Review of Regulated Retail Electricity Prices 2013-14 – Draft Determination

AGL submission to the Queensland Competition Authority

Date: 27 March 2013

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Executive Summary

AGL welcomes the opportunity to provide feedback on the Draft Determination, Regulated Retail Electricity Prices 2013-14 (***Draft Determination***). AGL looks forward to continuing to work closely with the Queensland Competition Authority (***QCA***) through the next stage of calculating the 2013-14 notified prices.

General Comments

AGL remains concerned that the current approach to setting regulated retail electricity prices does not deliver the optimal long-term policy settings for consumers and the industry alike. In this submission AGL has focussed on the issues associated with setting the wholesale energy cost (***WEC***) (i.e. energy purchase cost (***EPC***) allowance) which is a significant component of the regulated tariffs. AGL remains of the view that ensuring the WEC used in the regulated price represents a reasonable benchmark is extremely significant for the long-term viability of the retail market.

Energy Costs

The QCA and ACIL have proposed the continuation of a market-based approach to calculate the WEC to be used as part of the regulated retail prices. AGL notes that this has been done on the QCA's assumption that this approach will capture the costs borne by a retailer in 2013-14. However, AGL is of the view that significant issues with the modelling underpinning the ACIL Draft Report are such that the energy purchase cost (EPC) derived cannot credibly be viewed as a "best estimate" of the costs that a retailer would likely incur in 2013-14.

In short, AGL believe that the WEC modelling approach underpinning the ACIL Draft Report has the effect of:

- Suppressing the cost the theoretical retailer would incur in hedging its regulated load by significantly understating the range of maximum demands that a retailer may be exposed to in 2013-14; and
- The modelling then 'assumes away' the risk a retailer hedging to such low levels would actually be exposed to by forecasting an unrealistically benign pool price.

In this way, the theoretical retailer modelled by ACIL does not suffer any adverse outcomes from such low levels of hedging, notwithstanding that in real life the level of risk associated with such a strategy would be extreme, and potentially financially disastrous.

This is all the more concerning as ACIL have indicated that their intent is to develop a forecast that "*allows for the residual risk associated with a 1 in 20 year outcome*" by taking the EPC at the 95% percentile of the EPC distribution. AGL does believe that if the key determinants of a retailers' WEC were modelled appropriately, this approach would be sound – it would in effect cover the costs a retailer would incur in managing a '1 in 20' year demand and price event. However, the current distribution of results does not reflect this stated approach – neither the load forecast nor the pool price forecast in any way resemble the range of outcomes which would be necessary to encompass a '1 in 20 year event'.

AGL has examined the data provided by ACIL and while it is almost impossible for stakeholders to effectively replicate the modelling, AGL believes that the results of the ACIL modelling indicate that the following issues require further investigation:

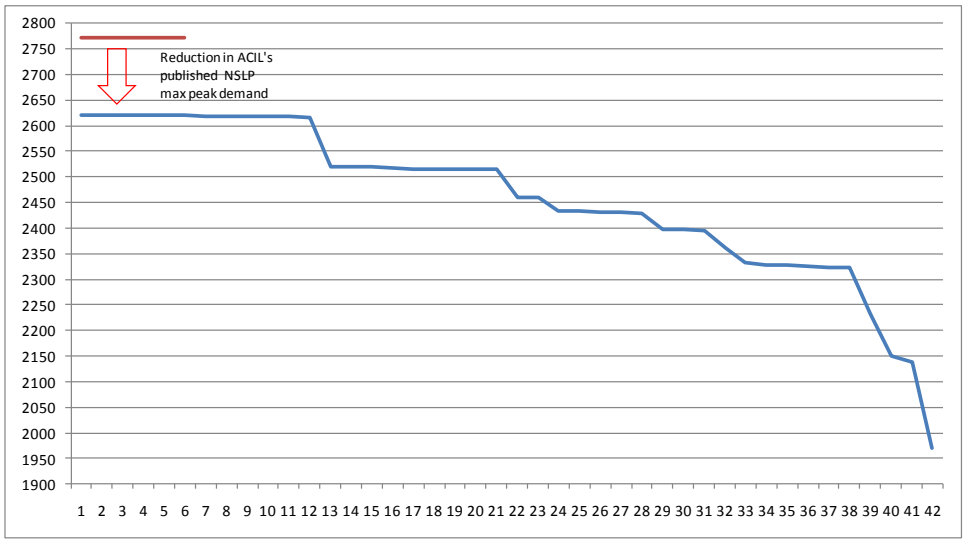
Queensland and Energex NSLP Demand forecasts

The forecasts of Queensland system peak demand and Energex NSLP peak demand have been suppressed to levels which are not credible, particularly when the forecast is purported to deliver a range encompassing a '1 in 20 year' event. AGL assumes this has occurred through the ACIL process of selecting demand levels from a limited sample of actual years and scaling the NSLP demand levels.

Specific issues AGL has identified include:

- ACIL QLD system peak demand data used in modelling the distribution of EPCs does not appear to align with the AEMO 2013-14 forecasts. This is extremely concerning given that ACIL have stated that they have used the AEMO forecasts as the basis of their load traces;
- The level and distribution of the peak demands, in particular for the Energex NSLP, are not representative of what AGL would expect to see as representative of a set of forecast scenarios intended to capture a '1 in 20 year' (i.e. 5% PoE) event. Retailers expressed concern at the Workshop with the low level of the maximum demands provided in Figure 2 of the ACIL Draft Report. Since that time, ACIL have advised that they are in fact using even lower Energex NSLP peak demands than what was previously indicated in the Draft Report (see below);

ACIL Energex NSLP Peak Demand Reduction



- AGL has previously questioned why the ACIL NSLP forecast is flatter as compared to the ACIL System demand than historical analysis suggests is credible. The reasons provided by ACIL, namely the state of the economy and solar PV penetration, do not appear coherent to AGL;
- The capping of the ACIL NSLP peak demand to the 10% PoE AEMO QLD system peak demand limits the variability in the NSLP peak demands AGL would expect. As noted earlier, the ACIL QLD peak demand data does not appear to align with the AEMO 2013-14 forecasts which further brings into question the scaling of the NSLP peak demands; and
- The distribution of ACIL NSLP peak demands for the 42 simulated demand sets is negatively skewed which is at odds with the distribution of both the AEMO QLD system peak demand and the frequency of maximum temperatures in Brisbane over recent years. The link between the NSLP peak and maximum temperatures is well established and therefore this trend is not what AGL would expect.

Pool price volatility

ACIL's forecast of pool price volatility has been reduced to such an extent that it appears at odds with historical prices and in effect ignores that retailers' risk management strategies are largely focussed on mitigating the impact from high pool price events. The number of VoLL hours in the ACIL pool price data provided for the 95th percentile EPC scenario is well below levels seen in recent years.

Impact of underestimating risk to retailers

ACIL has underestimated the impact that lower peak demand and price volatility would have on a retailers' average energy cost in times of unhedged load i.e. the impact of AGL's first two concerns. On page 21 of the ACIL Draft Report ACIL dismiss the potential impact of a variation in peak demand by calculating the additional cost a retailer would be exposed to. This calculation is incorrect and in fact underestimates the impact on retailers by 2.2 times. By dismissing this issue in such a manner ACIL has demonstrated that they do not fully appreciate AGL's concern regarding the manner in which a retailer would typically manage its wholesale energy risk exposure.

Lack of transparency in modelling data and approach

AGL is not only concerned with obvious flaws in the modelled results, but is also concerned with the low level of transparency in the process followed by ACIL. AGL is particularly concerned by the late release of additional data by the QCA which demonstrates that data presented in the ACIL Tasman Draft Report is incorrect. AGL believes it is reasonable for stakeholders to remain deeply concerned by the lack of disclosure by ACIL of the modelled data, which precludes any real independent checking of the results obtained.

Retail Costs, Margin and Headroom

AGL support the maintenance of the benchmark for retail operating costs (in real terms), the retail margin and headroom allowances for 2013-14 in its Draft Determination. AGL note that any reduction in these allowances would ultimately be detrimental to promoting retail competition in Queensland.

Competition and accounting for unforeseen or uncertain events

The QCA has claimed that neither the 2012-13 Determination nor the Tariff 11 freeze has negatively impacted competition. AGL does not agree with this. AEMO's transfer statistics continue to show than the churn rates in Queensland are at historic lows since the commencement of FRC.

The QCA intends to include a cost pass-through mechanism to apply during the three years of the delegation period. AGL supports the QCA's intention not to prescribe an exhaustive list of cost events or to set a fixed materiality threshold for the pass-through of these costs.

1 General Comments

AGL Energy Ltd (***AGL***) welcomes the opportunity to provide comments to the Queensland Competition Authority (***QCA***) on the Draft Determination, Regulated Retail Electricity Prices 2013-14 (***Draft Determination***) and the supporting report on energy purchase costs by ACIL Tasman (***ACIL Draft Report***).

1.1 Retail competition and deregulation

In the context of the commitment to phase out retail price regulation set out in the Australian Energy Market Agreement,[1] AGL is firmly of the view that the objective of the three year Delegation should be to set notified prices in a manner that will best facilitate a move to retail market deregulation in southeast Queensland.

AGL considers that it is imperative that the QCA ensures that through the period of the Determination (i.e. 2013-2016) that prices are set to promote competition in line with the Delegation.

1.2 Role of the regulated price in a competitive market

AGL remains concerned that the current approach does not deliver the optimal long-term policy settings for consumers and the industry alike. Having said this, it is important that regulatory policy settings are predictable and transparent so as to minimise regulatory uncertainty, which in turn will allow retailers to plan for the medium to long-term. They are critical in ensuring the sustainability of competition in the retail energy market.

In this submission AGL has focussed on the issues associated with setting the wholesale energy cost (***WEC***) allowance (i.e. energy purchase cost (***EPC***) allowance) which is a significant component of the regulated tariffs. AGL remains of the view that ensuring the WEC used in the regulated price represents a reasonable benchmark is extremely significant for the long-term viability of the retail market. QCA's stated approach of setting the WEC at the 95th percentile of the modelled WEC outcomes is designed to ensure that the allowance accounts for retailers' risk of being exposed to high price-high demand events. AGL agree that this general approach is appropriate in setting a market-based WEC, however Section 2 highlights a number of issues AGL has identified in determining the distribution of WEC outcomes considered.

As noted by the QCA and other regulators, regulated prices alone cannot protect consumers from electricity price increases, however retail competition can provide consumers with greater choice and in turn ensure that prices are restrained by competitive pressures.

1.3 Structure of Submission

In this paper, AGL has responded to the Consultation Paper in the following structure:

- Section 2 considers the range of issues in establishing the energy purchase cost allowance;
- Section 3 discusses the retail operating cost allowance and retail margin;

[1] Standing Council on Energy and Resources, Australian Energy Market Agreement (As Amended) Clause 14.11.

- Section 4 discusses retail competition in the Queensland electricity market and other considerations; and
- Section 5 reviews the proposed Transitional Arrangements.

2 Energy Costs

2.1 Introduction

2.1.1 General comments

In this section AGL has discussed issues related to the approach used to calculate the energy cost allowance by ACIL Tasman (***ACIL***). AGL has examined the data provided ACIL and while it is almost impossible for stakeholders to effectively replicate the modelling, AGL believes that the results of the ACIL modelling indicate that:

1) Forecasts of Queensland system peak demand and Energex NSLP peak demand levels have been suppressed;
2) ACIL's forecast of pool price does not have credible levels of volatility – the pool price trace is so benign that it does not have any resemblance to historical outcomes; and
3) ACIL has underestimated the impact that lower peak demand and price volatility has on retailer average cost in times of unhedged load i.e. the impact of AGL's first two concerns.

These elements of the modelling should be re-calculated. AGL believe that if these factors were modelled appropriately ACIL's WEC would provide a reasonable benchmark based upon the 95% percentile WEC, in particular because the forecast distribution of the Energex NSLP underestimates retailers' potential exposure to volatile pool prices.

The current distribution of results does not reflect the WEC that a retailer would face under 1 in 20 year pool price or load exposure conditions. In reality, if a retailer forecast a '1 in 20' peak in the same way ACIL have done, its exposure to high price and high demand events would likely cause significant financial loss to the retailer. For example, in Section 2.4 AGL highlights what could be considered the conservative cost of a retailer underestimating the level of unhedged load i.e. total annual cost ~$12 million. The reason this is not reflected in the results derived from the ACIL modelling is because ACIL have forecast unrealistically low levels of peak demand – ie ACIL have assumed away the actual risk a retailer would face in forecasting unrealistically low levels of demand. In other words, ACIL have concentrated their efforts on modelling a multitude of demand outcomes which in fact don't include the type of demand events that retailers hedging strategies are focussed on mitigating.

AGL notes that it does not disagree per se with the hedging strategy applied. The hedging strategy itself is capable of representing a hedging strategy a prudent retailer might adopt. If ACIL appropriately forecast the peak NSLP demand, and model realistic levels of volatility, then AGL agrees that the hedging strategy applied would establish a realistic level of cost and risk.

While AGL acknowledges that the QCA and ACIL are committed to a purely market based approach, AGL notes that this has been done on the basis the QCA have assumed that it will capture the costs borne by a retailer in 2013-14. The QCA state:

> *The Authority…… maintains its view that a market-based approach should provide the best estimate of the costs that retailers will incur in the year ahead.*[2]

[2] QCA, Draft Determination, Regulated Retail Electricity Prices 2013-14, February 2013. pp 23

AGL is of the view that due to the flaws identified in this submission, the modelling underpinning the ACIL Draft Report in no way reflects the "best estimate" of the costs that a retailer would likely incur in 2013-14.

2.1.2 Lack of transparency in modelling data and approach

As detailed further below, AGL is not only concerned with obvious flaws in the modelled results, but is also concerned with the low level of transparency in the process followed by ACIL.

AGL notes in this respect that:

- The Draft ACIL Report did not provide data on the Queensland system demand levels used in the Draft Determination. This data was subsequently provided as part of the additional data released on 19-20 March 2013 and has highlighted a number of potential issues in ACIL's modelling. This failure by ACIL to provide stakeholders with sufficient data has been the subject of submission and complaint by a number of stakeholders in a number of previous Determinations, including the 2011-12 Determination process;
- In respect of the subset of data that was provided in the ACIL Draft Report, AGL learned upon the release of the additional data on 19-20 March that the forecast NSLP maximum demands in the ACIL Draft Report were incorrect, and that the actual demands used in calculating the WEC are even lower. AGL understand that Figure 2 in the ACIL Draft Report represents the demands that would be obtained if they used the AEMO 'Medium Growth' scenario, when they had used the demands obtained in the 'Low Growth' scenario in calculating the WEC; and
- AGL notes that the demands published in the ACIL Draft Report were the demands discussed at some length in the Workshop on 7 March 2013. At that Workshop a number of retailers all commented on the fact the demands were far too low. At no point did ACIL make clear that the demands actually used to calculate the WEC were in fact *even lower* than those published in the ACIL Draft Report.

Given these circumstances, AGL believes it is reasonable for stakeholders to remain deeply concerned by the lack of disclosure by ACIL of the modelled data, which precludes any real independent checking of the results obtained. This concern has naturally been exacerbated by the recent admission by ACIL of the mistake in relation to the demand data provided.

AGL wishes to acknowledge that, notwithstanding the failure to alert stakeholders to the mistake in the data in the Draft ACIL Report, ACIL did seek to engage with stakeholders in a constructive and useful way at the Workshop. AGL was also pleased to hear from ACIL that they wanted to ensure that retailer concerns with the modelling would be addressed in the Final Determination. To that end, AGL indicated to the QCA that it would seek a meeting with ACIL after making this submission in order to advance these matters further. AGL looks forward to meeting with ACIL and the QCA in the near future.

2.2 Peak demand forecasts

AGL is firmly of the view that the Energex NSLP peak demands modelled and used by ACIL (***ACIL NSLP peak demand***) in the calculation of the WEC are far too low to be considered a realistic representation of the distribution of demand outcomes a retailer needs to hedge against – and certainly bear no resemblance to a '1 in 20 year' maximum peak demand level to which a retailer may be exposed.

AGL believes there are several flaws in the modelling which clearly demonstrate this:

- The Queensland system peak demand modelled by ACIL (***ACIL QLD peak demand***), and used as a basis for deriving the ACIL NSLP peak demand does not

align with the AEMO forecasts – the peak demands derived by ACIL are inexplicably lower than those forecast by AEMO;

- The ACIL NSLP peak demands do not accord with AGL's observations of historical NSLP peak demand – ACIL's approach implies that they considered a '1 in 20 year' peak demand (ie a 5% PoE), and yet the absolute maximum peak demand forecast is in fact lower than the NSLP peak demand in 2009-10. The reasons forwarded by ACIL as to why these historical demands cannot be considered instructive do not withstand sensible analysis;
- The distribution of ACIL NSLP peak demands modelled in the 42 scenarios is unduly negatively skewed, and despite ACIL suggesting that the modelling was capturing a 5% PoE year, the model appears capped at the (inexplicably low) 10% PoE. This results in 6 of the 42 scenarios having the same maximum demand, and there being only ~5MW difference between the 'top' 12 scenarios; and
- The demand traces have been developed using actual demand data from the last 3 years, notwithstanding that the past three years have been characterised by mild weather. The relevance of this is that the narrow sample of demand levels restricts the flex in the NSLP demand because of the limited variability of demand outcomes over the three mild weather years. The result is that even after the loads are scaled to 2013-14 levels, the flex we would expect to see in a distribution intended to reflect more extreme weather and demand conditions is not there.

2.2.1 Queensland system peak demand

The ACIL QLD peak demand is a critical part of the WEC modelling approach because:

- ACIL derive the Energex NSLP peak demand by reference to their forecast Queensland system peak demand forecasts; and
- ACIL QLD peak demand is a key input into pool price modelling (see Section 2.3).

The ACIL Draft Report describes the approach used to scale the maximum annual peak demands to the AEMO 2013-14 summer demand forecasts:

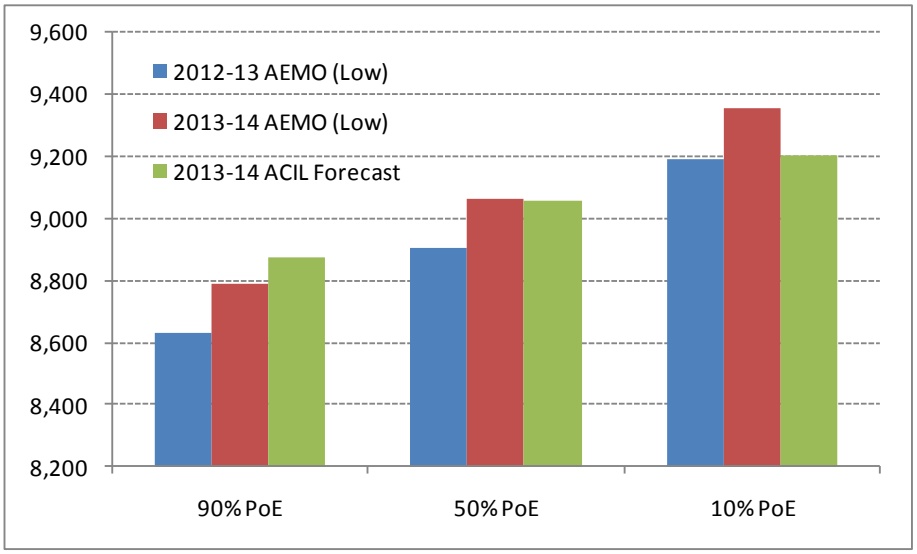
> *"The maximum of the annual peak demands from the 42 simulated load traces is scaled to match the 10% POE summer demand forecasts in each region. Similarly, the median of the annual peak demands from the 42 simulated load traces is scaled to the 50% POE summer demand forecasts in each region. And, the minimum of the annual peak demands from the 42 simulated load traces is scaled to the 90% POE summer demand forecasts in each region."*[3]

On this basis, AGL would expect to see the ACIL 10% PoE peak demand reflecting the AEMO 2013-14 10% PoE peak demand, and the absolute maximum demand modelled by ACIL exceeding the AEMO 10% PoE demand, as the final WEC is purported to be at the 5% PoE of the WEC distribution i.e. would be expected to align with a 5% PoE demand.

However, AGL is concerned that the ACIL QLD peak demand data used in modelling the distribution of WEC allowances does not align with the AEMO forecasts. The QCA only recently released additional data on their website which included "Peak demand – Queensland (MW)". Figure 1 below shows a comparison of Queensland system demand from AEMO's (Low scenario) forecast with the ACIL QLD peak demand in the Draft Report.

[3] ACIL Tasman, Estimated energy costs for 2013-14 retail tariffs, Prepared for the Queensland Competition Authority, February 2013. pp 32.

Figure 1 – QLD system peak demand: AEMO (Low scenario) vs. ACIL QLD peak demand



*AEMO, National Electricity Forecasting Report (NEFR) 2012, Table 5-3 — Summer maximum demand forecasts for Queensland (MW)

The results highlighted in Figure 1 show that:

- ACIL's 90% PoE forecast is higher than the corresponding 2013-14 AEMO forecast;
- ACIL's 50% PoE forecast is similar to the corresponding 2013-14 AEMO forecast; but
- ACIL's 10% PoE forecast is well below the corresponding 2013-14 AEMO forecast and in line with 2012-13.

It is unclear to AGL whether this is an error or whether ACIL have intentionally forecast system peak demands lower than the AEMO 'Low growth' forecast. If this is intentional there has been no reasonable justification provided by ACIL for using this approach, and AGL can think of no reason why these peak demands differ so markedly from AEMO's.

AGL suggests that these results bring into question the ability of the scaling approach used by ACIL to provide a forecast of Queensland system demand which aligns with the AEMO forecasts of peak demand. It also calls into question the credibility of the ACIL NSLP peak demand (which is derived from this modelled system demand) and the pool price trace which is also derived from the QLD system demand.

2.2.2 Energex NSLP peak demand level

The results in ACIL's Draft Report confirm AGL's concerns that the level and distribution of the peak demand levels, in particular for the Energex NSLP, are not representative of what AGL would expect to see as representative of a set of forecast scenarios intended to capture a '1 in 20 year' or 5% PoE year.

ACIL's Energex NSLP peak demand data

Based on observations of historical outcomes, AGL would expect to see the ACIL NSLP peak demand growing at a greater proportional rate to the peak demand in the Queensland system demand forecast by AEMO, for reasons which include:

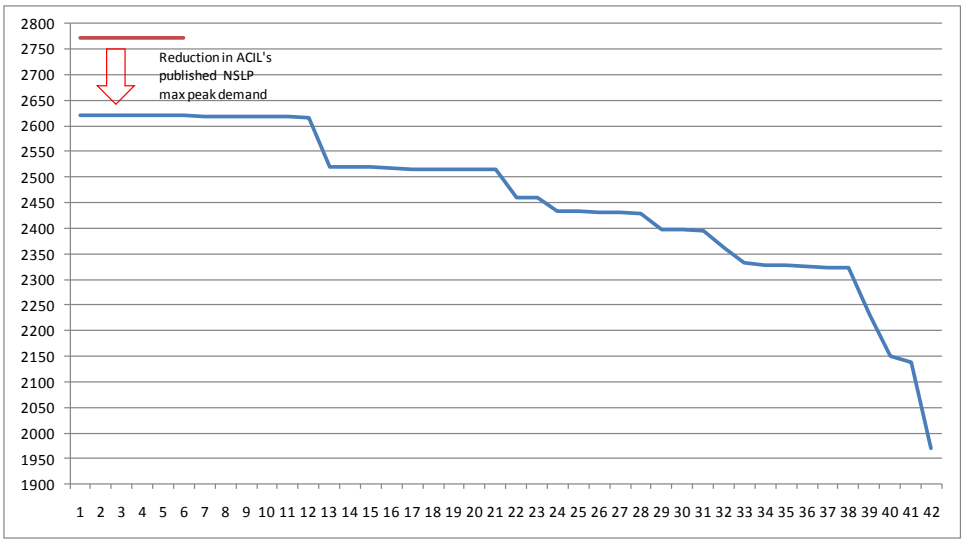
- Historically, the growth in the NSLP peak against the average demand has been higher that the growth in the Queensland system peak against the system average; and
- ACIL are seeking to model a 5% PoE year, rather than a 10% PoE year modelled by AEMO.

The modelled results provided in the ACIL Draft Report do not accord with these observations of historical outcomes. AGL highlighted these issues at the Workshop held on 7 March 2013 and ACIL specifically noted that they would welcome input from retailers on this issue.

On 19-20 March 2013 the QCA released additional data on their website which included "Peak demand - Energex NSLP (MW)". Following the release of this data AGL highlighted to the QCA that the Energex NSLP peak demand data provided did not appear to match data presented in the ACIL Draft Report, in particular the distribution of Energex NSLP peak demands described by ACIL in its Figure 2 (page 15). The QCA and ACIL subsequently confirmed that the Energex NSLP peak demand levels in Figure 2 represent demand levels scaled to the AEMO 'Medium growth' scenario, whereas the peak demands in the additional data were based on the AEMO 'Low Growth' scenario, and that the 'Low Growth' demands were those that ACIL had used in calculating the WEC.

AGL was already concerned that the demand levels in Figure 2 of the ACIL Draft Report did not represent a realistic distribution of the likely peak demand outcomes for the Energex NSLP. AGL is therefore taken aback by the even lower peak demand levels that ACIL is actually suggesting be used as a basis for the calculation of the costs likely to be incurred by a retailer in 2013-14 in hedging against a 5% POE year. Figure 2 below shows the reduction in the Energex NSLP peak demand level in the additional data from that published in the Draft Report. In AGL's view this is not a credible forecast of the distribution of peak demand levels that a retailer could be exposed to in 2013-14.

Figure 2–ACIL Energex NSLP Peak Demand Reduction



QLD system peak demand & Energex NSLP peak demand growth

Table 1 below shows a simple comparison of the actual QLD system peak demand in 2009-10 with the AEMO forecast QLD system peak demand (Low scenario) in 2013-14. It also shows the actual Energex NSLP peak demand in 2009-10 along with ACIL's forecast Energex NSLP peak demand in 2013-14 using the maximum of the 42 scenarios that represent the impact of historical weather variation on the NSLP.

Table 1 – QLD system peak demand vs. Energex NSLP peak demand

	Queensland system peak demand (MW)	ACIL Energex NSLP Peak Demand (MW)
2009-10	8,931*	2,785
2013-14	9,355 (Low)	2,620 (Low)

*AGL note that the ESOO 2012 FY10 actual QLD regional demand is quoted as 9,061 MW

The AEMO QLD system forecast (using the Low scenario) in 2013-14 represents an increase of ~400MW from the actual 2009-10 QLD system demand. As noted above, AGL would expect to see, at least, a proportionally corresponding increase in the Energex NSLP peak demand from 2009-10 to the 2013-14 forecast, particularly in respect of a 5% PoE forecast based on ACIL's 42 years of weather variation.

Instead, ACIL is suggesting that the NSLP peak demand level, corresponding to the 95th percentile (i.e. this demand level should equate to a 1 in 20 year demand and the costs faced by a retailer in that scenario) is **lower** than actual peak demand in 2009-10, and only 2% higher than the average peak demands for the period 2007-08 to 2011-12 (2,560 MW)[4]. As discussed further below, ACIL cannot adequately explain this lack of alignment.

Variation in historic Energex NSLP peak demand

In its submission to the Consultation Paper, AGL questioned the credibility of the ACIL load forecasts, given that the ACIL NSLP forecast was going to be scaled to the QLD system demand forecast. AGL pointed out that over the last 5 years the Energex NSLP peak demands exhibited a greater level of variation from the average than QLD system peak demands over the same period. AGL calculated that between 2008 and 2012 the NSLP maximum peak demand varied by 9% from the average while the QLD system maximum peak demand varied by 3% from the average. This suggested that ACIL had not accurately forecast the peakiness of the NSLP.

ACIL argued that this was not a valid comparison "*since the state of the economy and underlying structure of the NSLP load is different for each year*"[5]. ACIL have sought to use the change in the Energex NSLP load duration curve from 2009-10 to 2011-12 as evidence that because the overall demand level is lower in 2011-12 then it could be assumed that the 2009-10 peak demand would have been lower by taking into account 2011-12 economic conditions and solar PV. ACIL have sought to 'remove' 200MW of demand from the historical NSLP peak to demonstrate that if this adjustment were made, then the historical difference between the (adjusted) NSLP and the Queensland system load are similar to those they have forecast.

[4] On page 12 on the ACIL Draft Report the average Energex NSLP peak demand for the period 2007-08 to 2011-12 is quoted as 2,650 MW. AGL calculate the average over this period to be 2,560 MW.

[5] ACIL Tasman, Estimated energy costs for 2013-14 retail tariffs. Prepared for the Queensland Competition Authority, February 2013. Page 12.

AGL disagrees with this analysis for two reasons:

- ACIL appear to be suggesting that due to the combined effect of the 'state of the economy' and the impact of solar PV:
    - The NSLP will not be as peaky as in the past; and
    - The maximum NSLP demand will not grow at the same rate relative to the system demand as observed in historical demands.

  AGL does not agree that either of these factors, either alone or in combination, will have this effect. AGL consider that the impact of reduced economic activity could increase the relative peakiness of the NSLP and system peak demands due to a reduction in overall energy consumption whilst the temperature-related peak demand (i.e. air-conditioning load) remains in line with historical levels.
- The calculation that ACIL have conducted to prove their point is flawed, as it neglects to remove the same load from the historical Queensland system load. Once this calculation is performed properly, it again shows that the variation that should exist between the maximum and average peak demands.

1) Impact of economic activity

AGL is of the view that any change in Queensland load attributable to the state of the Queensland economy will be reflected as much, if not more, in the whole Queensland system load than the NSLP.

The NSLP is a component of the Queensland system load, with the residual being primarily the 'large customer' commercial and industrial load. AGL would anticipate that any downturn in economic activity will be felt most keenly in this commercial and industrial sector. In contrast, AGL understands the primary driver of the maximum NSLP demand to be the air-conditioning load, which switches on in hot weather. AGL does not believe that economic conditions will impact small customer usage in the same way it will impact commercial and industrial usage.

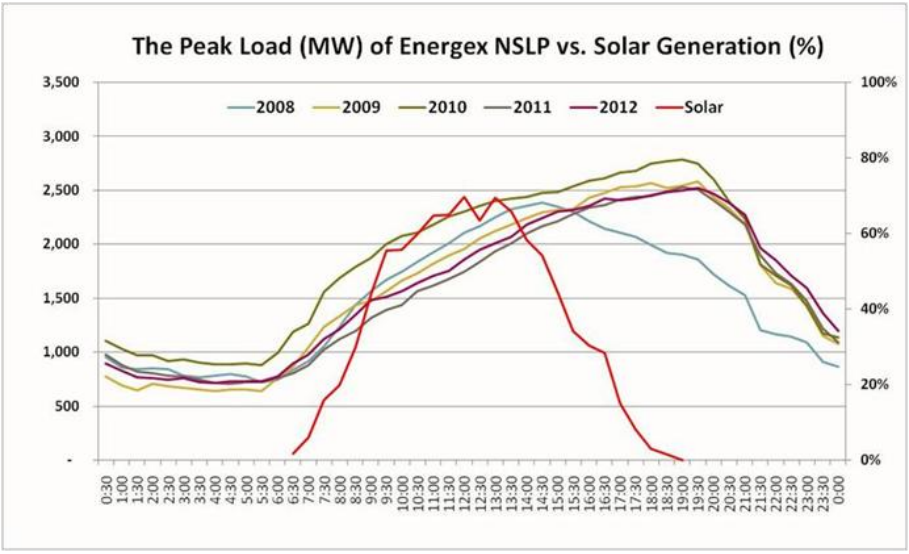
Therefore, it seems sensible to assume that if a downturn in economic activity is changing the shape of the Queensland load, it will be seen most clearly in the entire Queensland load, and less noticeably in the NSLP. On this basis, AGL would expect to see an even greater variability between the load factors of these loads, not a narrowing.

2) Impact of solar PV exports

In regards to solar PV penetration, the QCA's recent Draft Report: *Estimating a Fair and Reasonable Solar Feed-in tariff for Queensland* highlighted that solar PV penetration has a limited impact on Energex's NSLP peak demand.

To confirm this, Figure 3 below shows the Energex NSLP shape of the day in which its annual peak demand occurred over the last 5 years and the typical percentage of solar generation over a day in Queensland published by AEMO. Clearly, with the NSLP peak demand occurring around 7.30pm over the last 4 years, the penetration of solar PV could not be having the impact on peak demand that would justify any significant reduction in the NSLP peak demand levels as a result of solar PV exports.

Figure 3 - PV Exports and Peak Demand



In light of the AEMO forecast growth of Queensland system peak demand, a lack of evidence for any structural change in the economy reducing NSLP peak demand and the limited impact of solar PV on NSLP peak demand, AGL remains of the view that ACIL has underestimated the absolute level of Energex NSLP peak demand in 2013-14 that a retailer would be exposed to under in a 1 in 20 year.

Calculation of historical variations do not accord with ACIL forecasts

Even if it could be suggested that the impact of both of these factors were to be lowering the NSLP maximum demand relative to the system demand, ACIL have neglected to consider the impact the removal of that demand on the Queensland system load shape.

ACIL has stated that the peak demand in 2009-10 would have been 200 MW lower under current economic conditions and solar PV penetration levels so the variability between maximum and average demand would have only been 1 per cent and not 9 per cent as suggested by AGL.[6] This calculation is shown in the first column of Table 2.

ACIL's presentation of this result in the Draft Report ignores the fact that if this approach was a credible way to estimate the impact of underlying conditions, such as the state of the economy and uptake of solar PV, then it should equally apply to the QLD system peak demand.

AGL has performed this calculation in the second column of Table 2 below.

[6] Ibid. pp 12.

Table 2 –Adjustment of QLD system and Energex NSLP peak demands (2007-08 to 2011-12)

MW	2007-08 to 2011-12	
	Energex NSLP Peak Demand	AEMO – QLD peak demand
Average	2560	8658
Maximum	2785	8931
Actual variation (Maximum – Average)	225 (~9%)	273 (3%)
Demand Removal (excl top 10% demands)	200	207
Adjusted Variation	25 (~1%)	66 (0.8%)

Using ACIL's approach, the adjusted variation in the QLD system peak demand accounting for changes in the economy and solar PV is 0.8 per cent. This variation is significantly less than the level of variation in the AEMO forecast 2013-14 QLD system peak demand i.e. difference between the 10% PoE and 50% PoE peak demands is 293 MW or ~3% variation on 50% PoE peak demand. The failure of ACIL's approach lies in the fact that a load duration curve, unlike a time series, loses the time stamp of the load taking place. By simply comparing two loads of different years and ignoring the season, the day type and the time of a day when the load occurs it is impossible to draw any conclusions as to what specific factor is causing this difference between the two load duration curves.

The difference ACIL QLD peak demand variation and the AEMO peak demand variation highlights the flaws in ACIL's attempt to justify a lower amount of flexibility in the forecast NSLP peak demand.

2.2.3 Distribution of NSLP peak demands for 42 simulated demand sets

AGL is further persuaded there are errors in the ACIL modelled results by an analysis of the distribution of maximum demands in the 42 scenarios. It seems apparent that ACIL's scaling of the Energex NSLP peak demands results in a distribution which is not representative of what a retailer would likely be exposed to under the range of weather outcomes considered.

As is evident from Figure 2 on page 15 of the ACIL Draft Report (and replicated in Figure 3 of this report) the ACIL modelling has a 'cap' in the demand. It is not clear whether the model is seeking to cap this at a 10% PoE or a 5% PoE year (AGL notes that the system demand is capped at a 10% PoE).

Critically this approach does not reflect the fact that a retailer's risk management approach is focussed on hedging for high impact-low probability events (ie. 1 in 20 year events). Effectively capping the peak demand levels below the absolute peak and having a negatively skewed distribution of NSLP peak demands appears at odds with ACIL's approach of choosing a WEC at the 95th percentile to account for a retailers risk approach.

On the following page Figure 4 and Figure 5 show a comparison of ACIL's Energex NSLP demand data presented to stakeholders:

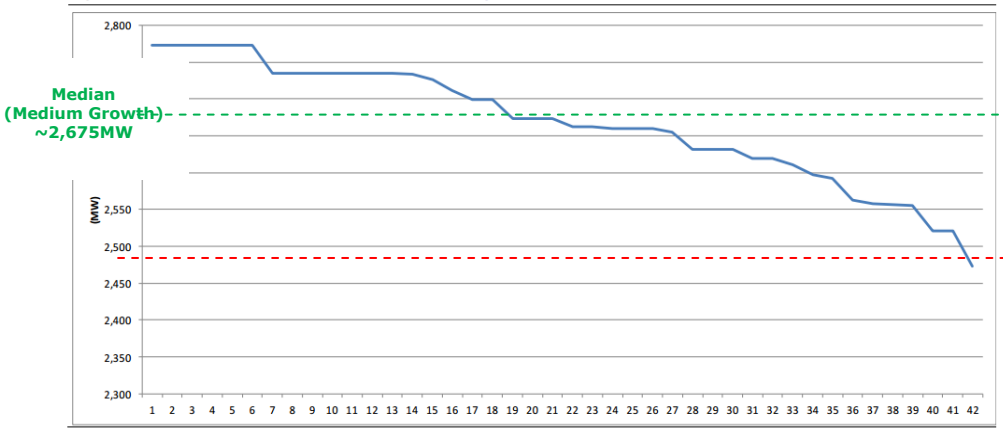
- Figure 4 is an extract of Figure 2 from the ACIL Draft Report which shows the distribution for the 2013-14 Energex NSLP annual peak demands for the 42 simulated data sets; and
- Figure 5 shows the distribution of 2013-14 Energex NSLP annual peak demands for the 42 simulated data sets provided by the QCA as part of additional data released on their website on 19-20 March 2013. AGL understand that these peak demands have been scaled based on the AEMO 'Low Growth' scenario and it is these peak demand levels that have been used to determine the WEC.

The comparison seeks to demonstrate that AGL's concerns regarding the quantum and distribution of the peak demand levels have increased since the initial release of the Draft Determination and the Workshop in early March 2013. The comparison highlights:

- The peak demand levels in the 'Low Growth' scenario (Figure 5) are significantly lower than in the 'Medium growth' scenario:
    - The median peak demand (Medium Growth) of 2,675 MW is greater than all peak demands in the 'Low Growth' set; and
    - The median peak demand (Low Growth) of 2,487 MW is less than the majority of peak demands in the 'Medium Growth' set.
- Forecast demand levels in 4 out of the last 6 years are below the actual peak demand experienced;
- the maximum peak demand of 2,620 MW occurs in 6 out of 42 demand sets and the top 12 scenarios have a peak demand that varies by no more than 5MW from the maximum; and
- the peak demand range is 650MW and the median peak demand is 2,487 MW so only 20% of the variation occurs in the top 50% of the distribution and 80% in the bottom 50%.

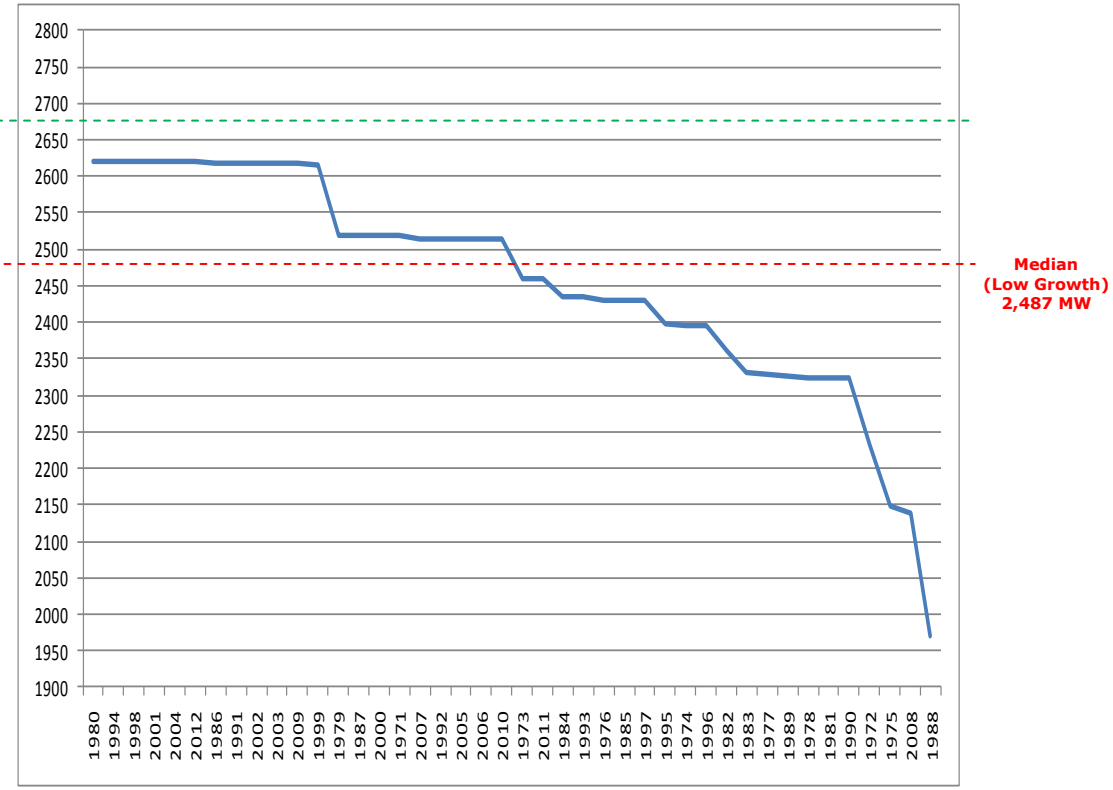
Figure 3 - ACIL Energex NSLP Peak Demands 2013-14 (Scaled to AEMO 'Medium Growth')

Figure 2 Annual peak demand for the Energex NSLP for 42 simulated demand sets - 2013-14



Data source: ACIL Tasman analysis of AEMO and BOM data

Figure 4 - ACIL Energex NSLP Peak Demands 2013-14 (Scaled to AEMO 'Low Growth')



In order to highlight the fact that AGL do not believe that this distribution of 2013-14 Energex NSLP peak demands is appropriate, AGL has also undertaken a comparison of the distribution against Queensland system load and relevant historical weather data.

1) Queensland system peak demand distribution

Table 3 below compares the asymmetry of AEMO QLD system peak demand with that of the ACIL system and NSLP peak demands. The AEMO peak demands are positively skewed with a variation between 10% PoE and 50% PoE that is greater than the variation between 50% PoE and 90% PoE. This reflects AGL's expectation (based on historical data) that the distribution system peak demands would be symmetric, or if anything to show a 'tail' at the upper end (positively skewed).

Table 3 - AEMO QLD Peak Demand vs ACIL NSLP Peak Demand, 2013-14

2013-14	AEMO Queensland Peak Demand (Low Growth)	ACIL Queensland Peak Demand (Low Growth)	ACIL NSLP Peak Demand (Energex)
10% PoE	9355	9206	2620
50% PoE	9063	9058	2487
90% PoE	8791	8873	2323
10-50 Variation	292	149	133
50-90 Variation	272	185	164
Skewness	Positive	Negative	Negative

ACIL's modelled distribution of the QLD system and NSLP peak demands shows the opposite distribution characteristics to the QLD system peak demands: a distribution with a tail at the lower end, and (as observed above) a cap at the top end (negatively skewed). The diminishing variation at the high peak demand end contrasts with what AGL would expect to observe based on the AEMO forecast of Queensland region peak demands and on the historical weather distribution.

2) Distribution of Brisbane maximum temperature

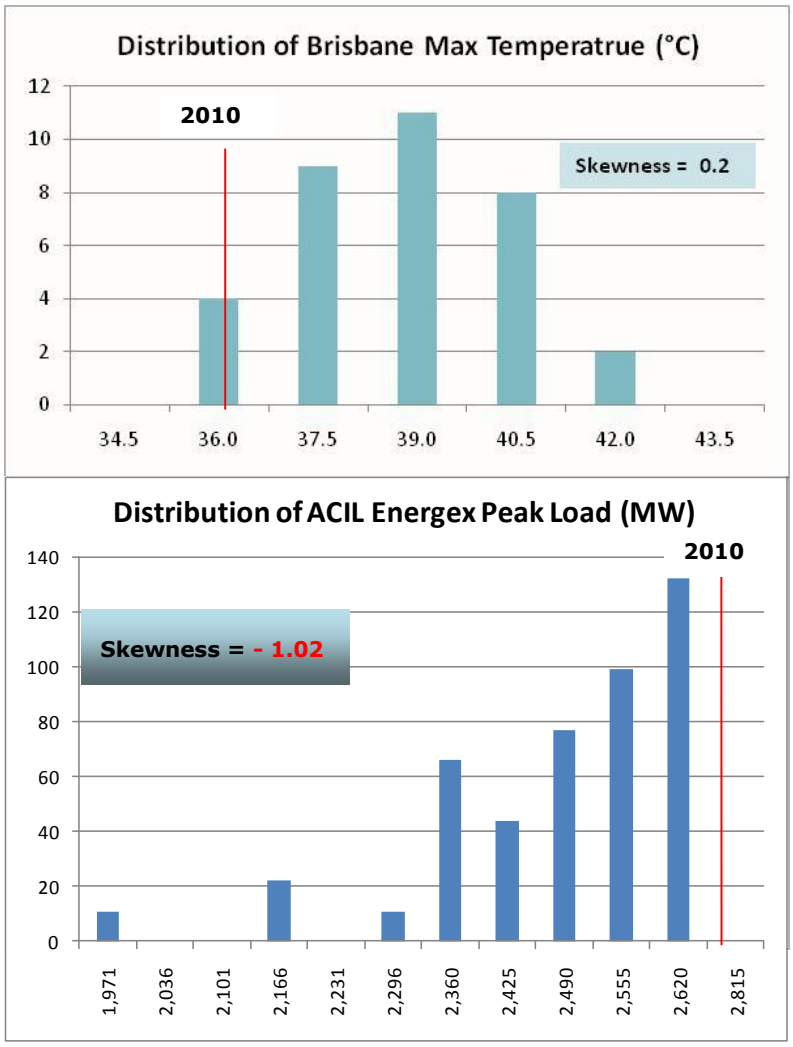
This apparent anomaly can also be demonstrated when considering the actual weather data. Figure 6 below shows that the 42 years of annual maximum temperature data at Brisbane (Archerfield weather station) follows a positively skewed distribution. Given the strong correlation of peak demand with maximum temperature, even though they are not perfectly coincidental, it is logical to expect peak demands to be distributed in a similar pattern as maximum temperatures.

The contrast between the two data sets is significant. The distribution of the forecast NSLP peak demands has a long tail towards the lower end while the distribution of maximum temperatures is largely symmetrical.

AGL would expect that the forecast NSLP peak demands should be positively skewed as the retail load is much more responsive to weather conditions than the regional demand, as regional demand also has an industrial component. Furthermore, the distribution of

forecasts NSLP peak demands should not be affected by solar PV impacts and economic growth influence as these have been held constant across all the weather scenarios.

Figure 6 - Distribution of Brisbane max temperature and NSLP peak demand



2.2.4 Development of simulated load traces

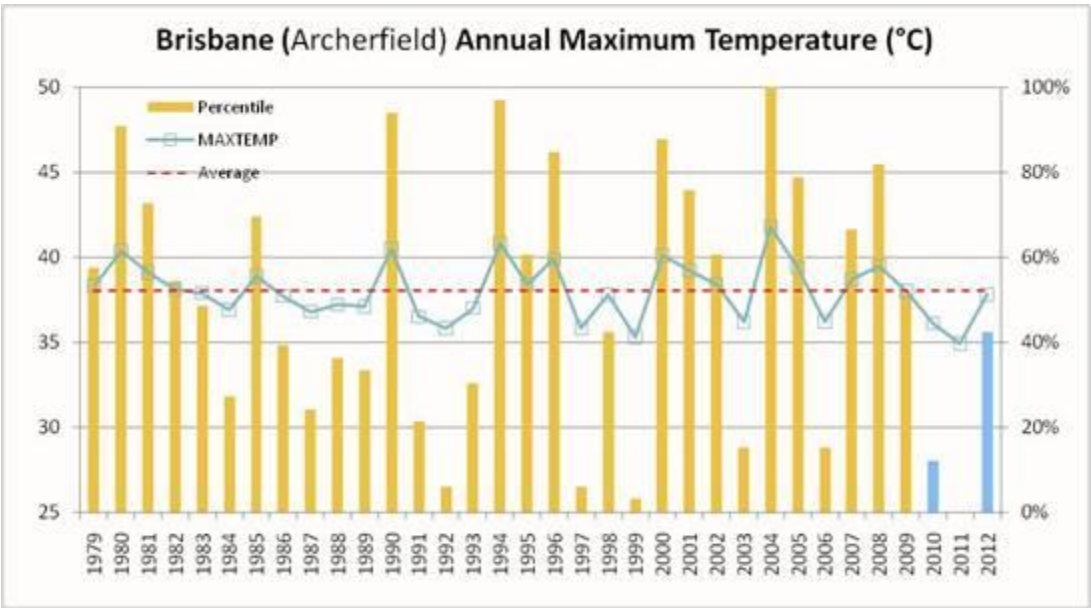
ACIL has attempted to simulate demands over a 42 year history of weather conditions on the basis that this approach should provide the full range of weather, and therefore demand, outcomes that might be expected to occur over that length of time. However, the results provided by ACIL shows that the approach fails to represent the variability in maximum demands that might be expected over this period time and with its corresponding range in weather.

Firstly, as discussed earlier the 42 years of weather data are mapped to only 3 years of genuine demand data which therefore limits the variability in the demands levels that would be expected. Secondly, the 1 in 10 year maximum system demand has artificially been taken to be the extreme point of the 42 year simulation, whereas in fact at least 4 years (44 simulation cases) should have a demand at this level or higher.

Figures 4 and 5 (shown earlier) highlight the limitations of ACIL's approach of developing 39 simulated settlement loads from only 3 years of actual data. Using data only from these 3 mild weather years can be seen to have limited the range of peak demand levels that AGL would expect to see from a process designed to provide the peak demand range for the last 42 years.

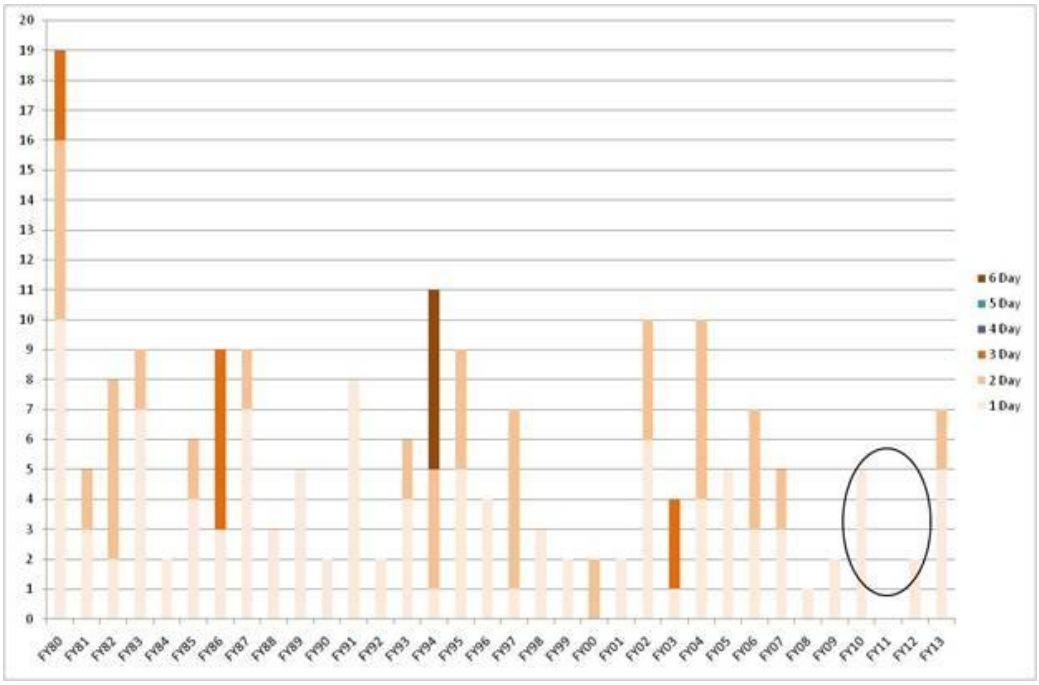
Figure 7 shows the last 34 years of maximum summer temperatures in Brisbane which clearly shows the last three years had maximum temperatures at the lower end of the distribution of maximum temperatures over the years.

Figure 7 - Brisbane Summer Maximum Temperature Data



AGL has also considered whether 'hot day' events have been adequately represented in the 3 years of demand data. We have defined 'hot day' events as the Brisbane (Archerfield weather station) daily maximum temperature being greater than 35 degrees. Figure 8 shows the number of days when a hot day event occurs in a financial year with the colour coding highlighting the number of consecutive hot days. For example, in 2012-13 there are 5 isolated hot days and 2 hot days in a row, namely a total of 7 hot days.

Figure 8 – Days with maximum temperature above 35 degrees (Brisbane)



The 2011 summer did not see a single day with maximum temperature above 35 degrees. But more interestingly, the three NSLP load sample years (FY 10, FY11 and FY12) did not see any consecutive days with temperature exceeding 35 degree.

This contrasts with the historic average of a 2-day heat event occurring in more than half of the last 30 years.

The scaling process applied to the simulated NSLPs seeks to determine the contribution of the NSLP demand variation (from simulated average demand) to the QLD system demand variation and then this variation in each half hour is applied to the difference between the 2011-12 and 2013-14 QLD system demands. Because the QLD system demand for the 42 years is capped at the 2013-14 PoE10 forecast then the scaling of the NSLP leads to the capping of the peak demand mentioned earlier.

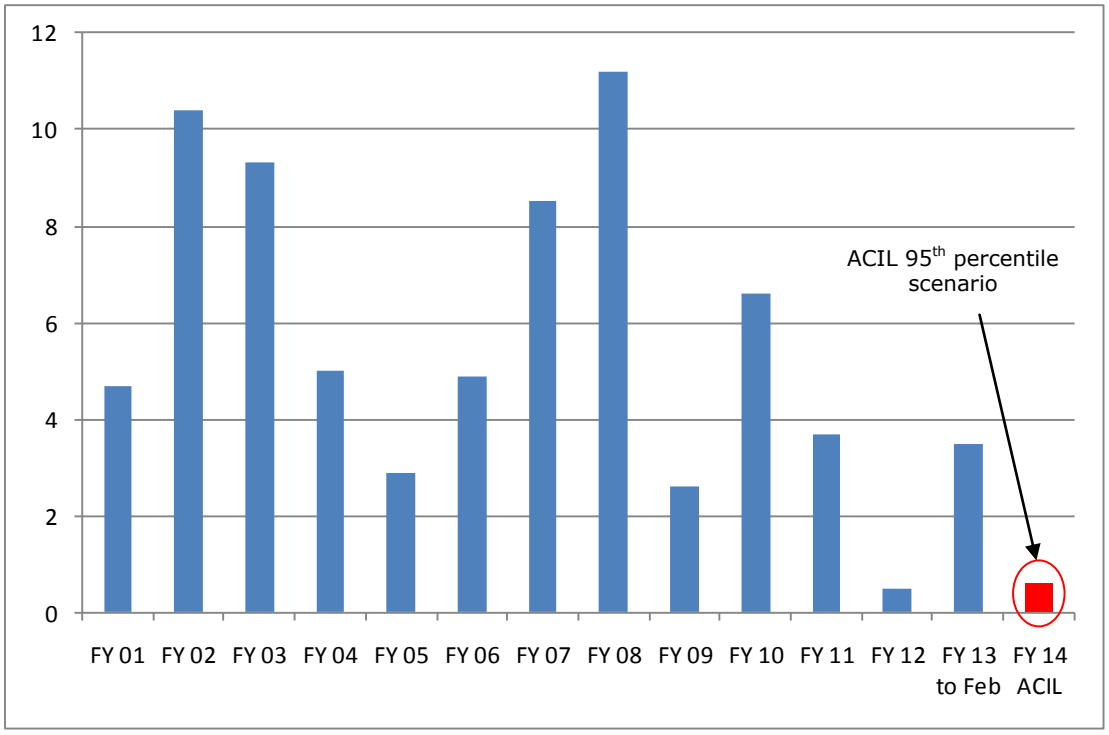
These results are of significant concern to AGL because by using these NSLP peak demand levels (combined with the hedging strategy employed) ACIL has underestimated the amount of demand that a retailer could have unhedged across the 42 demand sets. This results in a lower estimate of the average cost of hedging the NSLP in these scenarios.

2.3 Pool price volatility

AGL note that ensuring modelled pool prices exhibit the appropriate levels of volatility that a retailer might need to hedge against is of paramount importance in attempting to model the cost that a retailer would face under a range of different demand conditions.

Figure 9 shows a comparison of historical QLD VoLL hours against the VoLL hours included in the spot prices which correspond with ACIL 2013-14 WEC (i.e. 95th percentile). It is clear that the number of VoLL hours modelled by ACIL is significantly lower than the average over the last 10 years. This indicates to AGL that, in general, the spot prices produced by the ACIL model are not as volatile as would be expected in attempting to calculate the WEC at the 95th percentile of the distribution of results.

Figure 9 - Historical QLD VoLL Hours & 2013/14 ACIL 95th Percentile Scenario



In the Workshop held on 7 March ACIL stressed that volatile pool prices combined with the agreed hedging strategy would likely have the impact of reducing the WEC because it would be likely that the cap contracts (105 per cent of maximum peak load) would pay out during these high price events., thus bring down the average cost of energy.

This contention is correct if the maximum NSLP peak demands are depressed so that the assumed hedging always ensures coverage. However, when high prices occur in conjunction with the high peak demands that are more likely to accompany such price events then retailers will likely have a proportion of their load unhedged to these high spot prices. AGL would expect that when seeking to model the WEC which aligns to a 1 in 20 risk scenario for a retailer then there would be periods where the retailer is exposed to high spot prices due to inadequate cap coverage.

2.4 Impact of underestimating risk to retailers

In the submission to the Consultation Paper AGL argued that the lack of volatility in peak demand appears to limit the exposure of retailers to high price events and therefore constrain the range of preliminary results for the WEC.[7] In the Draft Report, ACIL has suggested that even if this peak demand range was as AGL suggested and there was some unhedged exposure beyond the 105% maximum peak load then this impact would be minor.

[7] AGL Energy Ltd., Review of Regulated Retail Electricity Prices 2013-14 – Consultation paper: Cost Components and other Issues. AGL submission to the Queensland Competition Authority, 8 January2013. Page 11.

However, in making this assertion, ACIL have calculated the impact of the unhedged cost to a retailer (assuming a 4% variation based on FY10 NSLP and assuming 10 VoLL hours) using peak demand to calculate the average cost – this is incorrect. ACIL should have used the average demand to calculate the average cost as this is the relevant demand over which to estimate how a retailer would recoup their costs. This error results in an underestimation of the impact to retailers of being exposed to high pool price events. AGL has performed the calculation below in Table 4 which highlights that this exposure is potentially significant for retailers. By dismissing this issue in such a manner ACIL has demonstrated that they do not fully appreciate AGL's concern regarding the manner in which a retailer would typically manage its wholesale energy risk exposure.

Table 4 - Impact on average energy cost due to VoLL exposure

Residual pool exposure to VoLL price events	
VoLL Price	$12,900 /MWh
NSLP	
Average Peak Demand	2,560 MW
Maximum Peak Demand	2,785 MW
Hedge Strategy	105%
Hedged load	2,688 MW
Un-hedged load	97 MW
Cost (assuming 10 VoLL hours p.a.)	
Unhedged cost	$12,513,000
Load factor	*42%*
Average demand	1075 MW
Average cost	**$1.33 /MWh**

The release of the additional data by the QCA demonstrating the ACIL have been using Energex NSLP peak demand level which are even lower than AGL initially thought highlight the importance of the impact of this assumption on the final WEC allowance.

2.5 Contract prices

ACIL has put forward a variety of arguments to justify the use of historical futures market contract prices to calculate the market-based cost for the coming year. Under the proposed market-based approach a reliable and transparent source of futures prices are required and d-cypha market data meets those requirements. However, AGL remains of the view that there is not sufficient liquidity in the futures contract market to represent the contract prices that retailers would be exposed to if all retailers were using the hedging approach specified by ACIL. Historic futures prices represent the recent market dynamics where retailers typically use futures to hedge only part of their load.

2.6 Green costs

2.6.1 Queensland Gas Scheme

AGL note that on 8 March 2013, the Minister for Energy and Water Supply announced that the State Government's decision to close the Queensland Gas Scheme with the necessary legislative changes to be made later in 2013. On this basis the scheme will cease operation on 31 December 2013 and therefore no further liability will be accrued from this date. AGL expect that the QCA will account for these changes in calculating the allowance for the scheme.

2.6.2 LRET

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 2012-13. 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 Final Determination.

2.6.3 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. Since the release of the Draft determination the Clean Energy Regulator has published the 2013 STP 19.7% and a non-binding estimate for 2014 STP 8.98%.

AGL remains of the view that the cost allowance for SRES compliance should be based upon the clearing house STC price (i.e. $40/STC). AGL note that changes in the STP can have significant impacts on retailers' scheme costs and AGL is pleased to note that this will be addressed through the operation of the pass-through mechanism under consideration.

2.6.4 NEM fees and ancillary services charges

AGL supports the continuation of the approach the QCA used in previous determinations to assess the NEM fees and ancillary service charges and we consider it appropriate that fees are updated in line with the most up-to-date 2013-14 AEMO budget.

2.6.5 Prudential costs

AGL supports the consideration of prudential costs as part of the build-up on the energy cost allowance. The final allowance is based on a number of assumed inputs discussed by ACIL. AGL would note that the inputs should be based upon what is considered reasonable for a new entrant retailer. This will act to set the allowance at a level which recognises the different costs structures that retailers are exposed to.

3 Retail Costs

3.1 Retail Operating Costs

AGL notes that the QCA has maintained in real terms the benchmark for retail operating costs for 2013-14 in its Draft Determination.

In AGL's submission in January 2013 in response to the QCA's consultation paper, AGL has provided details on the appropriate level of operating costs based on AGL's publicly reported financial statements to the Australian Stock Exchange for 2011/12. AGL has estimated its total costs to be about $140 per customer.

As at 31 December 2012, AGL has 3.5 million electricity and gas customers in south eastern Australia. In proposing a ROC of $133.97 per customer for small customers using up to 100 MWh/year for 2013/14, the QCA has defined the retailer which is more "efficient" than AGL.

AGL's proposal that retail operating costs should reflect new entrant costs to promote competition is not inconsistent with the allowance for headroom. The benchmark for operating cost should ensure that new entrant retailers can recover their operating costs while the headroom allowance permits competitive offers to be developed to encourage customers to switch.

3.2 Retail margin

The QCA has continued to adopt the IPART's benchmark for retail margin of 5.4% of total costs, inclusive of the margin in its Draft Determination. Although the QCA has also proposed to allow for cost pass through consistent with IPART's approach, particularly in relation to STP, the lack of a floor price for wholesale energy costs means that risks continue to be higher in Queensland.

AGL notes that the QCA intends to update this benchmark if it is revised by IPART.

4 Competition and Other Issues

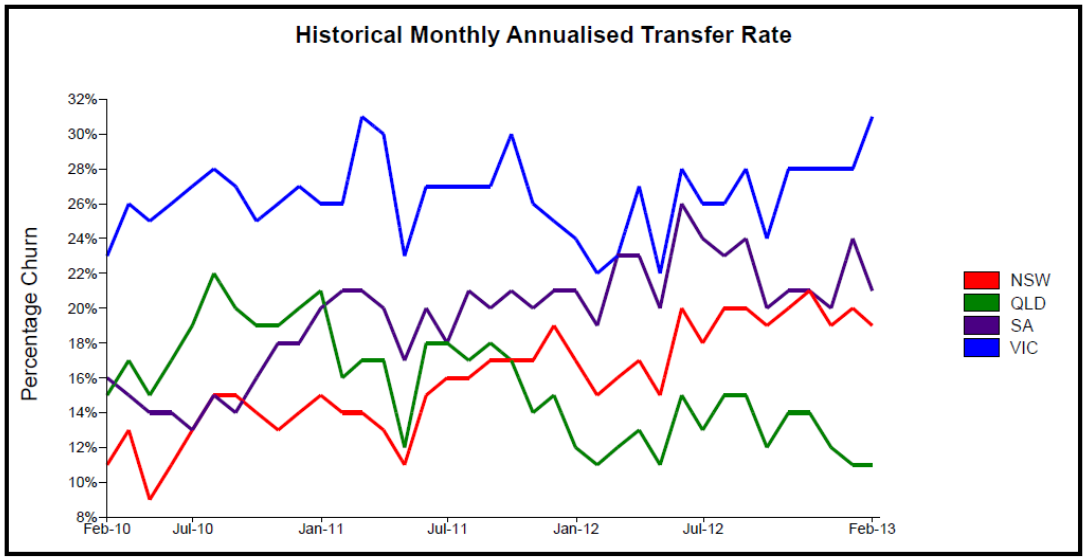
4.1 Competition Considerations

The QCA has claimed that neither the 2012-13 Determination nor the Tariff 11 freeze has negatively impacted competition. AGL does not agree with this. AEMO's transfer statistics continue to show than the churn rates in Queensland are at historic lows since the commencement of FRC.

Notwithstanding that new retailers have entered the Queensland market according to the QCA, it is a fact that the churn rate has also continued to stay well below that of the other three jurisdictions (namely, New South Wales, South Australian and Victoria).

The three largest retailers compete in all the jurisdictions in the NEM (except ACT) and the low churn in Queensland clearly demonstrates that competitive activity has slowed.

Figure 10 – AEMO Historic Monthly Annualised Customer Churn



The QCA has also claimed that competition could be improved if more focus was placed on improving customer engagement. In AGL's view, retailers have been active in providing information to customers on their ability to take up discounted market contracts or to switch their energy provider. It is therefore important that strong competition is fostered by the QCA as it is the retailers who will be more effective in engaging the customers.

The QCA has proposed to continue to include an allowance for headroom of 5% and as AGL stated in its January 2013 submission headroom, at a minimum, should be maintained to ensure a sustainable level of competition.

4.2 Accounting for unforeseen or uncertain events

The QCA intends to include a cost pass-through mechanism to apply during the three years of the delegation period. AGL supports the QCA's intention not to prescribe an exhaustive list of cost events or to set a fixed materiality threshold for the pass-through of these costs.

The cost pass-through mechanism will mitigate risks such as:

- The proposed network charges used in the setting of retail prices on 30 May each year may change when approved by the AER, prior to the implementation of retail prices on 1 July; and
- The costs of SRES change in the middle of the financial year and currently there been no allowance made for recovery through retail prices.

5 Transitional Arrangements

5.1 Tariff 11

In AGL's view, the structure of Tariff 11 should be moved to cost reflective levels in 2013-14 to avoid the continuation of cross subsidy issues.

The QCA has proposed a transition in equal increments over three years with the fixed charge recovering the full fixed network charge plus a portion of the retail operating cost. Although AGL's preference is that if a three year transition is deemed necessary, the fixed charge should recover the full fixed network charge plus a third of the retail operating costs, the QCA's approach is not unreasonable in 2013-14.

However, it should be noted that the targets used in the setting of the transitional arrangements are based on current network tariffs. This is sensible in 2013-14 as the differential between cost reflectivity and the current situation is so great that the QCA' transition is unlikely to overstep in this year.

For 2014-15, AGL would expect greater analysis of the third year target as any further transition would not want to go overly large and require a step back or too small to make cost-reflectivity unattainable in 2015-16.

AGL would also highlight that the proposed fixed charge for Tariff 11 for 2013-14 of 46.958 cents per day (excluding GST) will continue to discourage the update of the voluntary residential time of use tariff (Tariff 12) which has been set on a cost reflective basis and is proposed to have a fixed charge of 104.193 cents per day (excluding GST).

5.2 Obsolete tariffs

The QCA has proposed to transition obsolete tariffs to cost reflective levels over seven years. While AGL considers this interval to be over-extended, AGL recognises that customers may have undertaken capital investments and will require a reasonable time to recover their costs.

AGL notes that the QCA has proposed to allow new customers access to certain obsolete tariffs. AGL maintains that, given the intent of the tariff reform, new customers should not be able to access tariffs which are not cost reflective.