retailer can choose to avoid volatile pricing periods. On this basis, this assumption could result in an underestimation of the costs faced by retailers, and therefore an additional premium included to account for the reactionary component of contract prices.

Time value adjustment

ACIL have proposed the addition of a premium to the mean of the price distribution to allow for a time value adjustment. ACIL has valued the 'time value adjustment' as requiring an additional 0.5% allowance for 6 months. The total allowance is calculated using a hedge volume strategy applied over 36 months to come to a total 'time value adjustment' value of 1.15%.

The basis for valuing the time value adjustment as 0.5% of the mean of the price distribution is unclear. No justification economic theory or quantitative modelling is provided to describe how the 0.5% allowance has been derived. ACIL state that it is 'based on analysis of the historical time trend of annual contracts', however it is not clear how this is determined from historical contract prices and the pool price distribution used to calculate the WEC.

Other approaches

AGL has addressed limitations with a market-based approach and a 'hybrid approach' (as used in the BRCI) in previous submissions. AGL has briefly noted its previous arguments in Annexure 2.

Amendments to Annual Price Distribution approach

AGL acknowledges that the QCA has a difficult task weighing up the concerns of a variety of stakeholders in setting the WEC approach. AGL remains of the view that an LRMC approach would be the most appropriate for notified prices in 2012-13. However if the QCA continue to view the APD as the preferred approach, then the following amendments must be made:

- AGL reiterates the comments that were made at the workshop that the appropriate point on the distribution curve must be at the 90-95th percentile.
- In developing the distribution curve, ACIL and the QCA must:
    - Ensure that the full range of possible outage events is considered. AGL would be extremely concerned if ACIL were considering the removal of 'outlier' events – it is these very events that retailers' risk management policies focus upon, and which drive the costs of appropriately managing risk.
    - Increase the allowance for residual risks faced by retailers beyond weather and random generator outages.
- The APD should only be used to establish the 'black' WEC, with the carbon pass through being established by reference to ACI x carbon price (as discussed above).
- The impact that the WEC outcomes from the APD approach would have on retail competition. A significant reduction in retailer margin from current levels will have a direct effect on whether retailers will continue marketing in Queensland and whether new retailers can be incentivised to compete.

Due to the large amount of data used in the APD approach and the uncertainty of the range of outcomes that could be generated by this approach AGL strongly suggest that if this approach is taken forward that the QCA engage with retailers on the application of the approach prior to the release of the Draft Determination. If it was possible to release the data (i.e. load traces, generator outage matrices, price distributions etc) prior to the Draft Determination then this would provide retailers with a chance to discuss with the QCA whether the outcomes of the approach are reasonable.

Customer load forecasts

AGL notes that in using a number of specific load traces for individual network tariffs the QCA is attempting to reflect the 'actual cost of supplying electricity'. As discussed earlier in the submission, for this outcome to be achieved the load traces need to represent the basis on which retailers settle these loads in the market.

AGL also note that any forecast of the NSLP (or loads which might be split out from within the overall NSLP) should account for the removal of customers using greater than 100 MWh p.a. from NSLP as these customers move off regulated tariffs and on to market contracts.

Under the ACIL's proposed APD approach it is proposed that each Energex retail tariff 2010-11 load and NEM Region load is adjusted to represent variation over 40 years of weather data. ACIL also note that the load for each NEM region is adjusted to match the AEMO 2011 ESOO forecast for 2012/13. AGL request that the QCA clarify whether the approach for adjusting the Energex retail tariff load traces to meet summer and winter peak demands is carried out on a consistent basis to the NEM Regions.

Carbon Pricing

QCA propose that as part of the preferred approach ACIL will run a set of carbon-inclusive and carbon-exclusive scenarios through their pool price model to highlight the impact that the carbon pricing mechanism will have on regulated retail electricity prices.

AGL is concerned that it appears unlikely that the costs faced by retailers in the 2012/13 will be reflected in the difference between the carbon-inclusive and carbon-exclusive pool prices. AGL has noted earlier the submission that retailers are exposed to forward contracts that include the AFMA will be exposed to a level of carbon pass-through calculated based on the ACI multiplied by the CRP. AGL is very firmly of the view that irrespective of what methodology is used to determine the 'black price' of the WEC, the carbon pass through should be calculated with reference to the ACI x carbon price.

Enhanced Renewable Energy Target

LRET

As per AGL's submission to the QCA *Issues Paper*, AGL is of the view that in determining the cost allowance for LRET compliance the QCA should consider the range of costs that would be experienced by a retailer sourcing LGCs not only from the market. Therefore AGL is of the view that in setting the allowance for a retailer's cost of compliance with the LRET scheme using the LRMC of compliance is the most appropriate approach in setting a regulated retail electricity price.

The QCA has dismissed this approach and proposes to continue with using a market-based approach as used in the 2011-12 BRCI. AGL requests that the QCA make the data available on LGC prices and any assumptions for the RPP clear and transparent as part of the Draft Determination.

SRES

AGL notes that the nature of the SRES makes it very difficult for regulators to accurately forecast an accurate SRES allowance for a future period. AGL highlighted in its submission to the QCA Issues Paper the problem faced by retailers in 2011-12 when the SRES allowance in the regulated tariff was set based on an 2012 STP of 9%, whereas the latest published estimate of 2012 STP is 20.87%. Since the Issues Paper it appears that the final 2012 STP will be even higher than the previous ORER estimate, therefore leaving retailers unable to recoup their costs to comply with this scheme. In setting the 2012-13 SRES allowance AGL would highlight to the QCA the experience of 2011-12.

While AGL understands the reasons for the proposed approach of setting the 2012-13 allowance based on the published 2012 STP and the latest ORER estimate for the 2013 STP, AGL suggest that the QCA should acknowledge the risk that retailers are left with using this approach. This additional risk must be reflected in the WEC.

Queensland Gas Scheme

As noted in AGL's submission to the QCA *Issues Paper*, AGL is of the view that there is not sufficient liquidity in the GEC market to use the current market price as a proxy for the cost of compliance for retailers. AGL has provided a detailed discussion of the issues associated with using a market-based approach to estimate a retailer's cost of compliance

for the GEC scheme in AGL's submission to the *Benchmark Retail Cost Index for Electricity: 2011-12 (BRCI 2011-12) – Draft Decision*.[6]

AGL note that the QCA has acknowledged retailers' concerns in regards to the lack of liquidity in the GEC market and proposes to use a longer period over which to sample GEC market prices. Not withstanding our previous comments on the lack of liquidity precluding the use of market contract data, using a longer sampling period should more accurately reflect a retailer's costs than the previous approach used in the BRCI 2011-12.

Losses and NEM participation fees and charges

AGL support the continuation of the approach the QCA had used in the BRCI methodology to assess the NEM fees and ancillary service charges.

[6] AGL Energy Ltd, *Benchmark Retail Cost Index for Electricity: 2011-12 – Draft Decision – AGL submission to the Queensland Competition Authority*, 20 July 2011. p.17–20.

3. Retail Costs

Retail operating costs

AGL supports the QCA's proposal to use the retail cost allowance (excluding CARC) for the 2011-12 BRCI as a starting point. This approach has been used for a number of years so unless there is clear evidence of material change, AGL considers that this benchmark should be maintained in real terms.

AGL considers that it is appropriate to review this allowance against decisions in other jurisdictions provided sufficient account of industry structure and other differences are taken. AGL has published cost to serve figures in its Annual Results but AGL cautions against the use of this information as they do not represent the total costs of operating the business.

In relation to CARC, AGL considers that it is consistent for the QCA to also include the current 2011-12 allowance in the retail cost estimate, maintained in real terms.

AGL has reviewed its operating costs by jurisdiction and fuel. AGL considers the QCA's current overall allowance to be within a reasonable range of operating costs which can be attributable to QLD electricity.

Retail margin

The QCA has proposed to assess the appropriateness of the current margin of 5% in the context of the margins adopted in other jurisdictions, particularly the most recent IPART estimate. The retail margin allowance of 5.4% adopted by IPART was based on the average of the mid-point of three approaches considered. AGL considers that although the upper range of the three approaches is 6.9%, an appropriate retail margin should be at least 8%, given that the NEM is most volatile market in the world. In addition, AGL note that in comparing the proposed margin with benchmarks in other jurisdictions the QCA should consider the nature of pricing methodology used in those jurisdictions and that the margin should reflect the level of risk retailers take on when operated in those markets. For example, under the proposed methodology retailers take on a different set of risks than compared with the NSW retail electricity market due to ability of retailers to apply for a cost pass-through to recoup costs incurred that were not taken into account in the regulated tariff.

4. Representative Retailer

In the *Draft Methodology Paper*, the QCA note that there does not appear to be any reason to believe that the level of competition is deficient or that further steps need to be taken to attract new entrants. On this basis, the QCA has considered that the definition of the 'representative retailer' should be based on an incumbent retailer and not a 'new entrant'.

As shown in Figure 1 earlier, over recent months the Queensland market churn rate has been declining, and in AGL's view this is due to uncertainty about the current QCA review or prices. There is a strong risk that competition will lessen if prices do not reflect retailers costs of operating in the Queensland retail electricity market. Whilst AGL is of the view the current retail operating allowance form a reasonable basis on which to determine an allowance in 2012-13, in order to ensure that a healthy level of competition continues it

would seem more consistent for the 'representative retailer' to be defined as a 'new entrant retailer'.

Given that AGL has a preference for competitive market frameworks over regulation, AGL believes that continuing to attract new entrants into the Queensland retail electricity market will continue to ensure strong levels of competition and the resulting benefits for consumers. In a competitive market, if regulated prices are set too high, windfall gains will be erode by discounting. Therefore, the risk is not that prices are set too high but that prices are set too low to encourage competition and retailer's confidence in underwriting new generation to ensure long term security of supply.

Under the proposed cost build up approach in the *Draft Methodology Paper*, the values of the individual cost components are critical in setting the overall price. AGL is of the view that there is substantial risk that some of the cost components may be set at a level which will not support competitive activity.

5. Treatment of Network Costs

AGL supports the use of Option c) in relation to the treatment of network costs. However AGL is concerned that without a pass-through mechanism or similar that retailers face the risk of under-recovery of network costs if distributors adjust their tariffs subsequent to the draft prices.

6. Other Issues

Accounting for Unforeseen Events

AGL note that the Delegation to the QCA to determine 2012-13 notified prices does not appear to provide any allowance for a cost pass-through mechanism (price adjustments within the 2012-13 tariff year) or a catch-up mechanism (cost impacts from a previous year in the subsequent tariff year). It is noted in the *Draft Methodology Paper* that they will 'seek to clarify this issue prior to the release of its Draft Report'.

AGL is concerned that if our understanding is correct and there is no mechanism for pass through costs related to unforeseen events, either within the price path or as a 'catch-up' for costs incurred in the previous year, this leaves retailers with an increased level of risk which should be acknowledged within notified prices. AGL noted in its submission to the QCA's *Issues Paper* example of the discrepancy between the 2012 STP in the BRCI 2011-12 Final Decision (9%) and the 2012 STP estimate published on 29 July 2011 (20.87%) as an instance which highlights the importance of having a pass-through mechanism. This represented a significant cost for retailers such as AGL given that marketing commitments and product discounts committed in prior months were based on the regulated decision, and so this type of event means that retailers are subject to higher levels of risk than would be the case in a deregulated retail market.

If the QCA is restricted by the Delegation as to whether a pass-through mechanism can be developed then AGL is strongly of the view that this additional risk for retailers should be recognised in the assessment of their costs, given that marketing commitments occur in advance.

Annexure 1

Calculating LRMC of Generation

Calculating the LRMC of electricity generation for a particular load can be done in a number of ways. Rather than specify a detailed preferred modelling approach, AGL has sought to clarify some of the key issues that should be considered when determining the LRMC of generation for a retailer operating in Queensland.

LRMC modelling assumptions and inputs

The methodology for calculating the LRMC of a particular load requires a range of inputs and assumptions to be set at the outset of the modelling exercise. If the QCA were to proceed with this approach, AGL suggest that the QCA could seek comments on the assumptions and inputs as part of the Draft Determination. If stakeholders have particular views on the assumptions or inputs used they can make this known and the QCA can consider whether to amend their modelling in developing the Final Determination.

- Greenfields mode: This approach assumes that no plant already exists and builds from zero the least cost combination of plant to meet the load duration curve. This approach ensures that the LRMC reflects the capital cost requirements of new generation whereas the LRMC using an 'incremental' approach (assumes existence of current plant) will only reflect the capital costs of any additional generation, if required. Using a load profile such as the Energex NSLP to calculate the LRMC means that an approach which takes into account existing generation would not be suitable because assumptions would have to be made as to which generation served different parts of the overall system load. Above all, Greenfields mode is more appropriate for the NEM given that the market clearing prices are based on a Uniform 1st Price Auction model and any deviation from this approach would be at odds with the market design (and also explains why Greenfields approach has been so prevalent in the NEM).
- Single region: as done in South Australia and New South Wales, the LRMC should be modelled using a single region (i.e. no interconnection between other NEM regions). Using an NSLP and a 'greenfields' approach means that there should be no requirement for modelling interconnection between regions.
- Modelling Period: The modelling period should balance the need to reflect the investment period over which a retailer would enter a power purchase agreement of underwrite a physical asset, while acknowledging that assumptions will by their nature become less accurate over extend periods of time. AGL has been satisfied with the modelling period assumed in the BRCI LRMC modelling to date.
- Technology: the mix of technologies assumed to make up the generation mix should comprise those which are genuinely commercially available to be deployed through the entire modelling period.
- Capital, fuel and O&M costs: LRMC modelling should use the most up to date publicly available data for generation technology costs. The National Transmission Network Development Plan (NTNDP) published annually by AEMO is an industry-accepted, and widely consulted source of data that is relevant for this type of modelling. Currently 2010 NTNDP is the most up to date version of this report.
- Generation capacity: Generation capacity should be constructed within the model in blocks representing normal unit sizes for plant given local demand conditions and real-world capital constraints. Marginal reserve: A marginal reserve assumption of 15% of maximum demand under standard (POE 50) weather conditions.

- Load: For all tariffs not using an interval meter which are settled against the NSLP the forecast NSLP load duration curve can be used to determine the LRMC that will be applied to those relevant tariffs
- TOU Tariff: For the domestic time-of-use (TOU) tariffs QCA have specified that there should be different allowance in the EPC for peak, off-peak and should times and where necessary week days and weekends. ACIL have set out a process in their report to adjust load weighted pool prices for these periods to meet the 'mean of the load weighted price distribution from the stochastic analysis plus the allowance for the time value of contracts'. AGL suggest that this process could be followed, however by substituting the LRMC for the 'mean of the load weighted price distribution' and finally using one year of historic pool prices to generate prices for the different time periods that on a load weighted basis match the overall LRMC.

Annexure 2

Market-based approach

As noted earlier, AGL is of the view that due to current lack of liquidity in the Queensland forward contract market, the lack of other transparent sources of contract data and the uncertainty associated with the value of carbon imputed into contract prices means that using a market-based approach is not appropriate for setting 2012-13 notified prices.

AGL would suggest that if in future years the QCA is considering returning to a market-based approach to set the WEC that this be underpinned by a commitment to not set the WEC at less than the LRMC of generation. AGL has provided detailed arguments as to the benefits of using this approach for setting regulated prices in our previous submissions.

Combination of market-based approach and LRMC

AGL agree that using a combination of more than one approach (i.e. 50% APD approach & 50% LRMC) creates additional issues for setting the WEC. It could be argued that using this method reduces some of the risk that if a single approach does not correctly value a retailer's costs then this could be offset by the use of another approach. However, this method would introduce a significant amount of additional regulatory risk to retailers in attempting to forecast the outcome of two WEC approaches and it does not address the shortcomings of the approaches themselves. AGL would suggest that it would be more beneficial for the QCA to focus on setting an appropriate single WEC approach.